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gesis®FLEX

Device Series for Decentralized Room Automation

Manual

Description of product and object

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Dear customer,

We wish to congratulate you on the purchase of *gesis* FLEX series components. These devices have been developed according to state-of-the-art technology concerning building automation and the energy efficiency of buildings.

Just a few of the performance features of the series are listed below:

- Communication via internationally recognized standards without additional plug-ins.
- Integrated manual operation enables functional tests without programming and bus integration.
- The modular system enables maximally flexible and freely configurable combinations of functions with only one physical address per modular group.
- Compact dimensions are ideal for decentralized installation. Fits practically anywhere within a building.
- The 100% plug-in capacity with the coded *gesis*series connectors guarantees trouble-free installation.
- Ideal for decentralized installation. Reduces the installation expenses enormously.
- Facilitates project planning due to the standardized functions in the modular principle.

In order to learn more about the modules, familiarize yourself with this manual. It contains all of the information and help settings required for proper operation of the *gesis* FLEX system in the building. If you still have questions or need additional help, our technical experts will be happy to assist you using the contact options listed.

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1 About this manual

This manual will support you during installation, commissioning, and project planning of the *gesis* FLEX modules. We provide information on how the devices can be operated, programmed, configured, and parameterized.

This document contains the information necessary for proper use, technical data, and descriptions of parameters and objects for the projects described therein. It describes the *gesis* FLEX components, their parameterization and commissioning, the technical features, and usage and boundary conditions. Case examples that occur during use are represented in clear application examples.

Target groups and qualification of personnel

Commissioning and installation of components should only be carried out by specialized technicians. The legal and valid regulations for such types of installations must be considered.
Therefore, the system manual is targeted at the following:

- Those who can verify that they have the corresponding training and already have corresponding basic knowledge of planning and commissioning KNX systems.
- System integrators
- Electricians

The prerequisites for understanding the content of this manual are as follows:

- Basic knowledge of KNX bus technology
- Basic knowledge of building installation systems
- Knowledge in the area of operating the KNX ETS4 programming interface

Presentation of safety-relevant information

Information that warns of personal injury or property damage are emphasized by safety instructions.

Warning of personal injury
Safety instructions that warn of personal injury are indicated by the signal word **DANGER**. Failure to observe can cause serious health effects or even death.

Example:

DANGER

- Only electricians may install and commission this device. You must have read these instructions and understood them before carrying out the work.
- Do not open the device. Do not introduce any foreign objects. Keep device away from water and fire.
- Only connect or disconnect the device when the device is deenergized.
- The relevant standards, guidelines, regulations, and provisions of the respective country must be observed.

Warning of property damage
Text that warns of property damage is indicated by the signal word **CAUTION**.

Example: **Caution!** A pause on reverse that is set too short can cause damage to the drive or to actuator.

2 System overview

Modular*gesis* FLEX

The modular *gesis* FLEX system always consists of 1 basic bus module and at least 1 or up to a maximum of 6 functional modules as well as additionally possible extension modules.
The functional modules are all supplied with the operating voltage and communication necessary for the electronics via an internal interface and managed by the basic module.
Extension modules enable, among other things, selective fuse protection of the individual circuits or the provision of a DC power supply for powering DC shutters. These modules may be modular, but they are not programmable and are not managed by the basic module. The number of extension modules is not limited.



Standalone *gesis* FLEX

The standalone device group in the *gesis* FLEX series describes products that can be autonomously integrated into the *gesis* FLEX series without additional components in the corresponding bus system.

Example:
Enocean / KNX Gateway bidirectional *gesis* FLEX ENO32 83.020.0628.0



gesis FLEX accessories

The *gesis* FLEX accessories include products that complete and supplement the modular and pluggable system – for example a system extension consisting of a bus line and a power cable. It also includes the assembly frame equipped with a DIN rail for mounting the modules and with a fixture for strain relief of the connected plug connections. Accessories also include the housing end caps that are used as a system terminal and to protect against contamination of the internal bus connector.

Power system extension; prefabricated GST15i5 cable, white



Item numbers:

- Length 0.5 m (05WS): 91.257.0500.2
- Length 1.0 m (10WS): 91.257.1000.2

gesis connection cable, socket plug:

- Function: Used as an extension from the internal AC supply bus
- Length: 0.5 m and 1 m
- Type: GST15I5; 5-pole; 250/400 V / 16 A
- Color of coding: white with white strain relief

The extension cable for the flat surface-mounted module system, which can be mounted on the DIN rail, can be obtained in the system with a length of no more than 1 m. Locking during insertion prevents autonomous loosening of the connection. The cables will not be mixed up due to coding.

Bus system extension; prefabricated GST15i5 cable, light blue



Item numbers:

- Length 0.5 m (05WS): 99.400.9999.8
- Length 1.0 m (10WS): 99.401.9999.8

gesis connection cable, socket plug:

- Function: Used as an extension of the internal bus communication
- Length: 0.5 m and 1 m
- Type: GST15i5; 5-pole; 50 V / 10 A
- Color of coding: light blue with white strain relief

The extension cable for the flat surface-mounted module system, which can be mounted on the DIN rail, can be obtained in the system with a length of no more than 1 m. Locking during insertion prevents autonomous loosening of the connection. The cables will not be mixed up due to coding.

Mounting kit MB TH35-7,5 HK 40x20Z to 100x20 Z

This mounting assistance for the flat surface-mounted module system, which can be mounted on the DIN rail, for decentralized installation, facilitates assembly to cable support systems, ceilings, or walls. According to the length, it can accommodate various numbers of modules and has fastening options for all incoming and outgoing cables.
Article numbers for the different numbers of modules and lengths:



Length	Item number
400 mm	Z5.524.1410.0
500 mm	Z5.524.1510.0
600 mm	Z5.524.1610.0
700 mm	Z5.524.1710.0
800 mm	Z5.524.1810.0
900 mm	Z5.524.1910.0
1000 mm	Z5.524.2010.0

The required minimum length is calculated from the number of modules and the module width of the individual modules in the group.

Example:
For a *gesis* FLEX BAS (83.020.0600.0) basic module with a 4x *gesis* FLEX 0/4 (83.020.0623.0) switching output functional module, as well as a functional module for *gesis* FLEX 0/2W (83.020.0624.0) shutter control, this results in a system length of **95 mm + 130 mm + 130 mm = 355 mm** with modules in a row. Thus, for this configuration, an assembly kit with a length of at least 400 mm would suffice.

gesis FLEX end cap kit



Item number: 99.061.9999.9
The end caps on the right and left serve as protection and coverage for the plug connector of the internal bus of the devices and simultaneously as a system terminal.

gesis FLEX add-on

The *gesis* FLEX add-on group includes products that can expand and supplement the functionality and usage options of the system many times over. This includes the empty housing (83.020.066x.0) for the *gesis* FLEX system for installing rail-mounted devices with up to 4 sub-units (4TE). In addition, there are supply modules for variable supply of different power circuits to a system. Furthermore, there are prefabricated solutions and catalog parts that have been integrated into the rail-mounted housing. These

include, among other things, system devices such as external power supplies, fan coil actuators, SMI shutter control modules, etc.

gesis FLEX-REG4 system housing



Item number: 83.020.0660.0

The module is system-conforming for the flat surface-mounted module system, which can be mounted on the DIN rail, for decentralized installation. It can accommodate rail-mounted devices according to DIN 43880 with 4 sub-units. The mains and bus supply is routed from the upstream module to the next module. The mains can be tapped internally.

gesis FLEX-REG4 V system housing



Item number: 83.020.0661.0

The module is system-conforming for the flat surface-mounted module system, which can be mounted on the DIN rail, for decentralized installation. It can accommodate rail-mounted devices according to DIN 43880 with 4 sub-units. The mains and bus supply is routed from the upstream module to the next module. The mains can be tapped internally.

gesis FLEX-REG4 D system housing



Item number: 83.020.0662.0

The module is system-conforming for the flat surface-mounted module system, which can be mounted on the DIN rail, for decentralized installation. It can accommodate rail-mounted devices according to DIN 43880 with 4 sub-units. The mains and bus supply is routed from the upstream module to the next module. The mains can be tapped internally.

gesis FLEX-REG4 DV system housing



Item number: 83.020.0663.0

The module is system-conforming for the flat surface-mounted module system, which can be mounted on the DIN rail, for decentralized installation. It can accommodate rail-mounted devices according to DIN 43880 with 4 sub-units. The mains and bus supply is routed from the upstream module to the next module. The mains can be tapped internally.

3 Devices in the *gesis* FLEX modular family



3.1 System description

Decentralized room automation is the measure of all things in terms of flexibility, safety, and efficiency in building services engineering. Our customers are ideally prepared for the future with the extremely flexible *gesis* FLEX modular systems.

A fully functional, modular *gesis* FLEX system consists of one base module and at least 1 or up to a maximum of 6 functional modules as well as any additionally required extension modules.

The functional modules are all managed by the base module and are supplied with the data exchange and operating voltages required by the electronic system via an internal interface. Extension modules enable, among other things, selective fuse protection of the individual electrical circuits or the provision of a DC power supply for operating DC shutters. These modules are actually modular, but they are not programmable and are not managed by the base module.

This development of decentralized building automation by Wieland Electric GmbH to control lighting, shutters, ventilation, and heating systems means that all necessary functions are covered. The system enables quick, efficient, and simple project planning. Even if there are some uncertainties during planning, changes in functions and requirements can be accommodated quickly and easily. High levels of flexibility and the modularity of the system make it possible to react to changing usage requirements at any time. The necessary measures can be implemented quickly and safely by hardware and software modifications. Modules can be replaced, expanded and added without the need for tools. The extensive parameter set leaves nothing to be desired.

3.2 *gesis* KNX FLEX-BAS basic module



General description

Product: Base module

- Designation: KNX base module with 3-phase AC power supply system
- Type / Item No.: *gesis* KNX FLEX-BAS SP 83.020.0630.0 (plug set not included)
  gesis KNX FLEX-BAS SP 83.020.0630.1 (plug set included)

- Designation: KNX base module with single-phase AC power supply system
- Type / Item No.: *gesis* KNX FLEX-BAS SP 83.020.0627.0 (plug set not included)
  gesis KNX FLEX-BAS SP 83.020.0627.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The single-phase or 3-phase KNX base module with flat, surface-mounted housing, which can be mounted on rails for decentralized installation, supports up to six extension modules. They have all of the current inputs and outputs and enable comprehensive room automation using just one physical address. The manual operation level enables function tests without prior system integration. The electrical connections to the sensors and consumers, which are pluggable in accordance with IEC 61535, separate automation and installation.

Technical data

Construction type

Housing	*gesis* FLEX 95 mm
Mounting	Foot for mounting on mounting rail

Connection type	Connector

Operation and display elements

The operation and display elements can be used to assign the physical address (KNX) and for module configuration (address and parameter allocation) of the extension modules.

Operation elements function

'Config' button	• Long push (> 3 sec): Assigns module address for the connected extension modules. The numbering corresponds to the connection sequence to the right of the base module, starting with module address 1. • Short push: Allocates the parameters to the connected extension modules with a valid module address.
'KNX' button	Switches the programming mode for the physical address on and off.

Status indicator function

LED 'status'	Off:	No power supply present
	Green on:	Module status OK, no errors
	Green flashing:	Address assignment to the extension modules
	Red flashing:	One or more configuration errors have been detected: • Parametrized module address not present. - Extension module missing. - Extension module has wrong address. - Extension module has no address. - An extension module has been removed. - Extension module is defective. • Parametrized module address present multiple times. • Incorrect module type used.
'KNX' LED (red)	Off:	Normal operation or no mains power.
	Red flashing:	Bus voltage not present.
	Red on:	Indicates the programming mode for the physical address.

KNX bus connection

There is one input connector and one output connector available for the KNX bus connection.
When looping through the bus voltage, make sure that the maximum current of 3 A is not exceeded at the plug contact!

KNX bus input connection type	BST14i2 male connector, 2-pole, green (KNX coding), (1+ / 2-)
KNX bus output connection type	BST14i2 female connector, 2-pole, green (KNX coding), (1+ / 2-)
Bus voltage	24 VDC (-3 V / +6 V)
Current consumption	Approx. 5 mA
Medium	TP1

Mains connection

Mains is connected 1-phase or 3-phase, in which the mains (L1) is used to generate the low voltage for the internal module bus and for supplying the extension modules connected downstream. The mains from the mains feed is routed through the device to the mains output.

Connection type, mains input	GST18i3/5 male connector, 3/5-pole, black
Connection type, mains output	GST15i3/5 female connector, 3/5-pole, black
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A
Power consumption for electronics	Type 1.3 W (basic module + 6 extension modules in standby mode)
Power consumption for electronics	Max. 7 W (L1 phase conductor)
Receiving Fuse	1/3-pole circuit breaker B16A

Internal module bus

The internal bus for the modules is used for communication and for supplying the modules. The low voltage (SELV) required for this is generated from the supply voltage (L1 / N) connected.

Connection type: internal bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Output voltage	SELV
Bus voltage	12 VDC and 3.3 VDC

Electric safety

Protection class	I
Protection class	IP20 (as per EN 60529)
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Galvanic isolation	
• KNX bus / mains	Clearance and creepagetracks > 5.5 mm, isolation voltage: 4 kV AC / 6 kV impulse
• Internal bus / mains	Clearance and creepagetracks > 5.5 mm, isolation voltage: 4 kV AC / 6 kV impulse
• KNX bus / internal bus	Clearance and creepagetracks > 5.5 mm, isolation voltage: 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 1.5 mΩ (mains input to mains output, conductor path with plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 725 fit (at 40 °C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free, light gray upper section, black lower section

Fire resistance

Housing	UL 94 V-2

Fire load

Approx. 1.73 kWh

Weight

Approx. 290 g (with end caps)

Dimensions

Width:	115 mm in the direction of the DIN rail
Length:	149 mm at right angles to DIN rail
Height:	44 mm without and about 47 mm with TH 35-7.5 DIN rail

Licensing and certification

KNX-certified

CE marking

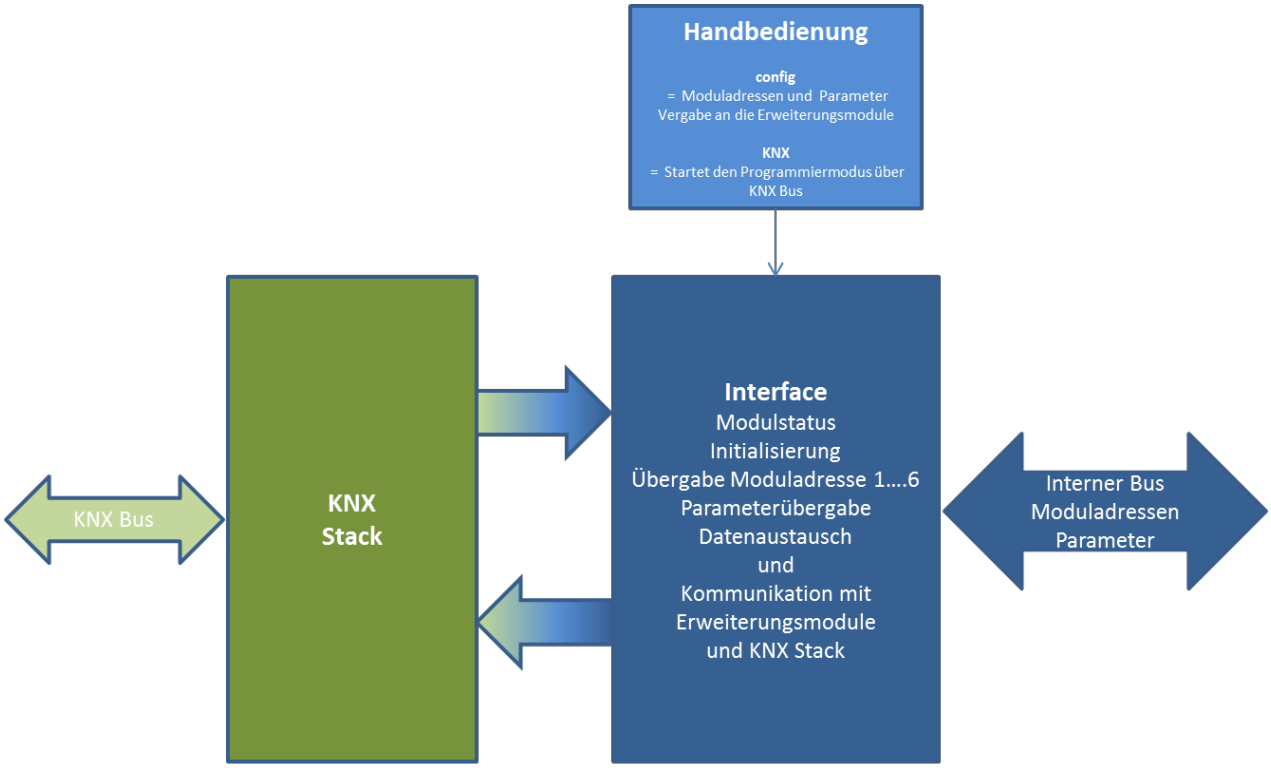
In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

Application description

Flowchart



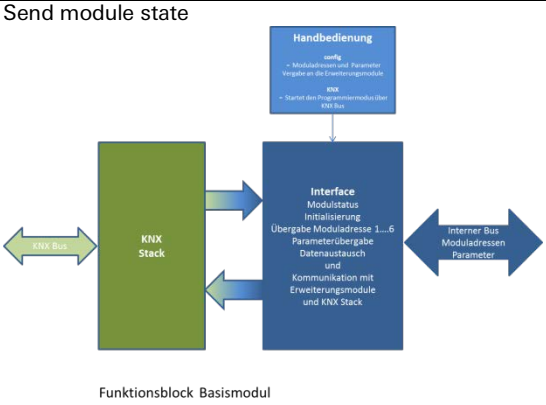
Funktionsblock Basismodul

Communication objects

Basic module, Obj. No.	Function	Data Point Type DPT	Object	Length	Flags				
					K	L	S	Ü	A
1	1 bit module state	1.002 Boolean	Module	1bit	K	L	–	Ü	–

Parameter descriptions

Basic module default settings

Parameter	Description
Send module state  Funktionsblock Basismodul	This parameter indicates the current module state as a 1-bit value. The following parameters can be selected for transmitting the state: • **on request** The operator must intentionally read the module state when needed. • **On change, not on bus voltage recovery** The object is actively transmitted to the bus when there is a change. • **On change and on bus voltage recovery** The object is transmitted to the bus when there is a change and on bus voltage recovery. • **always cyclically** The module state is cyclically transmitted after a configurable time.
↳ Module state cycle time	**00:10:00 (hh:mm:ss)** If the module state "Transmit cyclically" is set, the cycle time between 00:01:00 and 01:00:00 can be set for cyclical transmitting the module state at this point.
Allow manual operaration	• **Yes** (switch off LEDs after 10 minutes) In this setting, the system can be operated using local buttons. System programming is not necessary. Local operation switches off automatically 10 minutes after the last actuation. By pressing a "Select" button on the system for a period > 3 s, the LED displays can also be deactivated. • **No (only state display on key press)** Manual operation with this setting is no longer possible. If, however, any "Select" button is pressed on the system, the state display will be activated on the devices. After 10 minutes have passed, the displays will once again be deactivated. If a "Select" button is pressed for more than 3 seconds, the state display on the devices will also go out.
Trigger module numbering	• **automatic at parameter download** After a parameter download, the module numbers (1 to 6) will automatically be assigned within the system in this setting depending on the number of functional modules. • **After parameter download by pressing "Config" button** After a parameter download, the model numbers (1 to 6) will initially not be assigned to the extension modules with this setting. In this case, this will not occur until the "Config" button is pressed for > 3 seconds. The respective module address will also be transferred to the respective functional modules.

Parameter	Description
Module type EM1	• **not use** This is where are a permanent function is assigned to the module station. In the case of "Do not use," the module station will remain without function. The respective module number is thus not assigned. This location can be used at any time for future extension purposes. • **8 binary inputs** This module station is selected as an input module with 8 binary inputs. Correspondingly, the parameter set for this module type will open in the EIB software tool (ETS4). • **4 binary outputs** This module station is selected as a binary output module with 4 binary outputs. Correspondingly, the parameter set for this module type will open in the EIB software tool (ETS4). • **2 shutter outputs** This module station is selected as a shutter module with 2 binary outputs. Correspondingly, the parameter set for this module type will open in the EIB software tool (ETS4). • **4 DALI outputs** This module station is selected as a DALI module with 4 binary outputs. Correspondingly, the parameter set for this module type will open in the EIB software tool (ETS4).
Module type EM2	Description same as for module type EM1
Module type EM3	Description same as for module type EM1
Module type EM4	Description same as for module type EM1
Module type EM5	Description same as for module type EM1
Module type EM6	Description same as for module type EM1

3.3 *gesis* FLEX-MS AC feed module



General description

Product: Extension module

- Designation: Feed module for 3-phase AC power supply
- Type / Item No.: *gesis* FLEX 95 mm 83.020.0630.0 (plug set not included)
  gesis FLEX-0/2 W Z 83.020.0630.1 (plug set included)

- Designation: Feed module for 1-phase AC power supply
- Type / Item No.: *gesis* FLEX 95 mm 83.020.0627.0 (plug set not included)
  gesis FLEX-0/2 W Z 83.020.0627.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The single-phase or 3-phase feed module with flat, surface-mounted housing, which can be mounted on DIN rail for decentralized installation, enables a power feed separate from the basic module within the modular system setup. Thus, the output loads can be distributed to various fuse circuits. It can be integrated as often as desired within the system. The electrical connections, which can be connected in accordance with IEC 61535, separate automation and installation. All of the necessary plug connectors are included.

Technical data

Construction type

Housing	*gesis* FLEX 95 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Mains connection

The mains is connected 1-phase or 3-phase, depending on the design, in which the power is used for supplying the extension modules connected downstream. To do this, the power supplied from the mains input is routed through the devise to the mains output.

Connection type, mains input	GST18i5 male connector, 5-pole, black, (1 / 2 / PE / N / 3) GST18i3 male connector, 3-pole, black, (1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N) GST18i3 female connector, 3-pole, black (1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated current	16 A
Receiving Fuse	1 or 3-pole circuit breaker B16A

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Galvanic isolation (internal bus/mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 1.5 mΩ (mains input to mains output, conductor path + plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability	Failure rate 35 fit (at 40°C)
EMC requirements	Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3
Housing material	Plastic, halogen-free, light gray upper section, black lower section
Fire resistance	UL 94 V-2
Fire load	Approx. 1.33 kWh
Weight	Approx. 195 g

Dimensions	Width: 114 mm in the direction of the DIN rails, 95 mm length installed in rows: 149 mm at right angles to DIN rail 44 mm without and about 47 mm with TH 35-7.5 DIN rail
Licensing and certification	KNX certified
CE marking	In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.4 *gesis* FLEX-8/0 (12) 8x binary input



General description

Product: Functional module

- Designation: Binary inputs with 12 V SELV protective low voltage
- Type / Item No.: *gesis* FLEX-8/0 (12) 83.020.0622.0 (plug set not included
  gesis FLEX-8/0 (12) Z 83.020.0622.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The 8x 12 VDC (SELV) binary input for connecting potential-free contacts in the flat surface-mounted housing, which can be mounted on DIN rails for decentralized installation, is managed by the basic module. It receives its mains and bus supply from the upstream module. The extensive parameter set enables various automation functions. The manual mode level enables function tests without prior system integration. The electrical connections, which can be connected in accordance with IEC 61535, separate automation and installation.

Technical data

Construction type

Housing	*gesis* FLEX 95 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	• Brief press: Selects an input. • Long pressing (> 3 sec): Will end the state display and manual operation.
"On/Off" button	Pressing initiates the selected input

Status indicator function

LED 'status'	Green:	Module state OK, no errors
	Red flashing:	Model state errors (configuration errors, communication errors)
LED '1' to '8' (green)		State display input 1 to 8 (green = ON) Flashing or superimposed flashing indicates the selected input

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec) or 10 minutes after the last button press.

Internal module bus

A supply takes place via the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module. This is always done in connection with a basic module. This bus is further routed through the entire module; additional *gesis* FLEX expansion or feed modules can be connected to it. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the base module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption, inputs open	Approx. 10.5 mA eff. (LEDs OFF) / approx. 14.5 mA eff. (LED state ON)
Current consumption, inputs closed	Approx. 13.5 mA eff. (LEDs OFF) / approx. 33.5 mA eff. (LEDs ON)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX basic or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX expansion or feed modules can be connected. Internally, the L1 phase conductor is used by the module to generate a 12 VDC SELV signal voltage (V_{input}) for the 8 binary inputs.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A
Internal power consumption	Max. 0.2 W with all inputs passively open; max. 0.9 W with all inputs actively closed

Input

Number	8 binary inputs (for connecting potential-free contacts)
Input connection type 1 to 4	GST15i5 female connection, 5-pole, light blue Connector assignment 5 = signal voltage (V_{input}) 12 VDC connection 4 = input 1 connection 3 = input 2 connection 2 = input 3 connection 1 = input 4
Input connection type 5 to 6	GST15i5 female connection, 5-pole, light blue Connection 5 = signal voltage (V_{input}) 12 VDC connection 4 = input 5 connection 3 = input 6 connection 2 = input 7 connection 1 = input 8
Signal voltage (V_{input})	12 VDC SELV (provided by the module)
"0" signal detection	0 to 3 VDC
"1" signal detection	> 7.5 VDC
Contact open	> 100 kΩ
Contact closed	< 2 kΩ
Input current	4.7 mA typical
On duration	100% for all 8 binary inputs
Cable length at input	100 m max.

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Input signal voltage (V_{input})	SELV (12 VDC)
Galvanic isolation	
• Internal bus / mains	Clearance and creepagetracks > 5.5 mm, isolation voltage: 4 kV AC / 6 kV impulse
• Signal voltage / mains	Clearance and creepagetracks > 5.5 mm, isolation voltage: 4 kV AC / 6 kV impulse
• Internal bus / signal voltage	Clearance and creepagetracks > 3.0 mm, isolation voltage: 2.8 kV AC / 4 kV impulse
• Protective conductor resistance	Approx. 1.5 mΩ (mains input to mains output

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 … +45°C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 725 fit (at 40 °C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free light gray

Fire resistance

Housing	UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load

Approx. 1.68 kWh

Weight

Approx. 250 g

Dimensions

Width:	114 mm in the direction of the DIN rails, 95 mm installed in rows, with end cap output + 10 mm
Length:	149 mm at right angles to DIN rail
Height:	44 mm without and about 47 mm with TH 35-7.5 DIN rail

Licensing and certification

KNX-certified

CE marking

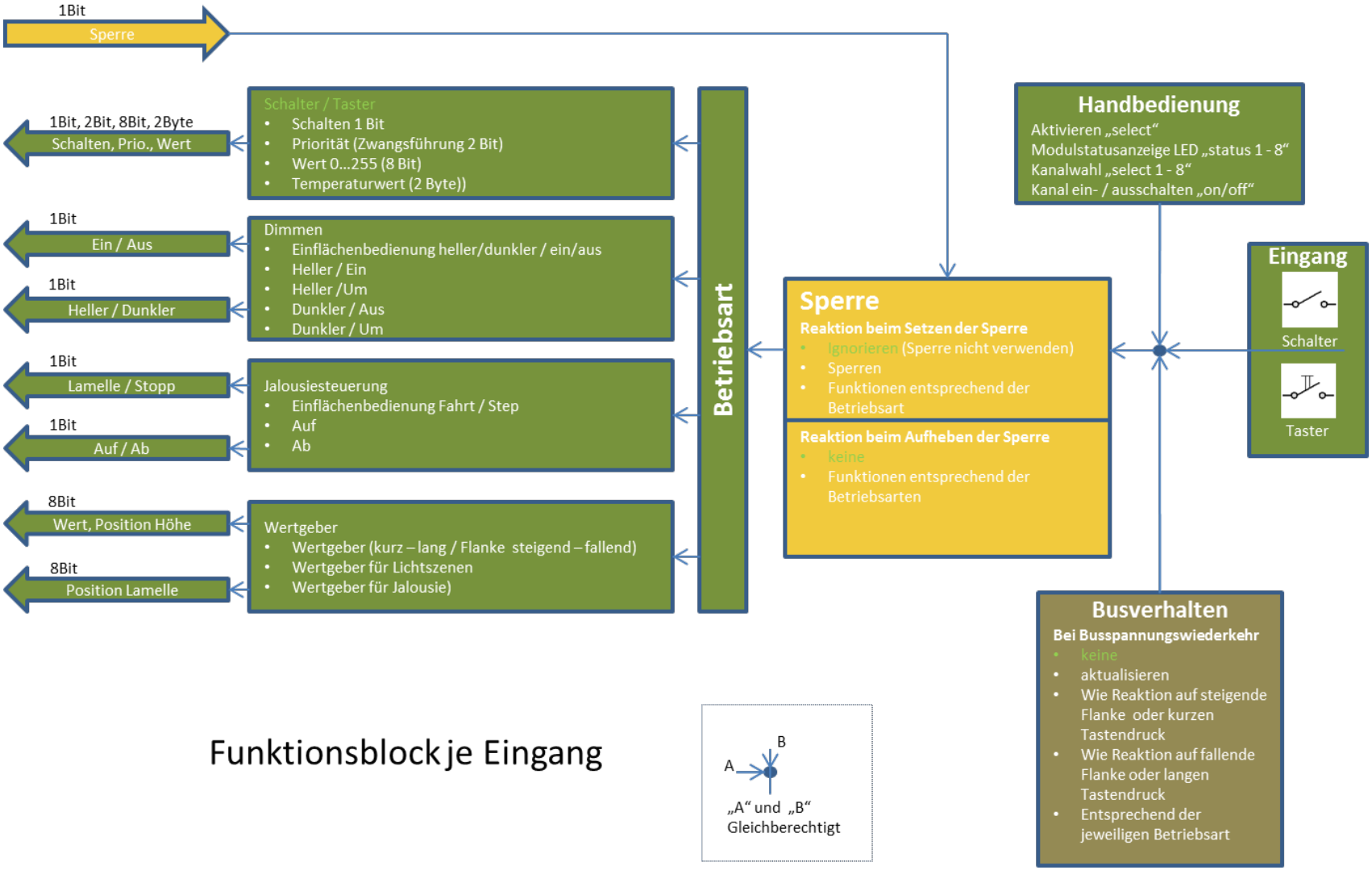
In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

Application description

Flowchart



Communication objects

Notes

- The operating modes are set via parameters.
- The object numbers indicated in the tables stand for the first module in the system.
  Object numbers for modules 1, 2, 3, 4, 5, and 6 are specified as follows: Object No. extension module 1 (EM 1) = Obj. No. table (see table) Obj. No. EM 2 = Obj. No.$_{Table}$ + 100 Object No. EM 3 = Object No.$_{Table}$ + 200 Object No. EM 4 = Object No.$_{Table}$ + 300 Object No. EM 5 = Object No.$_{Table}$ + 400 Object No. EM 6 = Object No.$_{Table}$ + 500 example: Object number 2 on extension module 1 (EM1) correspondence to object number 202 at extension module 3 (EM3).

Reference

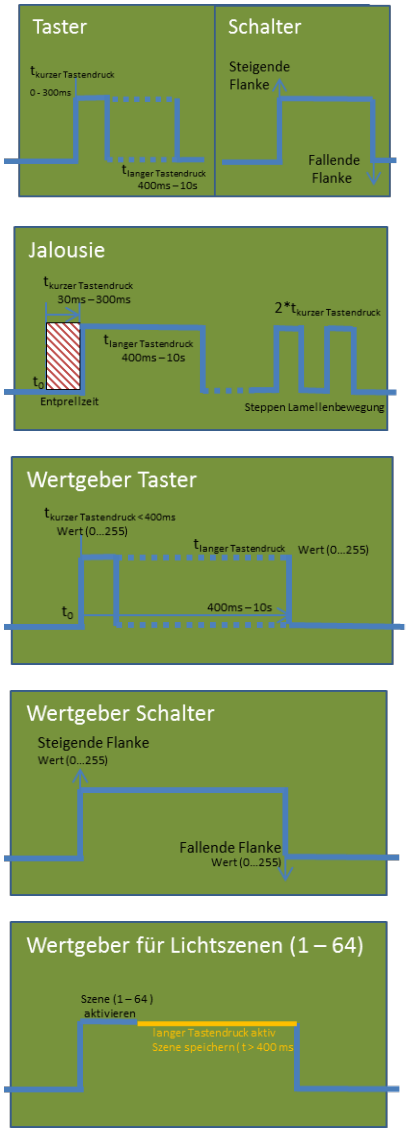
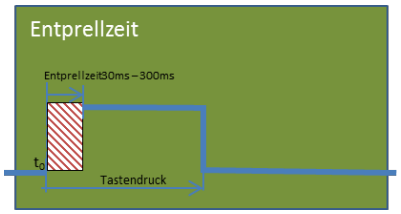
Module 1 Object No. Input								Function	Data Point Type	Object	Length	Flags				
1	2	3	4	5	6	7	8		DPT			K	L	S	Ü	A
2	15	28	41	14	17	20	23	Switch/Push button	1.001	Switch (1 bit)	1bit	K	–	–	Ü	–
									2.001	Priority, priority control	2 bit					
									5.010	Value 0 to 255	1 byte					
									9.001	Temperature value 0 to 40	2 byte					
2	5	8	11	14	17	20	23	Dim	1.001	On/Off	1bit	K	–	–	Ü	–
3	6	9	12	15	18	21	24	brighter/darker	3.007	Single-button operation	1bit	K	–	–	Ü	–
								brighter		Brighter/on	4 bit					
										Brighter/toggle	4 bit					
								darker		Darker/off	4 bit					
										Darker/toggle	4 bit					
2	5	8	11	14	17	20	23	Shutter control	1.007	louver/stop	1bit	K	–	–	Ü	–
3	6	9	12	15	18	21	24	up/down	1.008	Single-button operation	1bit	K	–	–	Ü	–
								up		up	1bit					
								down		down	1bit					
2	5	8	11	14	17	20	23	Value transmitter	5.010	Value transmitter (button/switch)	1 byte	K	–	–	Ü	–
								Call light scene	18.001	Value transmitter, light scenes	1 byte	K	–	–	Ü	–
								Position height	5.001	Value transmitter, shutter	1 byte					
3	6	9	12	15	18	21	24	Position louver	5.001	Value transmitter, shutter	1 byte	K	–	–	Ü	–
4	7	10	13	16	19	22	25	lock	1.002	Locking	1bit	K	–	S	–	–

Parameter description

Overview

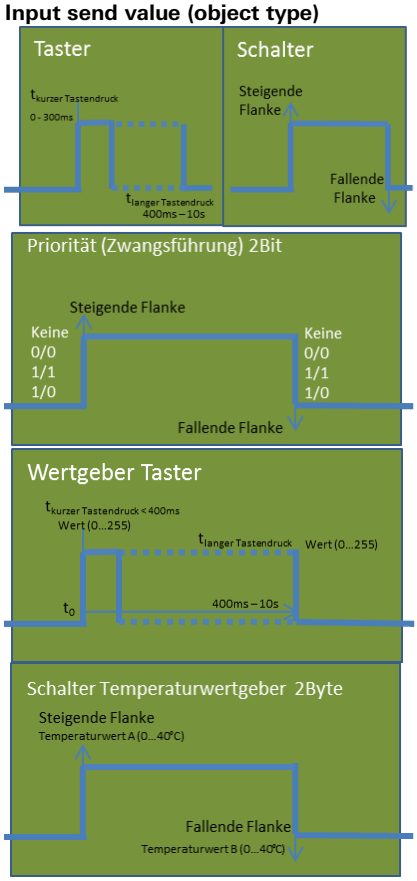
Basic settings for the respective input (channel 1 to 8) 32
"Switch/button" function 33
Basic setting 33
Switch/button → Switch (1 bit) 34
Switch/button → Prioritization (Priority control, 2 bit) 38
Switch/button → Value 0 to 255 (8 bit) 42
Switch/button → Temperature value (2 byte) 46
"Dim" function 50
"Shutter control" function 53
"Value transmitter" function 55
Basic setting 55
Value transmitter → Value transmitter (short-long/rising-falling flank) 56

Basic settings for the respective input (channel 1 to 8)

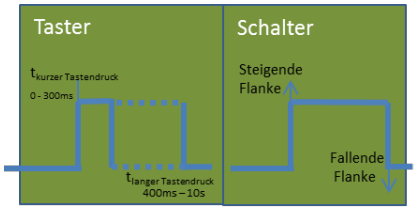
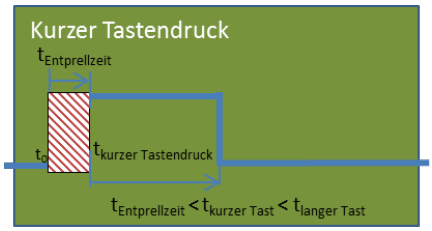
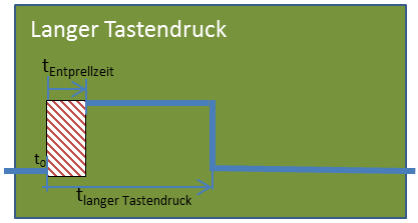
Parameter	Description
Function of the input 	**Caution:** The operating mode only determines the function of the respective channel when **no** lock, inverting, switch-off warning, or priority has been set. • **Switch/push button** The input is interpreted as a push button or switch. With buttons, there is a differentiation between long and short presses of the button and, with switches, there is a differentiation between increasing and falling flanks. This is adjustable in the "Input type" parameter. The object can be displayed in a suitable size according to the potential parameters. 1 bit for switching "On/Off"; 2 bit for the priority object priority control for the; 8 bit for values between 0 and 255 as well as 2-byte values in the form of temperature values. • **Dim** The input should be used for dimming. The objects for switch (1 bit) and dim (4 bit) are displayed. There is a differentiation between short and long presses of the button. The input for single-button operation is parameterized as the default. The following can be parameterized for the dim function: - Brighter/darker (dim object) and On/Off (switch object) - Brighter (dim object) and On (switch object) - Brighter (dim object) and toggle (switch object) - Darker (dim object) and Off (switch object) - Darker (dim object) and toggle (switch object) A brief press of the button transmits a switch On or Off command. A long press of the button generates a dim command for the brighter/darker function. At the end of the dimming process, a stop command is transmitted when the button is released. • **Shutter control** The input should be used to control shutters, roller shutters, awnings, or other actuators. The objects for louver/stop (1 bit) and up/down (1 bit) are displayed. There is a differentiation between short and long presses of the button. Control commands can be only be transmitted with a button for drive up and down and stop. The stopping of a drive can be parameterized by releasing or briefly pressing a button. Louver movement, so-called stepping, is implemented with a brief press of the button. • **Value transmitter** In the function as value transmitter, the input can be configured by default as button with a value (0 to 255) for brief button presses and a value (0 to 255) for long button presses. The input can also be parameterized as a switch, wherein, in this case, the rising and falling flanks can be parameterized with a value. An additional function is the value for light scenes. In this case, a scene number (1 to 64) is assigned to the input. This is transmitted when there is a "1" at the input. In addition, using the "Save with long button press" setting, it is not possible to configure by default that a scene save command be transmitted. This command prompts the corresponding actuator to save the currently pending setting of a scene. The previously saved scene is overwritten. The input can also be parameterized as a value transmitter for positions of blinds/shutters. In this case, percent values can also be individually entered for a short button press for blind/shutter height and/or louver positions. In addition, with a long button press, it is possible to move the blind/shutter into one of the two end positions.
De-bounce time 	Default: **50 ms** (30 ms to 300 ms) With signal processing, de-bounce time is the time period in which an input defined signal is pending, so that it is reliably detected and can be further processed by the system. With this module, the de-bounce time can be set in a time period from 30 ms to 300 ms. A time of 50 ms has been pre-configured as the default setting as a typical value for reliable de-bouncing of mechanical buttons.

"Switch/button" function

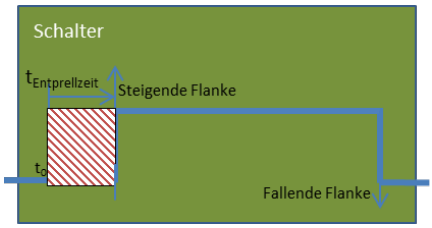
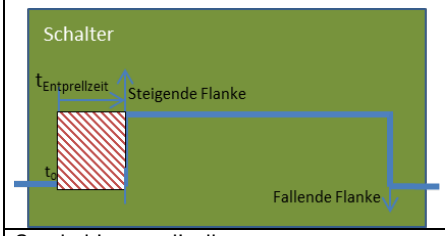
Basic setting

Parameter	Description
Input send value (object type) 	• **Switch (1 bit)** Used to parameterize buttons or switches. The rising or falling flanks with a switch or the brief and long pressing of the button with a button are evaluated as the switch information. According to the required responses, the functions "None," "On," "Off," or Toggle" switching can be assigned. • **Prioritization (Priority control, 2 bit)** If an input is assigned with this function, bit 1 contains the information that with a "1" the priority is set and with a "0" the priority is not set. Bit 0 determines whether a function is executed with "1" or not executed with "0". • **Value 0 to 255 (8 bit)** This setting enables various values ranging from 0 to 255 to be transmitted to the KNX bus for rising or falling edges as well as with long and short presses of the button. • **Temperature value (2 Byte)** With this function, it is possible to transmit temperature values for an HLK system or target values for a thermostat. A value for rising flank or a short press of the button and a value for falling flank or a long press of the button can be transmitted.

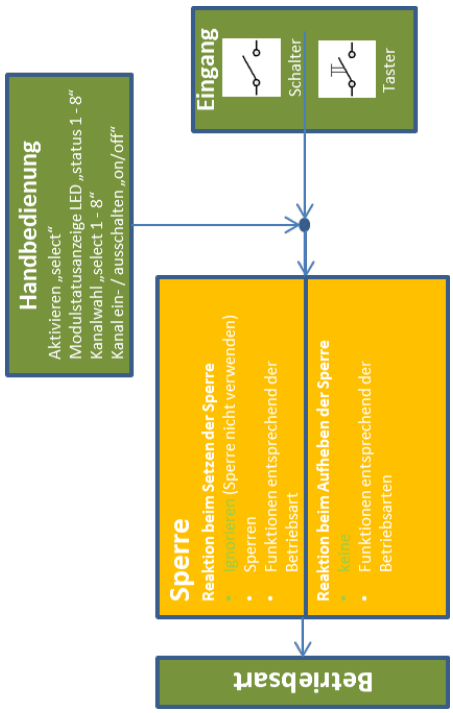
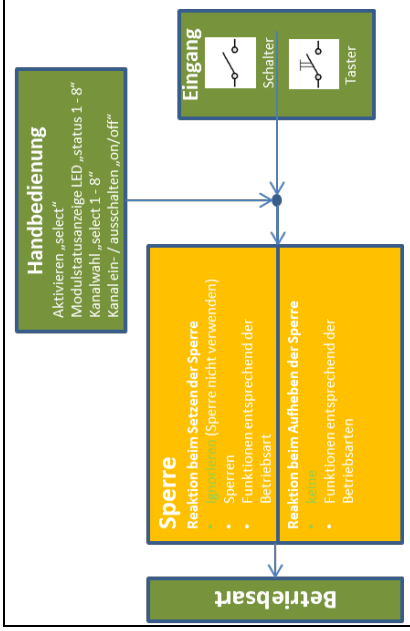
Switch/button → Switch (1 bit)

Parameter	Description
Input type	
	• **Button (short/long button press)** With a button, there is a differentiation between a short and long press of the button. The time for a short press of the button is determined by the set de-bounce time. This is between 30 ms and 300 ms and can be adjusted in 1 ms increments. The time for the long press of the button can be set in a range from 400 ms to 10 seconds. A certain function can be assigned to each button press, whether it be short or long. • **Switch (rising/falling flank)** With a switch, there is a differentiation made between a rising and a falling flank. In the function as a 1 bit switch, a function can be assigned to each switching flank during parameterization.
Button	
Reaction after short key press 	This parameter determines the function of a short press of the button: • **None** A linking of the input with the function "None" also brings about no change in the state with the linked devices. • **On** With this parameterization, a "1" is transmitted for "On" together with the correspondingly linked group address to the KNX bus when there is a short press of the button. • **Off** This setting transmits a "0" for "Off" to the KNX bus. An output linked to this for illumination would switch off the light. This requires that no inverting be previously set. • **Toggle** This function inverts the currently pending input object. Toggle switches, for example, can be set up with this function.
Use long key press	Default: ☐ **(no)** This parameter is not active by default. When active, it is possible to parameterize 2 different functions and evaluations with an input.
↳ Time for long key press (ms)	Default: **500** With this setting, a button press is identified as a long button press with the time being configured according to its expiry. The adjustable time period is between 400 ms and 10 seconds.
↳ Reaction after long key press 	• **None** A linking of the input with the function "None" also brings about no change in the state with the linked devices. • **On** With this parameterization, a "1" is transmitted for "On" together with the correspondingly linked group address to the KNX bus when there is a short press of the button. • **Off** This setting transmits a "0" for "Off" to the KNX bus. An output linked to this for illumination would switch off the light. This requires that no inverting be previously set. • **Toggle** This function inverts the currently pending input object. So-called toggle switches can be set up with this function.
Send object cyclically	• **No** The corresponding object is only transmitted once by the input. • **Yes, always** With this setting, the input object is transmitted cyclically according to a set time. • **Only after a short button press** The object is transmitted repeatedly after a short button press according to the parameterized cycle time. • **Only after long button press** The input object is transmitted to the KNX bus cyclically after a long button press.
↳ Cycle time	Default: **00:05:00** hh:mm:ss The cycle time determines the chronological time period in which an object is supposed to be cyclically sent. This can be adjusted to a time between 1 second and 18 hours.

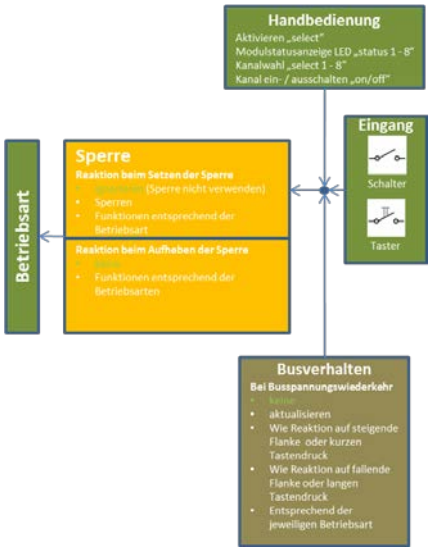
Switch/button → Switch (1 bit)

Parameter	Description
Switch	
Reaction on rising edge 	• **None** With this parameterization, a rising flank will have no effect whatsoever on the parameterized functions at the bus. • **On** With this parameterization, a "1" is transmitted for "On" together with the correspondingly linked group address to the KNX bus with a rising flank. • **Off** This setting transmits a "0" for "Off" to the KNX bus with a rising flank. An output linked to this for illumination would switch off the light. This requires that no inverting be previously set. • **Toggle** This function inverts the currently pending input object. Toggle switches, for example, can be set up with this function.
Reaction on falling edge 	• **None** A linking of the input with the function "None" also brings about no change in the state with the linked devices. • **On** With this parameterization, a "1" is transmitted for "On" together with the correspondingly linked group address to the KNX bus with a falling flank. • **Off** This setting transmits a "0" for "Off" to the KNX bus with a falling flank. An output linked to this for illumination would switch off the light. This requires that no inverting be previously set. • **Toggle** This function inverts the currently pending input object. Toggle switches, for example, can be set up with this function.
Send object cyclically	• **No** The corresponding object is only transmitted once by the input. • **Yes, always** With this setting, the input object is transmitted cyclically according to a set time. • **Only after rising flank** The object is transmitted repeatedly after a rising flank according to the parameterized cycle time. • **Only after falling flank** The input object is transmitted to the KNX bus cyclically after a falling flank.
↳ Cycle time	Default: **00:05:00** hh:mm:ss The cycle time determines the chronological time period in which an object is supposed to be cyclically sent. This can be adjusted to a time between 1 second and 18 hours.

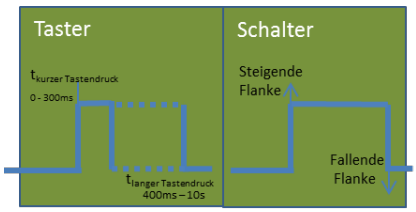
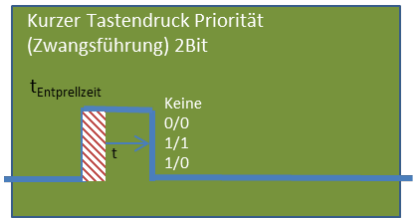
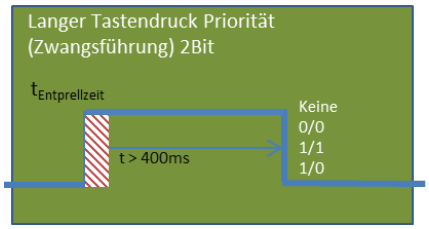
Switch/button → Switch (1 bit)

Parameter	Description
Reaction when setting lock 	"Switch" input type • **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Just like "Reaction on rising flank"** When setting the lock, the parameterized function is executed according to the rising flank. • **Just like "Reaction on falling flank"** When setting the lock, the parameterized function is executed according to the falling flank. "Button" input type • **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Just like "Reaction after short button press"** When setting the lock, the parameterized function is executed according to the short button press. • **Just like "Reaction after long button press"** When setting the lock, the parameterized function is executed according to the long button press.
↳ Reaction on removing lock 	"Switch" input type • **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly processed until there is a change at the input. • **Update** After the lock function is exited, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction on rising flank''** After the lock function is exited, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank"** After the lock function is exited, the state is updated according to the "Reaction on falling flank" parameterization. "Button" input type • **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly forwarded until there is a change at the input. • **Update** After the lock function is exited, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction after short button press''** After the lock function is exited, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press"** After the lock function is exited, the state is updated according to the "Reaction after long button press" parameterization.

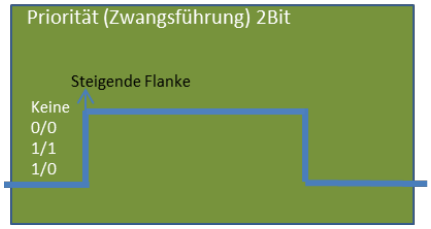
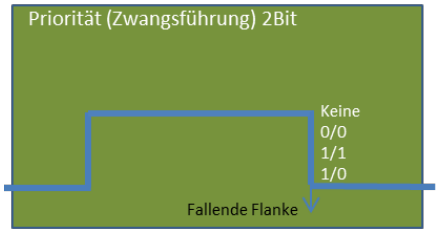
Switch/button → Switch (1 bit)

Parameter	Description
Reaction upon bus voltage recovery 	"Switch" input type • **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Update** In the event of bus voltage recovery, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction on rising flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on falling flank" parameterization. "Button" input type • **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Update** In the event of bus voltage recovery, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction after short button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after long button press" parameterization.
↳ Use random time for bus voltage recovery.	Default: ☑ **(yes)** This function is active by default and should prevent the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time in order to definitively control the responses to the bus during bus voltage recovery.

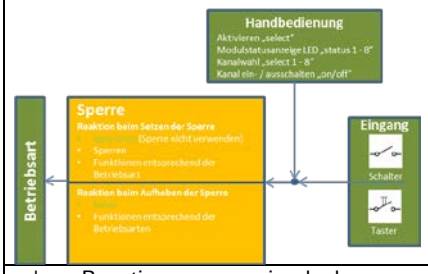
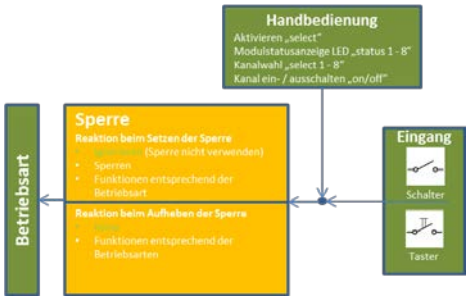
Switch/button → Prioritization (Priority control, 2 bit)

Parameter	Description
Input type 	• **Switch (rising/falling flank)** In the function as a prioritization/priority control, 2 bit, switch, a particular piece of 2-bit information can be assigned to any switching flank during parameterization. This 2-bit information is evaluated and triggers a certain function when the corresponding linkage is present. • **Button (short/long button press)** In the function as a prioritization/priority control, 2 bit, button, a particular piece of 2-bit information can be assigned to the short button press and the long button press during parameterization. This 2-bit information is evaluated and triggers a certain function when the corresponding linkage is present.
Button	
↳ Reaction after short key press 	• **None** A short button press has no effect; after a short button press, no object is sent. • **Priority control Off ("0 0")** The "Priority control" object with the "Priority control Off" (0 0) content is generated and sent to the bus. Any previously set priority control will thus be canceled. • **Priority control On, value 1 ("1 1")** The "Priority control" object with the "Priority control On, value 1" content with the group address linked in the ETS is sent to the bus. • **Priority control On, value 0 ("1 0")** The "Priority control" object with the "Priority control On, value 0" content with the group address linked in the ETS is sent to the bus.
↳ Use long key press	Default: • **(no)** A long press of the button at the input is evaluated and can be assigned with a response or a transmit value. If the evaluation of the long button press is activated, a time can be set for a long button press and a corresponding action selected and set.
↳ Time for long key press (ms)	Default: **500** Here the time is set according to which a button press will be interpreted as a "long button press." The adjustable time period is between 400 ms and 10 seconds.
↳ Reaction after long key press 	• **None** With this parameterization, a long button press will have no effect whatsoever on the parameterized functions at the bus. • **Priority control Off ("0 0")** With a "long button press," the "Priority control" information is canceled (0 0) and sent to the bus. Any previously set priority control will thus be canceled. • **Priority control On, value 1 ("1 1")** A long button press means that the Priority control On object, value 1, is sent to the bus with the group address linked in the ETS. • **Priority control On, value 0 ("1 0")** A long button press means that the Priority control On object, value 0, is sent to the bus with the group address linked in the ETS.

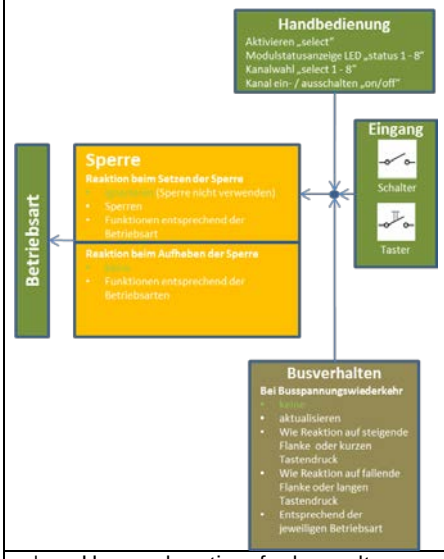
Switch/button → Prioritization (Priority control, 2 bit)

Parameter	Description
switch	
↳ Reaction on rising edge 	• **None** With this parameterization, a rising flank will have no effect whatsoever on the parameterized functions at the bus. • **Priority control Off ("0 0")** With a rising flank, the "Priority control" information is canceled (0 0) and sent to the bus. Any previously set priority control will thus be canceled. • **Priority control On, value 1 ("1 1")** A rising flank means that the Priority control On object, value 1, is sent to the bus with the group address linked in the ETS. • **Priority control On, value 0 ("1 0")** A rising flank means that the Priority control On object, value 0, is sent to the bus with the group address linked in the ETS.
↳ Reaction on falling edge 	• **None** With this parameterization, a falling flank will have no effect whatsoever on the parameterized functions at the bus. • **Priority control Off ("0 0")** With a falling flank, the "Priority control" information is canceled (0 0) and sent to the bus. Any previously set priority control will thus be canceled. • **Priority control On, value 1 ("1 1")** A falling flank means that the Priority control On object, with value 1, is sent with the group address linked in the ETS. • **Priority control On, value 0 ("1 0")** A falling flank means that the Priority control On object, with value 0, is sent with the group address linked in the ETS.
Switches & buttons	
Send object cyclically	switch • **No** The corresponding object is only transmitted once by the input. • **Yes, always** Object is sent cyclically according to the parameterized cycle time. • **Only after rising flank** The object is sent repeatedly according to the parameterized cycle time only after a rising flank. • **Only after falling flank** The object is sent repeatedly according to the parameterized cycle time only after a falling flank. Button • **No** The corresponding object is only transmitted once by the input. • **Yes, always** Object is sent cyclically according to the parameterized cycle time. • **Only after short button press** The object is sent repeatedly according to the parameterized cycle time only after a short button press. • **Only after long button press** The object is transmitted cyclically after a long button press according to the parameterized cycle time.
↳ Cycle time	Default: **00:05:00** hh:mm:ss The cycle time determines the chronological time period in which an object is supposed to be cyclically sent. This can be adjusted to a time between 1 second and 18 hours.

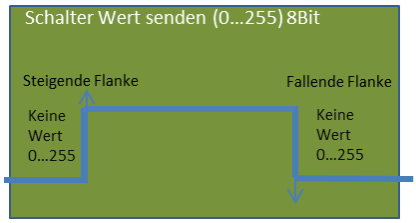
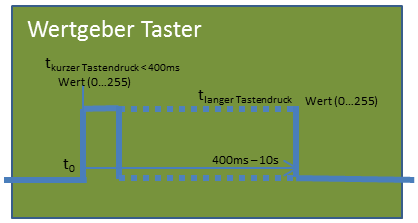
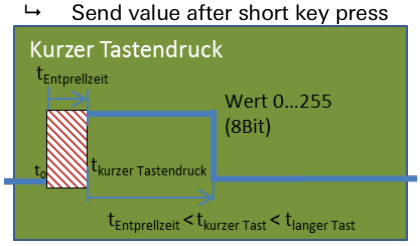
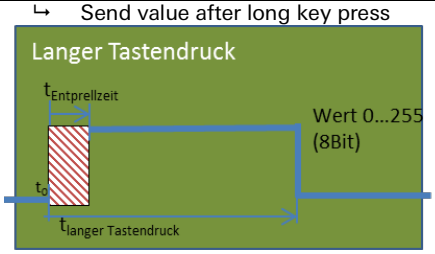
Switch/button → Prioritization (Priority control, 2 bit)

Parameter	Description
Reaction when setting lock 	"Switch" input type • **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** When setting the lock function, the most recent state of the input will be frozen. Changes at the input will no longer be transmitted via the bus. • **Just like "Reaction on rising flank"** When setting the lock, the parameterized function is executed according to the rising flank. • **Just like "Reaction on falling flank"** When setting the lock, the parameterized function is executed according to the falling flank. "Button" input type • **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Just like "Reaction after short button press"** When setting the lock, the parameterized function is executed according to the short button press. • **Just like "Reaction after long button press"** When setting the lock, the parameterized function is executed according to the long button press.
↳ Reaction on removing lock 	"Switch" input type • **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly processed until there is a change at the input. • **Update** After the lock function is exited, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction on rising flank''** After the lock function is exited, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank"** After the lock function is exited, the state is updated according to the "Reaction on falling flank" parameterization. "Button" input type • **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly forwarded until there is a change at the input. • **Update** After the lock function is exited, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction after short button press''** After the lock function is exited, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press** After the lock function is exited, the state is updated according to the "Reaction after long button press" parameterization.

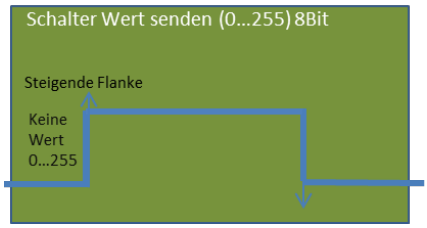
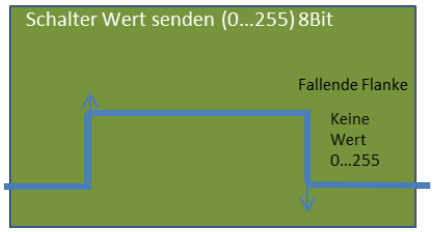
Switch/button → Prioritization (Priority control, 2 bit)

Parameter	Description
Reaction upon bus voltage recovery 	"Switch" input type • **None** The state for the input remains unchanged on bus voltage recovery.The state is not updated and forwarded until there is another change at the input accordingly. • **Update** In the event of bus voltage recovery, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction on rising flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on falling flank" parameterization. "Button" input type • **None** The state for the input remains unchanged on bus voltage recovery.The state is not updated and forwarded until there is another change at the input accordingly. • **Update** In the event of bus voltage recovery, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction after short button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after long button press" parameterization.
↳ Use random time for bus voltage recovery	Default: ☑ **(yes)** This function is active by default and should prevent the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time for definitively controlling the responses on the bus in the event of bus voltage recovery.

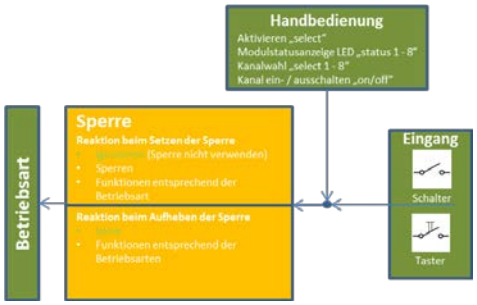
Switch/button → Value 0 to 255 (8 bit)

Parameter	Description
Input type  	• **Switch (rising/falling edge)** In the function as a 0 to 255 (8 bit) value transmitter switch, an 8-bit value ranging from 0 to 255 can be assigned to any switching edge. These 8-bit values are transmitted to the KNX bus as an input object when there is a rising or falling flank. • **Button (button (short/long button press)** In the function as a value transmitter 0 to 255 (8 bit) button, any configurable 8-bit values ranging from 0 to 255 can be assigned with either a short button press or a long button press. These 8-bit values are transmitted to the KNX bus as an input object with a long or short button press.
Button	
↳ Reaction after short key press	• **None** With this setting, no action will be executed when there is a short button press. The short button press is not evaluated. • **Send value (1 byte, 0 to 255)** When this function is selected, an adjustable value between 0 and 255 is transmitted to the input object and sent to the KNX bus when there is a short button press.
↳ Send value after short key press 	Default: **0** With this option, the 8-bit value for the action is set with a short button press.
↳ Use long key press	Default: ☐ **(no)** If the selection option is activated, a long button press can be defined, in addition to the short button press, which also can be used to send an 8-bit value.
↳ Time for long key press (ms)	Default: **500** With this setting, a button press is identified as a long button press with the time being configured according to its expiry. The adjustable time period is between 400 ms and 10 seconds.
↳ Send value after long key press 	Default: **0** With this option, the 8-bit value for the action is set with a long button press.

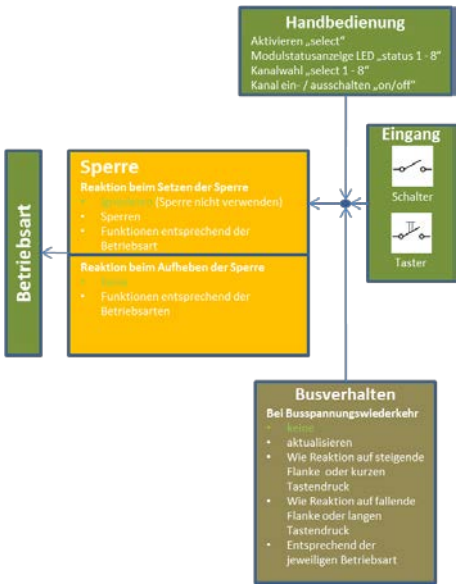
Switch/button → Value 0 to 255 (8 bit)

Parameter	Description
switch	
↳ Reaction on rising edge 	• **None** With this setting, no action will be executed when there is a rising flank. The rising flank is not evaluated by the switching event. • **Send value (1 byte, 0 to 255)** When this function is selected, an adjustable value between 0 and 255 is transmitted to the input object and sent to the KNX bus when there is a rising flank.
↳ Send value at rising edge	Default: **0** With this option, the 8-bit value (0 to 255) for the action is set with a rising flank.
↳ Reaction on falling edge 	• **None** With this setting, no action will be executed when there is a falling flank. The falling flank is not evaluated by the switching event. • Send value (1 byte, 0 to 255) When this function is selected, an adjustable value between 0 and 255 is transmitted to the input object and sent to the KNX bus when there is a falling flank.
↳ Send value at falling edge	Default: **0** With this option, the 8-bit value (0 to 255) for the action is set with a rising flank.
Switches & buttons	
Send object cyclically	switch • **No** The corresponding object is only transmitted once by the input. • **Yes, always** With this setting, the input object is transmitted cyclically according to a set time. • **Only after rising flank** The object is transmitted repeatedly after a rising flank according to the parameterized cycle time. • **Only after falling flank** The input object is transmitted to the KNX bus cyclically after a falling flank. Button • **No** The corresponding object is only transmitted once by the input. • **Yes, always** With this setting, the input object is transmitted cyclically according to a set time. • **Only after a short button press** The object is transmitted cyclically after a short button press according to the parameterized cycle time. • **Only after long button press** The input object is transmitted to the KNX bus cyclically after a long button press.
↳ Cycle time	Default: **00:05:00** hh:mm:ss The cycle time determines the chronological time period in which an object is supposed to be cyclically sent. This can be adjusted to a time between 1 second and 18 hours.

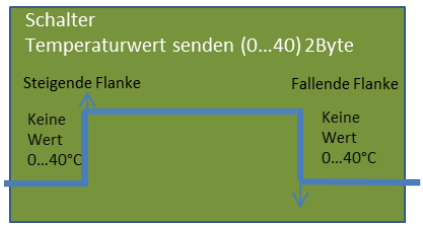
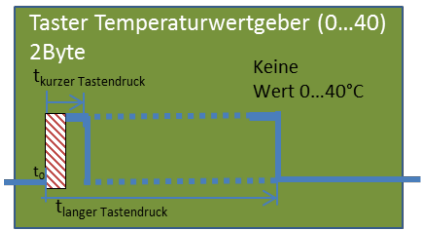
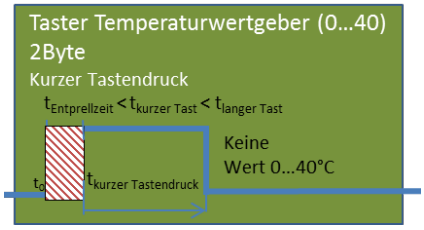
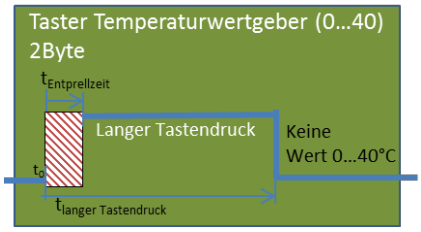
Switch/button → Value 0 to 255 (8 bit)

Parameter	Description
Reaction when setting lock 	"Switch" input type • **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Just like "Reaction on rising flank"** When setting the lock, the parameterized function is executed according to the rising flank. • **Just like "Reaction on falling flank"** When setting the lock, the parameterized function is executed according to the falling flank. "Button" input type • **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Just like "Reaction after short button press"** When setting the lock, the parameterized function is executed according to the short button press. • **Just like "Reaction after long button press"** When setting the lock, the parameterized function is executed according to the long button press.
↳ Reaction on removing lock 	"Switch" input type • **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly processed until there is a change at the input. • **Update** After the lock function is exited, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction on rising flank''** After the lock function is exited, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank"** After the lock function is exited, the state is updated according to the "Reaction on falling flank" parameterization. "Button" input type • **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly forwarded until there is a change at the input. • **Update** After the lock function is exited, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction after short button press''** After the lock function is exited, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press"** After the lock function is exited, the state is updated according to the "Reaction after long button press" parameterization.

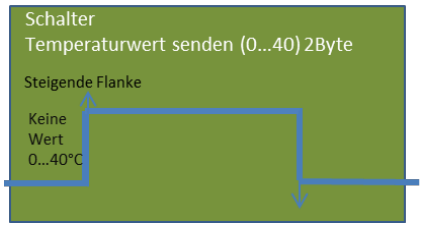
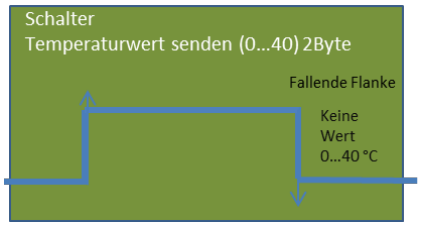
Switch/button → Value 0 to 255 (8 bit)

Parameter	Description
Reaction upon bus voltage recovery 	"Switch" input type • **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Update** In the event of bus voltage recovery, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction on rising flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on falling flank" parameterization. "Button" input type • **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Update** In the event of bus voltage recovery, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction after short button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after long button press" parameterization.
↳ Use random time for bus voltage recovery	Default: ☑ **(yes)** This function is active by default and should prevent the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time in order to definitively control the responses to the bus during bus voltage recovery.

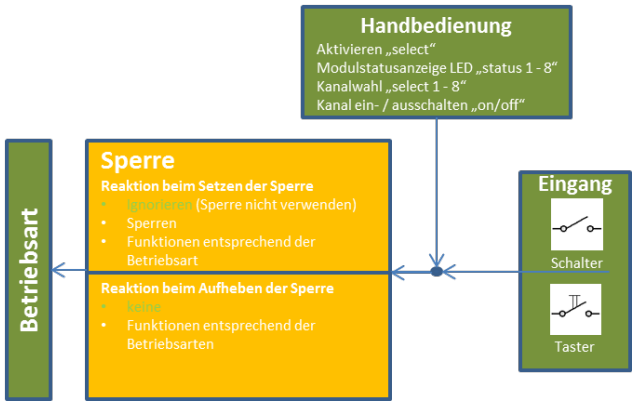
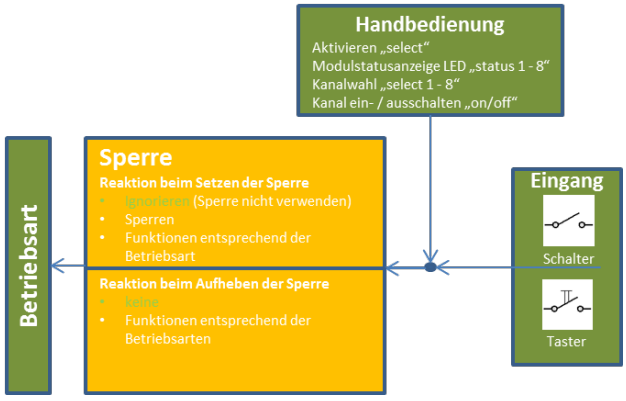
Switch/button → Temperature value (2 byte)

Parameter	Description
Input type  	• **Switch (rising/falling flank)** In the function as a (2 byte) temperature value transmitter switch, a temperature value ranging from 0 to 40 can be assigned to a switching flank. These 2-byte values (of which there can be possibly 2 per switching cycle) are each transmitted as an input object to the KNX bus with a rising or falling flank. • **Button (button (short/long button press)** In the function as a temperature value transmitter (2 byte), any configurable 2-byte temperature values ranging from 0 to 40 can be assigned with either a short button press or a long button press. These 2-byte values are transmitted to the KNX bus as an input object with a long or short button press.
Button	
↳ Reaction after short key press 	• **None** With this setting, no action will be executed when there is a short button press. The short button press is not evaluated. • **Send temperature value (2 byte)** The 0 to 40 °C temperature value configured for the short button press is transmitted to the KNX bus as an input object.
↳ Send value after short button press (°C)	Default: **21** In the default setting, this actuator is set to the 21 °C temperature value. This value can be varied in a temperature range of 0 to 40 °C. The set value is sent to the KNX bus as an input object with a short button press.
↳ Use long key press 	Default: ☐ **(no)** If the selection for the long button press is activated, an additional temperature value can be assigned to the long button press. Thus, it is possible to control the temperature values in a room for different types of occupying.
↳ Time for long key press (ms)	Default: **500** With this setting, a button press is identified as a long button press with the time being configured according to its expiry. The adjustable time period is between 400 ms and 10 seconds.
↳ Send value after long button press (°C)	Default: **17** In the default setting, a temperature value of 17 °C has been set for the long button press. This value can be used to reduce the temperature for rooms that are not occupied. This value can be varied in a temperature range of 0 to 40 °C.

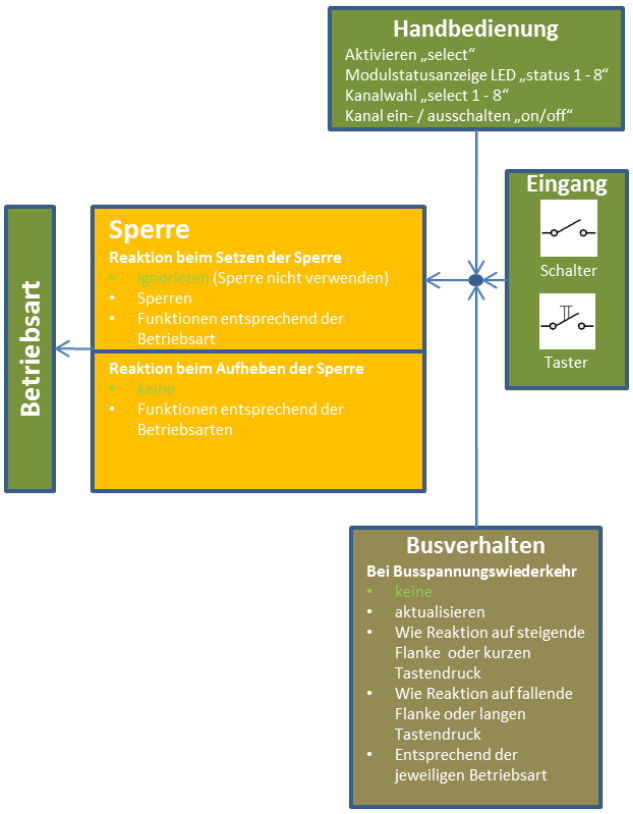
Switch/button → Temperature value (2 byte)

Parameter	Description
switch	
↳ Reaction on rising edge 	• **None** With this setting, no action will be executed when there is a rising flank. The rising flank is not evaluated by the switching event. • **Send temperature value (2 byte)** The 0 to 40 °C temperature value configured for the short button press is transmitted to the KNX bus as an input object.
↳ Send value at rising flank (°C)	Default: **21** In the default setting, this actuator is set to the 21 °C temperature value. This value can be varied in a temperature range of 0 to 40 °C. With a button press, the set value is sent to the KNX bus as an input object with a rising flank.
↳ Reaction on falling edge 	• **None** With this setting, no action will be executed when there is a rising flank. The rising flank is not evaluated by the switching event. • **Send temperature value (2 byte)** The 0 to 40 °C temperature value configured for the short button press is transmitted to the KNX bus as an input object.
↳ Send value at falling flank (°C)	Default: **17** In the default setting, the input is set to the 17 °C temperature value. This value can be varied in a temperature range of 0 to 40°C. With a button press, the set value is sent to the KNX bus as an input object with a falling flank.
Switches & buttons	
↳ Send object cyclically	"Switch" input type • **No** The corresponding object is only transmitted once by the input. • **Yes, always** With this setting, the input object is transmitted cyclically according to a set time. • **Only after rising flank** The object is transmitted repeatedly after a rising flank according to the parameterized cycle time. • **Only after falling flank** The input object is transmitted to the KNX bus cyclically after a falling flank. "Button" input type • **No** The corresponding object is only transmitted once by the input. • **Yes, always** With this setting, the input object is transmitted cyclically according to a set time. • **Only after a short button press** The object is transmitted cyclically after a short button press according to the parameterized cycle time. • **Only after long button press** The input object is transmitted to the KNX bus cyclically after a long button press.

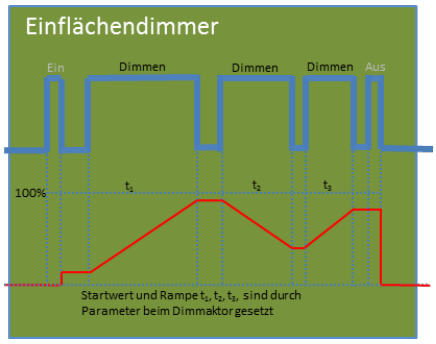
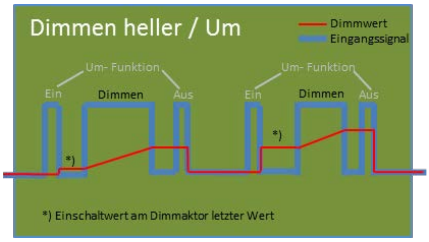
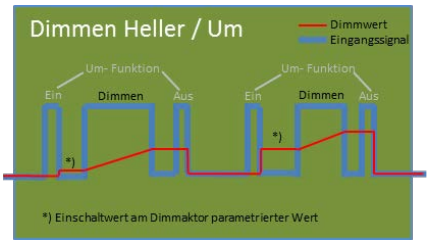
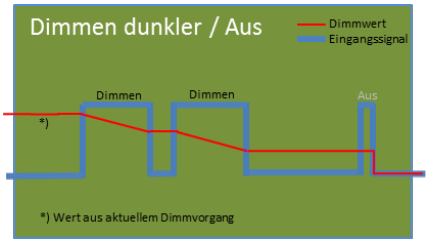
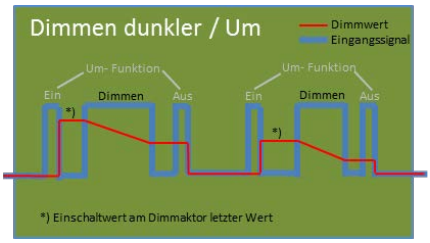
Switch/button → Temperature value (2 byte)

Parameter	Description
Cycle time	Default: **00:05:00** hh:mm:ss The cycle time determines the chronological time period in which an object is supposed to be cyclically sent. This can be adjusted to a time between 1 second and 18 hours.
Reaction when setting lock 	"Switch" input type • **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Just like "Reaction on rising flank"** When setting the lock, the parameterized function is executed according to the rising flank. • **Just like "Reaction on falling flank"** When setting the lock, the parameterized function is executed according to the falling flank. "Button" input type • **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Just like "Reaction after short button press"** When setting the lock, the parameterized function is executed according to the short button press. • **Just like "Reaction after long button press"** When setting the lock, the parameterized function is executed according to the long button press.
↳ Reaction on removing lock 	"Switch" input type • **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly processed until there is a change at the input. • **Update** After the lock function is exited, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction on rising flank''** After the lock function is exited, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank"** After the lock function is exited, the state is updated according to the "Reaction on falling flank" parameterization. "Button" input type • **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly forwarded until there is a change at the input. • **Update** After the lock function is exited, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction after short button press''** After the lock function is exited, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press"** After the lock function is exited, the state is updated according to the "Reaction after long button press" parameterization.

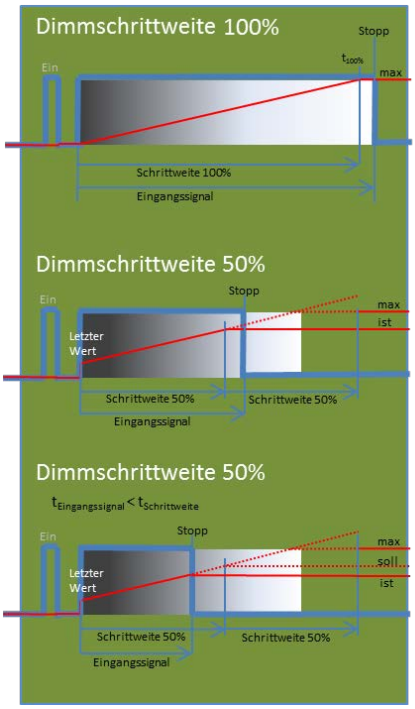
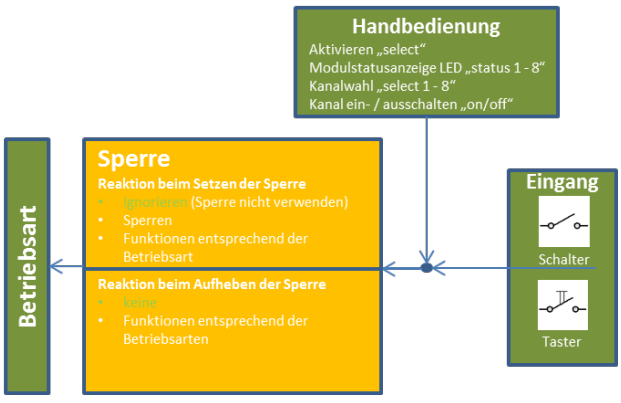
Switch/button → Temperature value (2 byte)

Parameter	Description
Reaction upon bus voltage recovery 	"Switch" input type • **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Update** In the event of bus voltage recovery, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction on rising flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on falling flank" parameterization. "Button" input type • **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Update** In the event of bus voltage recovery, the current state is read from the corresponding input and generated as the new state. • **Just like "Reaction after short button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after long button press" parameterization.
↳ Use random time for bus voltage recovery.	Default: ☑ **(yes)** This function is active by default and should prevent the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time for definitively controlling the responses on the bus in the event of bus voltage recovery.

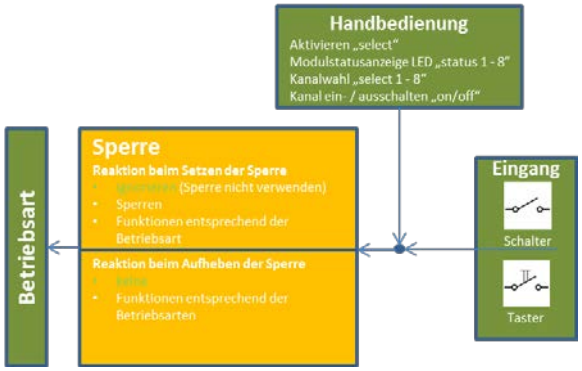
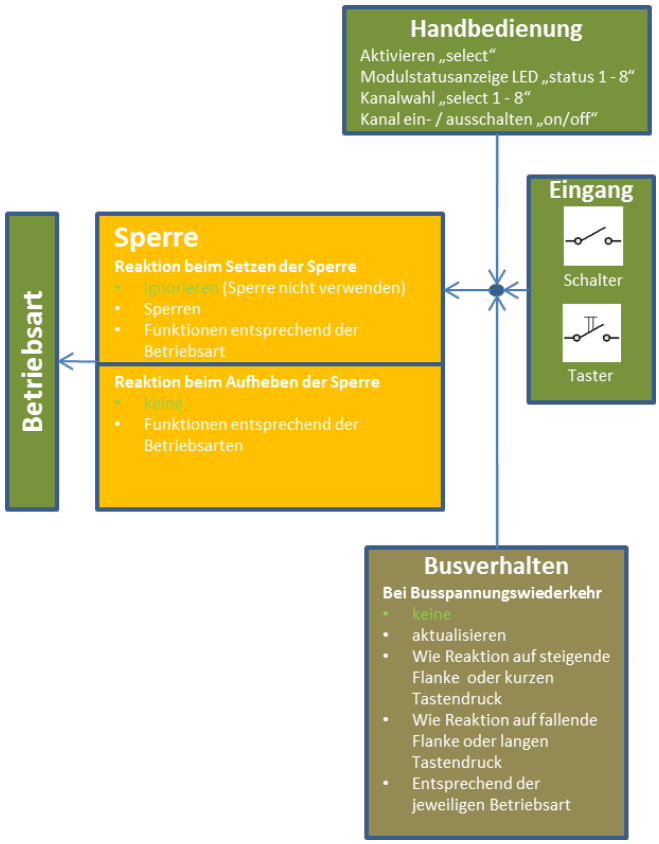
"Dim" function

Parameter	Description
Dim function (short/long key press)     	• **Single button operation (brighter-darker/On-Off)** This operating mode enables a light to be switched on or off using only one button at an input with a short press of a button, or it enables a light to be dimmed, in toggle mode, according to the parameters set with the dimming actuator with a configurable long button press. • **Brighter/On** A short button press causes a switch-on command from the input object. With a long button press, the value for the dimming object is increased. The light becomes brighter. • **Brighter/toggle** A short button press causes a switch-on or switch-off command at the input object in toggle mode. With a long button press, the value for the dimming object is increased. The light becomes brighter. • **Darker/Off** A short button press causes a switch-off command from the input object. With a long button press, the value for the dimming object is decreased. The light becomes darker. • **Darker/toggle** A short button press causes a switch-on or switch-off command at the input object in toggle mode. With a long button press, the value for the dimming object is decreased. The light becomes darker.

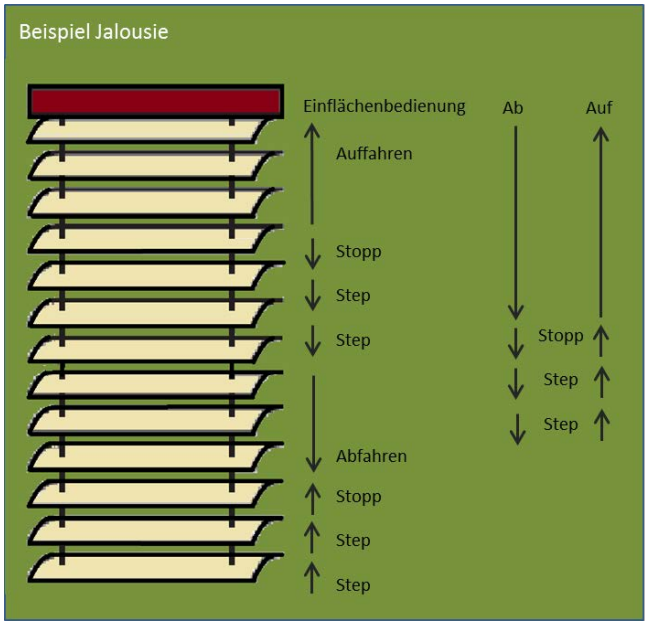
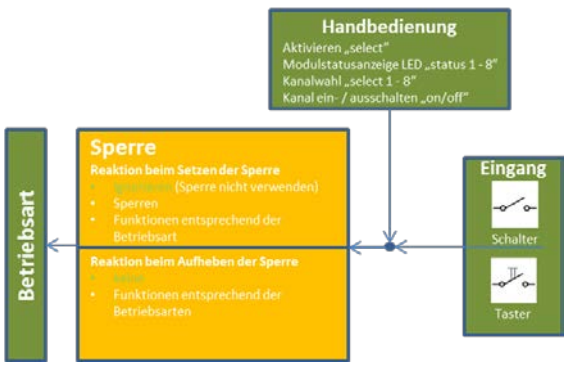
"Dim" function

Parameter	Description
↳ Dim step 	• **100 %** • **50 %** • **25 %** • **12.5 %** • **6 %** • **3 %** • **1.5 %** The dimming step, which is a 4-bit command, determines the maximum dimming value change when there is a long button press. If it is 100%, it is possible to go through the entire dimming range with a long button press. While a dimming step of 50% covers a maximum of half of the entire dimming range. In order to go through the entire dimming range, a second long button press would be required with a 50% dimming step. Each long button press causes a maximum of one change according to the dimming step. This is true even if the button is pressed longer than required in order to execute the command to the end. If the input information changes from "1" to "0" during the dimming process, it will be canceled. After each dimming event, a stop telegram is sent, even if the parameterized dimming step was not reached. The pictures to the left show corresponding examples.
Time for long key press (ms)	Default: **500** With this setting, a button press is identified as a long button press with the time being configured according to its expiry. The adjustable time period is between 400 ms and 10 seconds.
↳ Reaction when setting lock 	• **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **On** When the lock is set, the parameterized function "On" will be executed accordingly. The lock object will send a switch-on command. • **Off** When the lock is set, the parameterized function "Off" will be executed accordingly. The lock object will send a switch-off command.

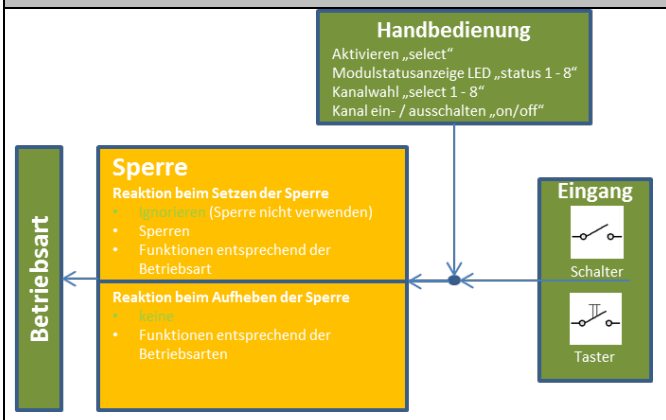
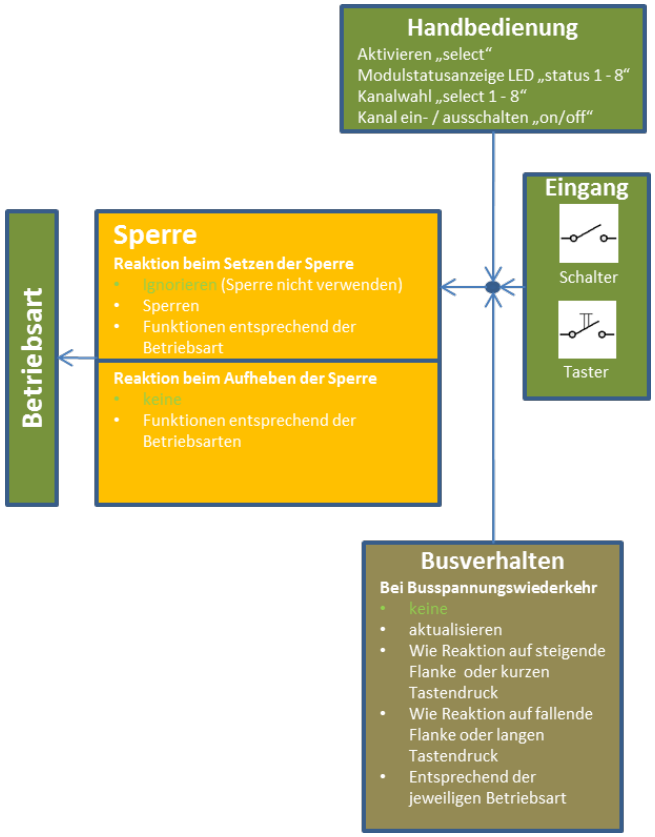
"Dim" function

Parameter	Description
↳ Reaction on removing lock 	• **None** The current state at the input will be retained. No further action will occur. • **On** When the lock is canceled, the parameterized function "On" will be executed accordingly. The lock object will send a switch-on command. • **Off** When the lock is canceled, the parameterized function "Off" will be executed accordingly. The lock object will send a switch-off command.
Reaction upon bus voltage recovery 	• **None** The current state at the input will be retained. No further action will occur. • **On** Upon bus voltage recovery, the parameterized function "On" will be executed accordingly. The input object will send a switch-on command. • **Off** Upon bus voltage recovery, the parameterized function "Off" will be executed accordingly. The input object will send a switch-off command.
↳ **Use random time for bus voltage recovery.**	Default: ☑ **(yes)** This function is active by default and should prevent the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time at which the Responses will be sent to the bus during bus voltage recovery.

"Shutter control" function

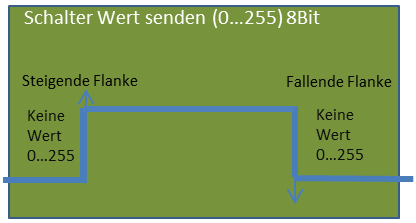
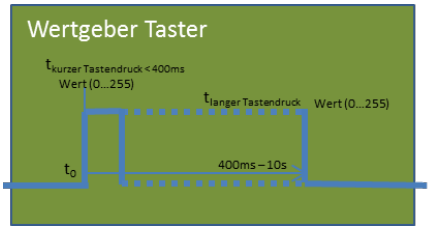
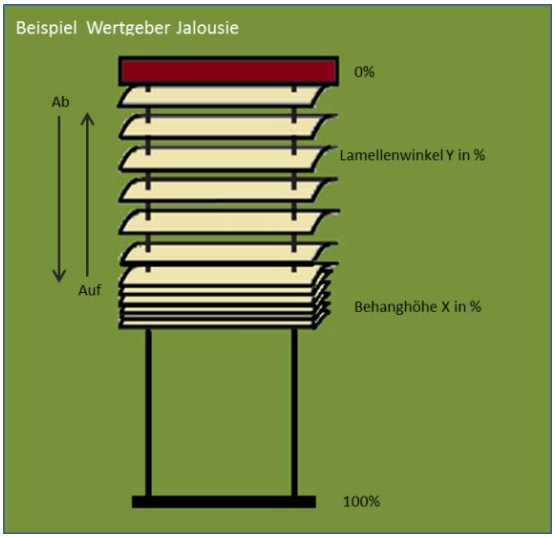
Parameter	Description
Operation of blinds (short/long key press) 	• **Single-button operation (drive/step)** This setting makes it possible to operate one set of shutters/blinds with only one button/rocker at the input. A short press of the button will stop a travel movement or will execute short travel movements (steps). A long button press will start movement of the shutters/blinds and the subsequent short button press will stop the movement. Additional short button presses will cause the louvers to unfold. • **Up** With this setting, a move-up command is sent by the input object. A short press of the button will stop the movement or trigger short movement commands. This is used, for example, to unfold louvers. • **Down** With this setting, a move-down command is sent by the input object. A short press of the button will stop the movement or trigger short movement commands. This is used, for example, to unfold louvers.
Stop movement by	• **Short button press** In the default "Short button press" setting, a previously started travel movement can be stopped at any time. However, if a lock is set during the travel movement, the parameterized function of the lock will be executed. A change in the travel movement by a button press will be ignored. • **Release the button** In this setting, the shutters/blinds will move as long as the button is pressed. As soon as the contact is broken, a stop telegram is sent. However, if a lock is set during the travel movement, the parameterized function of the lock will be executed. Button commands will be ignored during this time.
Time for long key press (ms)	Default: **500** With this setting, a button press is identified as a long button press with the time being configured according to its expiry. The adjustable time period is between 400 ms and 10 seconds.
↳ Reaction when setting lock 	• **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Up** When the lock is set, a move-up command is sent. • **Down** When the lock is set, the parameterized function "Down" will be executed according to a move-down command.
↳ Reaction on removing lock	• **None** If the lock is deactivated, operation of the shutters/blinds is again possible via the corresponding

"Shutter control" function

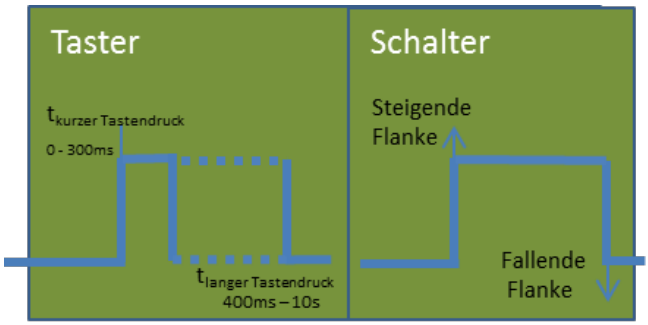
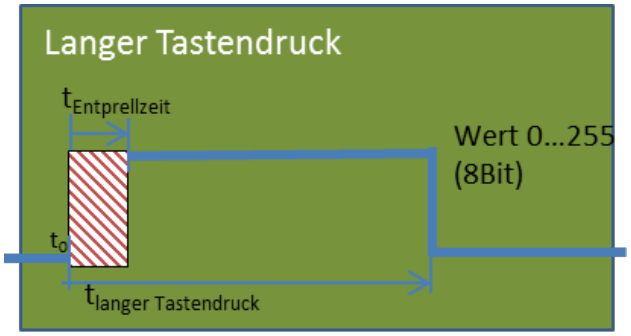
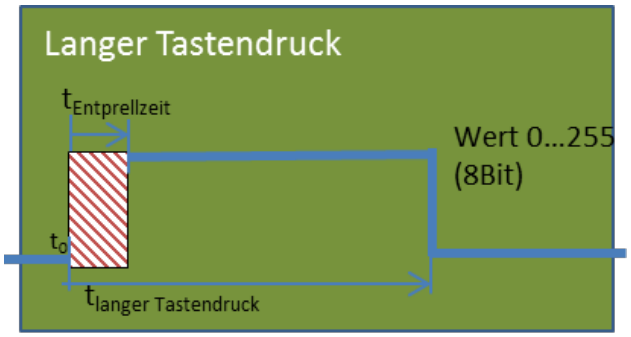
Parameter	Description
	input. The shutters/blinds can be operated according to the parameterized properties for the released input. • **Up** When the lock is canceled, the parameterized function "Up" will be executed according to the move-up command. • **Down** When the lock is canceled, the parameterized function "Down" will be executed according to a move-down command.
Reaction upon bus voltage recovery 	• **None** The current state at the input will be retained. No further action will occur. • **Up** Upon bus voltage recovery, the parameterized function "Up" will be executed according to the move-up command. The object will send a command for drive up. • **Down** Upon bus voltage recovery, the parameterized function "Down" will be executed according to the move-down command. The object will send a command for drive down.
↳ Use random time for bus voltage recovery.	Default: ☑ (yes) This function is active by default and prevents the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time at which the responses are sent to the bus upon bus voltage recovery.

"Value transmitter" function

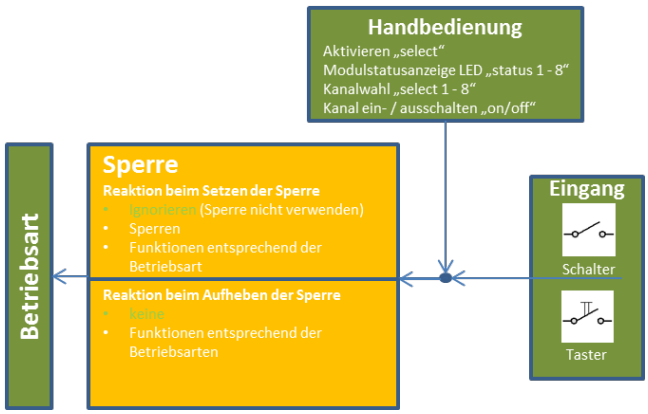
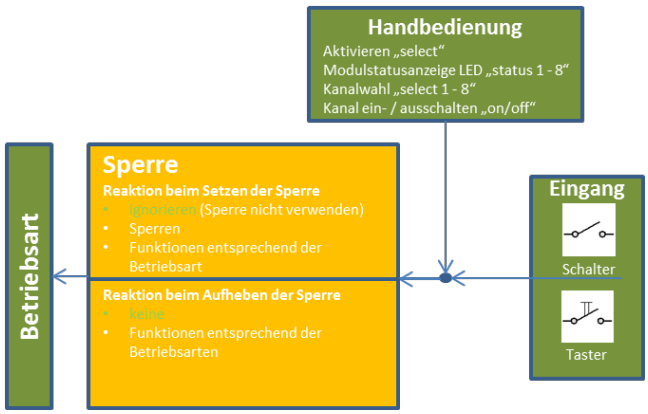
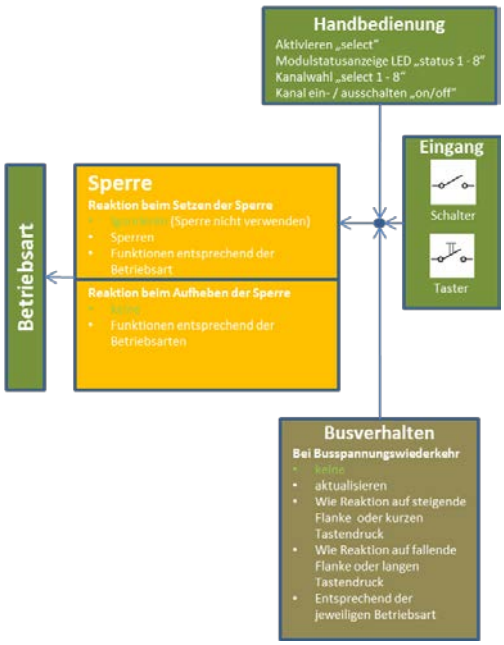
Basic setting

Parameter	Description
Type of value    	• **Value transmitter (short-long/rising-falling flank)** The type of value transmitter determines what information the input object linked to this input will send. In the case of "Value transmitter (short-long/rising-falling flank)," a configurable 1-byte value of 0 to 255 is generated for the respective event via the input object. • **Value transmitter for light scene** With this type of value transmitter, a configurable scene number is generated at the input object when there is corresponding information at the input. A long button press can be configured such that these scenes can also be overwritten and stored. • **Value transmitter for shutters** This type of configurable input makes it possible to enter position values for the shutter/blind height and louver angle and to generate and send them to the KNX bus via an input object. In addition, blinds/shutters can be moved by selection to 0% or 100% height via a configured long button press.

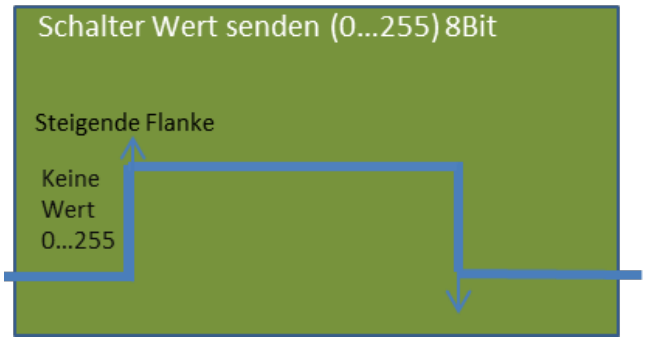
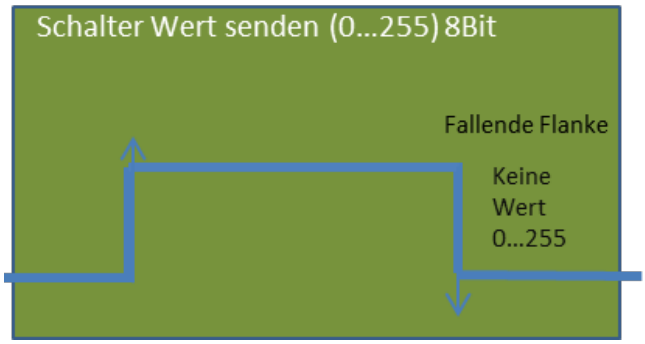
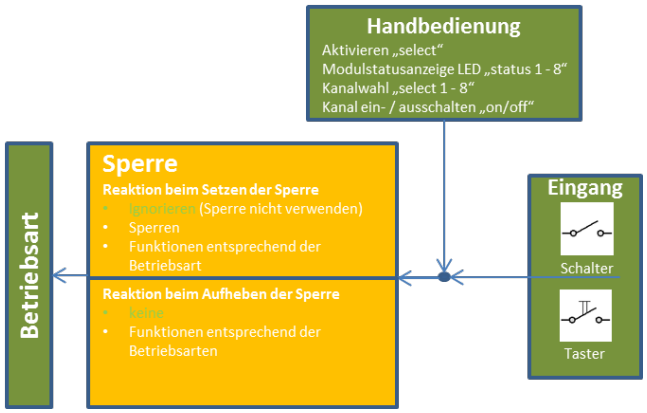
Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
Input type 	• Switch (rising/falling flank) If a switch is connected at the input, this involves static values for the information "1" for a closed contact or "0" for an open contact. In order to correctly interpret the switching processes at the input, the rising and falling flanks are evaluated here. • **Button (short/long button press)** When the button is pressed, the state at the input is monitored. With a long button press, the duration of a "1" piece of information is also determined. If the configured timer is exceeded, this will be recognized as a long button press.
Button	
↳ Reaction after short key press 	• **None** A short button press at the input will result in no change. No input object will be sent. In this case, only a configured value, if activated, will be evaluated and sent with the input object with a long button press. • **Send value (1 byte, 0 to 255)** With a short button press, a configurable 1-byte value (0 to 255) is sent with the input object.
↳ Send value after short key press	Default: **0** The configurable value range extends from 0 to 255 and has a size of 1 byte.
↳ Use long key press 	Default: ☐ If this function is activated, it is possible to send two different values with the same object with only one button based on the differentiation of long and short button presses.
↳ Time for long key press (ms)	Default: **500** With this setting, a button press is identified as a long button press with the time being configured according to its expiry. The adjustable time period is between 400 ms and 10 seconds.

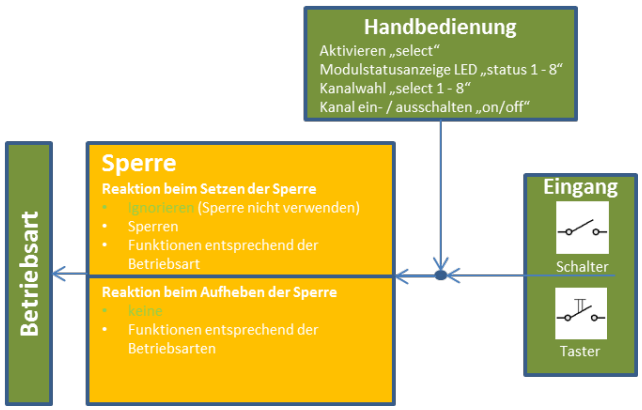
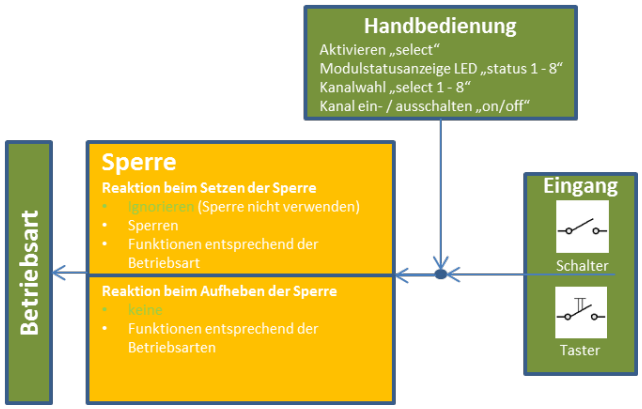
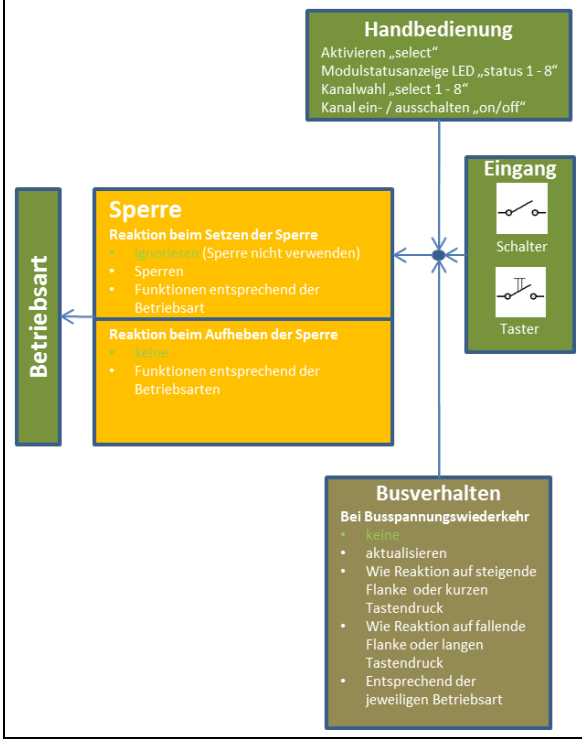
Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
Reaction when setting lock 	• **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Changes at the input will not be sent.
↳ Reaction on removing lock 	• **None** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Just like "Reaction after short button press"** When removing the lock, the parameterized function is executed according to the short button press. • **Just like "Reaction after long button press"** When removing the lock, the parameterized function is executed according to the long button press.
Reaction upon bus voltage recovery 	• **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Just like "Reaction after short button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after short button press" parameterization. • **Just like "Reaction after long button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after long button press" parameterization.

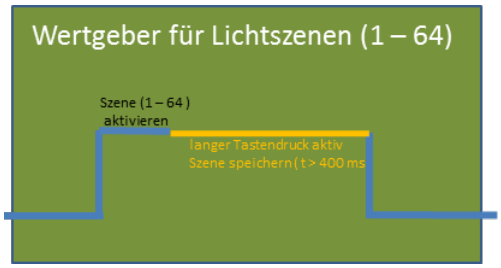
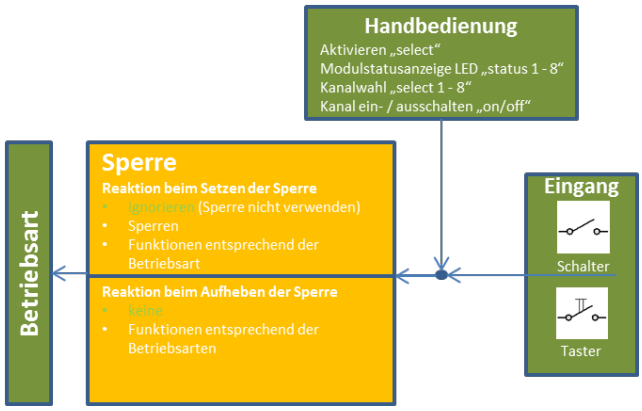
Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
↳ Use random time for bus voltage recovery.	Default: ☑ **(yes)** This function is active by default and prevents the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time at which the response is sent to the bus upon bus voltage recovery.
switch	
↳ Reaction on rising edge 	• **None** With this setting, no action will be executed when there is a rising flank. The rising flank is not evaluated by the switching event. • **Send value (1 byte, 0 to 255)** When this function is selected, an adjustable value between 0 and 255 is transmitted to the input object and sent to the KNX bus when there is a rising flank.
↳ Send value at rising edge	Default: **0** The value set here (0 to 255) is transmitted to the input object with a rising flank and sent to the KNX bus.
↳ Reaction on falling edge 	• **None** With this setting, no action will be executed when there is a falling flank. The falling flank is not evaluated by the switching event. • **Send value (1 byte, 0 to 255)** When this function is selected, an adjustable value between 0 and 255 is transmitted to the input object and sent to the KNX bus when there is a falling flank.
↳ Send value at falling edge	Default: **0** The value set here (0 to 255) is transmitted to the input object with a falling flank and sent to the KNX bus.
Reaction when setting lock 	• **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored.

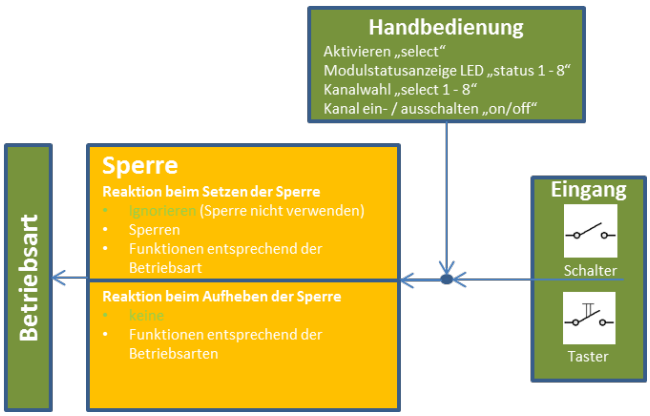
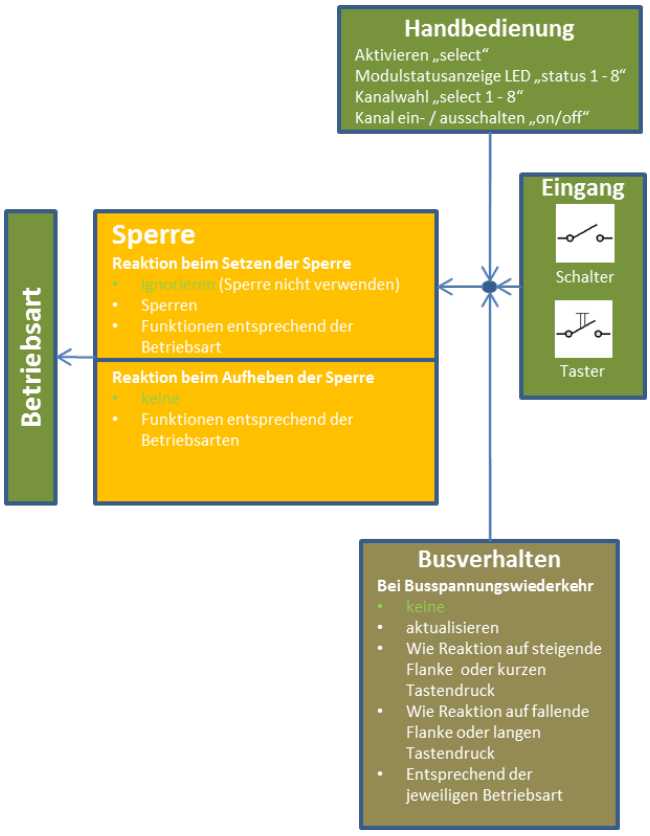
Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
↳ Reaction on removing lock 	• **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly processed until there is a change at the input. • **Just like "Reaction on rising flank''** After the lock function is exited, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank"** After the lock function is exited, the state is updated according to the "Reaction on falling flank" parameterization.
↳ Reaction on removing lock 	• **None** The state for the input remains unchanged when the lock is lifted. The state is not updated and correspondingly processed until there is a change at the input. • **Just like "Reaction on rising flank''** After the lock function is exited, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank"** After the lock function is exited, the state is updated according to the "Reaction on falling flank" parameterization.
Reaction upon bus voltage recovery 	• **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Just like "Reaction on rising flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on rising flank" parameterization. • **Just like "Reaction on falling flank''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction on falling flank" parameterization.

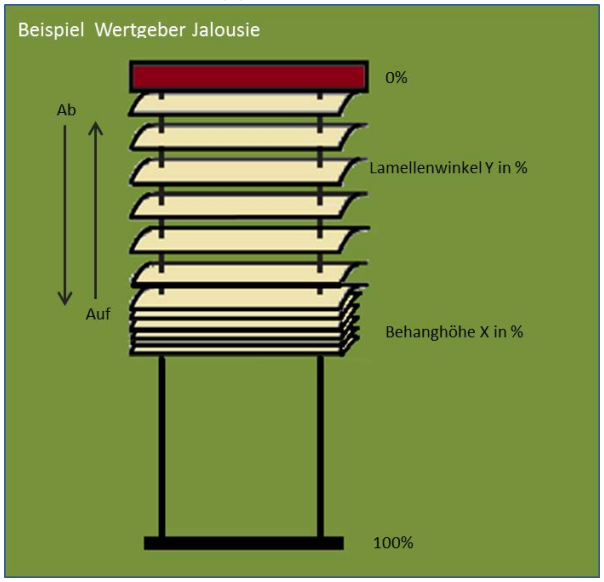
Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
↳ Use random time for bus voltage recovery	Default: ☑ **(yes)** This function is active by default and prevents the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time at which the response will be sent to the bus during bus voltage recovery.
Parameter	
Scene number 1…64 (value) 	Default: **1** With the value transmitter for light scene, a scene number (1 to 64) is assigned to the input. This is sent with the input object when there is a "1" at the input. In addition, using the "Save with long button press" setting, it is not possible to configure by default that a save command be sent for this scene number. This command prompts the currently pending setting to save a scene. The scene currently saved in the actuator will be overwritten.
Save after long key press	Default: ☐ **(no)** When this function is activated, a long button press will send a save command for the configured scene number. The previous scene will be overwritten if this is permissible within the actuator. **Note**: Retrieving for saving. This is only executed in the actuator if the saving of scenes is permissible via the object.
↳ Time for long key press (ms)	Default: **500** With this setting, a button press is identified as a long button press with the time being configured according to its expiry. The adjustable time period is between 400 ms and 10 seconds.
Reaction when setting lock 	• **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored.

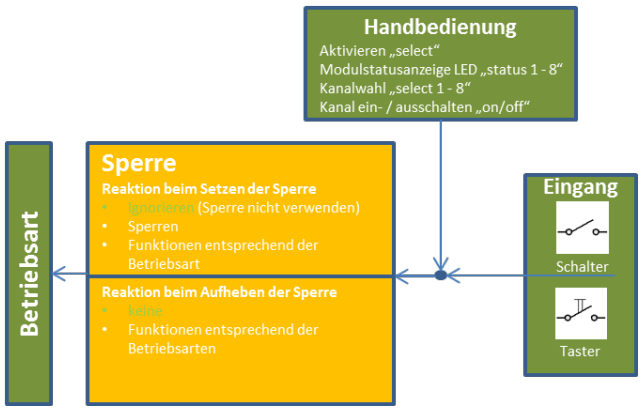
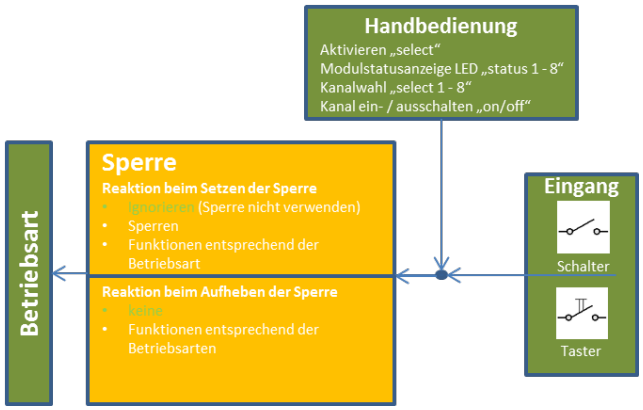
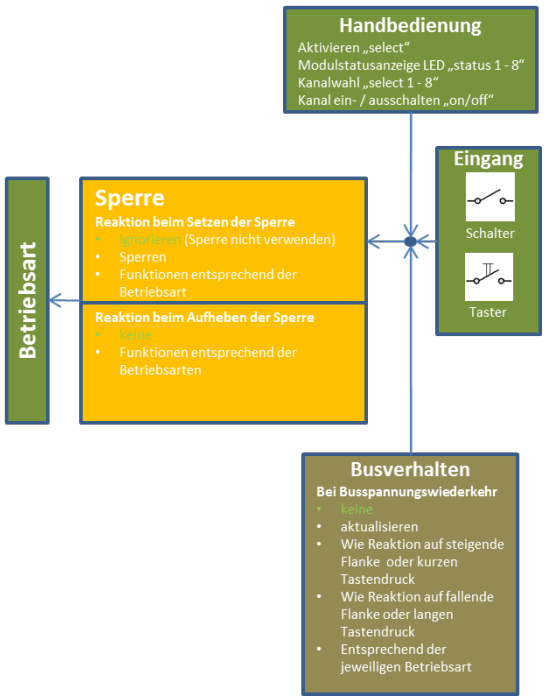
Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
↳ Reaction on removing lock 	• **None** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Just like "Reaction after short button press"** When setting the lock, the parameterized function is executed according to the short button press.
Reaction upon bus voltage recovery 	• **None** The state for the input remains unchanged on bus voltage recovery. The state is not updated and forwarded until there is another change at the input accordingly. • **Just like "Reaction after short button press''** Upon detecting bus voltage recovery, the state is updated according to the "Reaction after short button press" parameterization.
↳ Use random time for bus voltage recovery.	Default: ☑ **(yes)** This function is active by default and prevents the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time at which the responses are sent to the bus upon bus voltage recovery.

Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
Value[s] after short key press 	• **Position height and position louver** With a short button press, the shutter height and louver positions can be specified. The shutter height and louver angle can be varied accordingly in a range from 0% to 100%. One object is sent to the bus for shutter height and one object is sent to the bus for louver position. • **Only position height** With a short button press, the height of the shutters can be adjusted. The shutter height can be configured accordingly in a range from 0% to 100%. The object for shutter height will be sent to the bus. • **Only position louver** With a short button press, the louver angle can be adjusted. The louver angle can be configured in a range from 0% to 100%. In doing so, the maximally adjustable angle of the louvers depends on the construction of the shutters.
↳ Position height (%)	Default: **0** In the default setting (0%), the shutters will move all the way to the top with a short button press. The entire travel path is adjusted with a setting option of 0 to 100%. Thus, the shutters can be controlled to the desired height by entering a percent.
↳ Louver angle (%)	Default: **0** In the default setting (0%), the louvers are placed back in the default setting according to a move command. Positioning of the louvers depends on the construction of the shutters. The louver angle can be specified as a percent, just as the shutter height.
Use long key press	Default: ☐ **(no)** The function "Use long button press" enables an additional option for positioning the shutters.
↳ Time for long key press (ms)	Default: **500** With this setting, a button press is identified as a long button press with the time being configured according to its expiry. The adjustable time period is between 400 ms and 10 seconds.
↳ Position height after long key press	• **Completely up (0%)** A long button press is another option for positioning the shutters. The "Completely up" option moves the shutters into the upper end position. • **Completely down (100%)** A long button press is another option for positioning the shutters. The "Completely down" option moves the shutters into the lower end position.

Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
Reaction when setting lock 	• **Ignore (do not use lock)** The lock object is inactive for the respective input and will also not be displayed as such in the ETS. • **Lock** With this setting, the last state is frozen on the lock object when it is activated. Additional state changes on the input will be ignored. • **Up** When the lock is canceled, the parameterized function "Up" will be executed according to the move-up command. The lock object will send a command for drive up. • **Down** When the lock is canceled, the parameterized function "Down" will be executed according to a move-down command. The lock object will send a command for drive down.
↳ Reaction on removing lock 	• **None** After the lock is canceled, no action will be executed in this setting. A new move command will not be initiated until there is a value change at the input. • **Just like "Reaction after short button press"** After the lock is canceled, the input object is sent with the configured value for a short button press. • **Just like "Reaction after long button press"** After the lock is canceled, the input object is sent with the configured value for a long button press.
Reaction upon bus voltage recovery 	• **None** After bus voltage recovery, no action will be executed in this setting. A value change at the input initiates a new move command. • **Just like "Reaction after short button press"** After bus voltage recovery, the input object is sent with the configured value for a short button press. • **Just like "Reaction after long button press"** After bus voltage recovery, the input object is sent with the configured value for a long button press.

Value transmitter → Value transmitter (short-long/rising-falling flank)

Parameter	Description
↳ Use random time for bus voltage recovery	Default: ☑ **(yes)** This function is active by default and prevents the bus communication from being disrupted due to an overload in the event of bus voltage recovery. A random generator determines the time at which the responses will be sent to the bus during bus voltage recovery.

3.5 Switching outputs

3.5.1 *gesis* FLEX-0/4 (12) 4x binary switching output



General description

Product: Functional module

- Designation: AC 230 V / 16 A binary switching outputs
- Type / Item No.: *gesis* FLEX-0/4 83.020.0627.0 (plug set not included)
  gesis FLEX-0/2 W Z 83.020.0627.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Functional description of standard relay switching output - 83.020.0623.0/1

The 4x 230 V/16 A binary output in the flat surface-mounted housing, which can be mounted on DIN rails for decentralized installation, is managed by the basic module. It receives its mains and bus supply from the upstream module. The extensive parameter set enables various automation functions. The manual mode level enables function tests without prior system integration. The electrical connections, which can be connected in accordance with IEC 61535, separate automation and installation.
With the variant with a connector set, all the necessary connectors are provided.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	• Brief press: Selects an output. • Long pressing (> 3 sec): Will end the state display and manual operation.
"On/Off" button	Short pressing changes the switching state from the selected output.

Status indicator function

LED 'status'	Green: Red flashing:	Module state OK, no errors Module state error will always be displayed (configuration errors, communication errors)
LED "1" to "4"	green Flashing or superimposed flashing	Channel "ON" Indicates the selected output.

Status indicator function

LED 'status'	Green: Red flashing:	Module state OK, no errors Module state error will always be displayed (configuration errors, communication errors)
LED "1" to "4"	Lit: Flashing:	Output state display is switched on. Indicates manually operable channel.

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec) or if no button was pressed for 10 minutes (timeout).

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The bus is routed, through the module, to the *gesis* FLEX extension or feed modules placed in a row. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 10 mA
Current consumption when switching	Approx. 35 mA

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the individual phase conductors of the mains are used as switching voltage for the outputs.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A

Outputs (Standard relay switching output - 83.020.0623.0/1)

Number	4 Switching outputs	
Switch element	Bistable relays, non-isolated contacts, 30 ms control impulse	
Connection type	GST18i3 female connector, 3-pole, black, (N / PE / L)	
Rated voltage	230 VAC	
Phase conductor assignment	Output 1 switches phase conductor L1 Output 2 switches phase conductor L2 Output 3 and 4 switch phase conductor L3	
Rated current	16 A (ohmic load)	
Switch-on current	Max. 200 A (< 50 ms)	
Short circuit strength	Not short-circuit proof	
Minimum load	2.5 VA	
Switching power/service life	3680 VA cosφ 1	1×10^5 Switching cycles
	2500 VA incandescent lamps	2×10^4 Switching cycles
	12 × 58 VA florescent lamps parallel-compensated (Cges <= 70 µF)	2×10^4 Switching cycles

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Contact opening of relays	µContact
Galvanic isolation (Internal bus / mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 3 mΩ (mains input to mains output, conductor path + plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C

Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability Failure rate 520 fit (at 40 °C)

EMC requirements Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material Plastic, halogen-free, light gray upper section, black lower section

Fire resistance

Housing	UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load (83.020.0623.0) Approx. 2.1 kWh

Weight Approx. 350 g

Dimensions

Width:	149 mm in the direction of the DIN rails, 130 mm installed in rows in the group, with end cap output + 10 mm
Length:	149 mm at right angles to DIN rail
Height:	44 mm without and about 47 mm with TH 35-7.5 DIN rail

CE marking In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.5.2 *gesis* FLEX-0/4P 4x binary switching output



General description

Product: Functional module

- Designation: AC 230 V / 16 A binary switching outputs
- Type / Item No.: *gesis* FLEX-0/4 83.020.0627.0 (plug set not included)
  gesis FLEX-0/2 W Z 83.020.0627.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Functional description of C-load relay switching output - 83.020.0626.0/1

The 4x 230 V/16 A C-load binary output in the flat surface-mounted housing, which can be mounted on DIN rails for decentralized installation, is managed by the base module. It receives its mains and bus supply from the upstream module. The extensive parameter set enables various automation functions. The manual mode level enables function tests without prior system integration. The electrical connections, which can be connected in accordance with IEC 61535, separate automation and installation.
With the variant with a connector set, all the necessary connectors are provided.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	• Brief press: Selects an output. • Long pressing (> 3 sec): Will end the state display and manual operation.
"On/Off" button	Short pressing changes the switching state from the selected output.

Status indicator function

LED 'status'	Green: Red flashing:	Module state OK, no errors Module state error will always be displayed (configuration errors, communication errors)
LED "1" to "4"	green Flashing or superimposed flashing	Channel "ON" Indicates the selected output.

Status indicator function

LED 'status'	Green: Red flashing:	Module state OK, no errors Module state error will always be displayed (configuration errors, communication errors)
LED "1" to "4"	Lit: Flashing:	Output state display is switched on. Indicates manually operable channel.

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec) or if no button was pressed for 10 minutes (timeout).

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The bus is routed, through the module, to the *gesis* FLEX extension or feed modules placed in a row. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 10 mA
Current consumption when switching	Approx. 35 mA

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the individual phase conductors of the mains are used as switching voltage for the four outputs.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A

AC 230 V / 16 A binary switching outputs

Number	4 Switching outputs
Switch element	Bistable relays, non-isolated contacts
Connection type	GST18i3 female connector, 3-pole, black, (N / PE / L)
Rated voltage	230 VAC (for switching purposes, the main power is used)
Phase conductor assignment	Output 1 switches phase conductor L1 Output 2 switches phase conductor L2 Output 3 and 4 switch phase conductor L3
Switching power	3680 W (ohmic load, HV halogen) 3680 W (florescent lamps without compensation) 10 A / 200 µF (florescent lamps with parallel compensation) 16 A / max. 200 µF (capacitive load)
Maximum switch-on current	200 A (< 50 ms) 320 A peak, 1.2 ms
Short circuit strength	Not short-circuit proof
Minimum load	2.5 VA
Switching power/service life as per EN 60669-1, 19.2, Load A	4000 VA cos φ 1 1 × 10^4 switching cycles 4000 VA bulbs (220 A peak) 2 × 10^4 switching cycles 140 µF, 16 A, cosφ 0.9 2 × 10^4 switching cycles

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Contact opening of relays	µContact
Galvanic isolation (Internal bus / mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 3 mΩ (mains input to mains output, conductor path + plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 520 fit (at 40°C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free, light gray upper section, black lower section

Fire resistance

Housing	UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load (83.020.0626.0)

approx. 2.2 kWh

Weight

Approx. 350 g

Dimensions

Width:	149 mm in the direction of the DIN rails, 130 mm installed in rows in the group, with end cap output + 10 mm
Length:	149 mm at right angles to DIN rail
Height:	44 mm without and about 47 mm with TH 35-7.5 DIN rail

CE marking

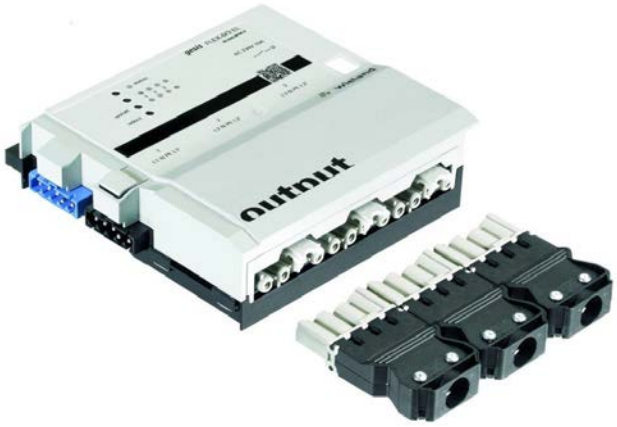
In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.5.3 Output with switched and permanent outer conductor for emergency light 3x *gesis* FLEX-0/3EL





General description

Product: Functional module

- Designation: Outputs with switched and permanent outer conductor AC 230 V / 16 A
- Type / Item No.: *gesis* FLEX-0/3 EL 83.020.0630.0 (plug set not included)
  gesis FLEX-0/3 EL Z 83.020.0637.1 (plug set included)

Comment:
In the case of the emergency light 3x relay switching output, the software functions in the ETS exist for four outputs (channels). As only three outputs are available, the functions of channel 4 are not executed if there is a parameterization.

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Functional description of emergency light relay switching outputs - 83.020.0636.0 / Z 83.020.0636.1

The relay output for triple emergency lighting 230 VAC/16 A in the flat surface-mounted housing, mountable on a mounting rail, for decentral installation is managed by the base module. It receives its power and bus supply from the upstream module. The pluggable 4-pole outputs make N, PE, permanent 230 V and switched 230 V available. The comprehensive parameter set allows various automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which can be connected according to IEC 61535, separate automation and installation. With the variant with a connector set, all the necessary connectors are provided.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	• Brief press: Selects an output. • Long pressing (> 3 sec): Will end the state display and manual operation.
"On/Off" button	Short pressing changes the switching state from the selected output.

Status indicator function

LED 'status'	Green: Red flashing:	Module state OK, no errors Module state error will always be displayed (configuration errors, communication errors)
LED "1" to "4"	green Flashing or superimposed flashing	Channel "ON" Indicates the selected output.

Status indicator function

LED 'status'	Green: Red flashing:	Module state OK, no errors Module state error will always be displayed (configuration errors, communication errors)
LED "1" to "4"	Lit: Flashing:	Output state display is switched on. Indicates manually operable channel.

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec) or if no button was pressed for 10 minutes (timeout).

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The bus is routed, through the module, to the *gesis* FLEX extension or feed modules placed in a row. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 11 mA
Current consumption when switching	Approx. 59 mA

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the individual phase conductors of the mains are used as switching voltage for the outputs.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A

Outputs (emergency light)

Number	3 Switching outputs	
Switch element	Bistable relays, non-isolated contacts, 30 ms control impulse	
Connection type	GST18i3 female connector, 3-pole, black, (N / PE / L)	
Rated voltage	230 VAC	
Phase conductor assignment	Output 1 switches phase conductor L1 Output 2 switches phase conductor L2 Output 3 and 4 switch phase conductor L3	
Rated current	16 A (ohmic load)	
Switch-on current	Max. 200 A (< 50 ms)	
Short circuit strength	Not short-circuit proof	
Minimum load	2.5 VA	
Switching power/service life	3680 VA cosφ 1	1×10^5 Switching cycles
	2500 VA incandescent lamps	2×10^4 Switching cycles
	12 × 58 VA florescent lamps parallel-compensated (Cges <= 70 µF)	2×10^4 Switching cycles

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Contact opening of relays	µContact
Galvanic isolation (Internal bus / mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 3 mΩ (mains input to mains output, conductor path + plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 520 fit (at 40 °C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free, light gray upper section, black lower section

Fire resistance

Housing	UL 94 V-2 (passes glow-wire test at 960 °C as per IEC 695-2-1)

Fire load (83.020.0636.0)

approximately 2.2 kWh

Weight

Approx. 350 g

Dimensions

Width:	149 mm in the direction of the DIN rails, 130 mm installed in rows in the group, with end cap output + 10 mm
Length:	149 mm at right angles to DIN rail
Height:	44 mm without and about 47 mm with TH 35-7.5 DIN rail

Licensing and certification

KNX-certified (in progress)

CE marking

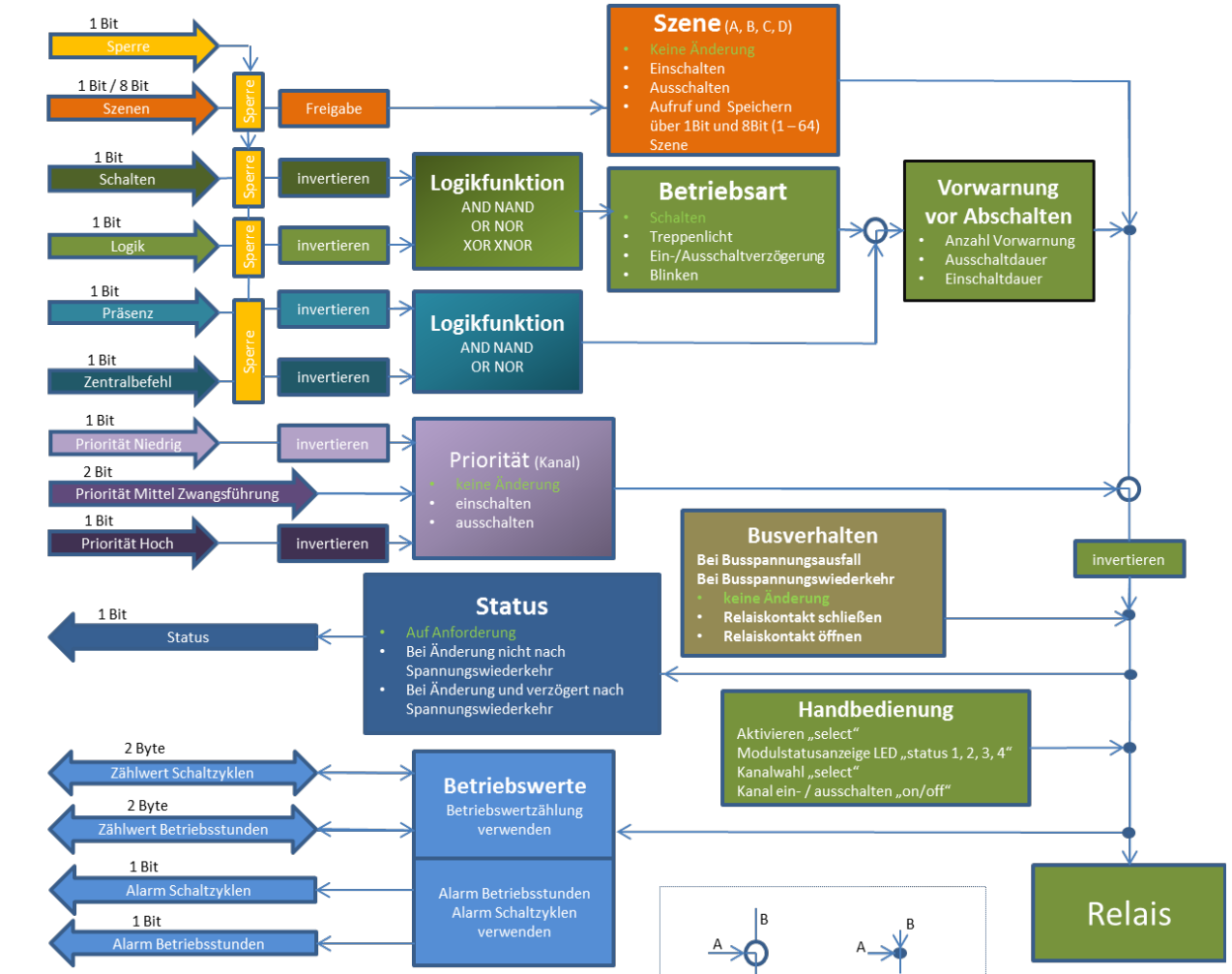
In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.5.4 Application description for switching outputs

Flowchart



Funktionsblock je Ausgang

Communication objects

- The operating modes are set via parameters.
- The object numbers indicated in the tables stand for the first module in the system in each case. The object numbers for module locations 2 to 6 are derived as follows: Obj. No. EM 2 = Obj. No.$_{Table}$ + 100 Obj. No. EM 3 = Obj. No.$_{Table}$ + 200 Obj. No. EM 4 = Obj. No.$_{Table}$ + 300 Obj. No. EM 5 = Obj. No.$_{Table}$ + 400 Obj. No. EM 6 = Obj. No.$_{Table}$ + 500

Module 1 **Obj. No.**	**Function**	**Data Point Type DPT**	**Object**	**Length**	**Flags** K	L	S	Ü	A
54	Scene 8 bit Output 1 - 4	18.001	Retrieve/save scenes 8 bit	1 byte	K	–	S	Ü	–
55	Scene 1 bit Output 1 – 4	1.022	Call scenes A/B	1bit	K	–	S	Ü	–
56	Scene 1 bit Output 1 – 4	1.022	Call scenes C/D	1bit	K	–	S	Ü	–
57	Scene 1 bit Output 1 – 4	1.022	Save scenes A/B	1bit	K	–	S	Ü	–
58	Scene 1 bit Output 1 – 4	1.022	Save scenes C/D	1bit	K	–	S	Ü	–

Module 1 Obj. No. of outputs **1**	**2**	**3**	**4**	**Function**	**Data Point Type DPT**	**Object**	**Length**	**Flags** K	L	S	Ü	A
2	15	28	41	Switch on/off Staircase lighting On/Off delay Flashing	1.001	On/Off	1bit	K	–	S	–	–
3	16	29	42*	Logic objects	1.002	Logic linkage operating mode with logic object AND, NAND, OR, NOR, XOR, XNOR	1bit	K	–	S	–	–
4	17	30	43	Presence object	1.002	Presence	Logic linkage of presence objects and master command with AND, NAND, OR, NOR	1bit	K	–	S	–	–
5	18	31	44*	Master object	1.001	Master on/off		1bit	K	–	S	–	–
6	19	32	45	Lock object	1.002	Lock act on scenes, switching, logic, presence, and master command objects		1bit	K	–	S	–	–
7	20	33	46*	Prioritization	1.002	Prioritization Low		1bit	K	–	S	–	–
8	21	34	47*	Prioritization	2.001	Priority control, Prioritization Medium		2 bit	K	–	S	–	–
9	22	35	48*	Prioritization	1.002	Prioritization High		1bit	K	–	S	–	–
10	23	36	49*	State object	1.001	Send "State on/off" On change, not on bus voltage recovery; On change and delayed on bus voltage recovery		1bit	K	L	–	U	–
11	24	37	50*	operating values	7.001	switch cycles count value Can be read and written		2 byte	K	L	–	–	–
12	25	38	51	operating values	1.005	alarm switch cycles Object will be set with "1" when alarm value is reached		1bit	K	L	–	U	–
13	26	39	52*	operating values	7.007	operating hours count value Can be read and written		2 byte	K	L	–	–	–
14	27	40	53*	operating values	1.005	Alarm operating hours value Object will be set with "1" when alarm value is reached		1bit	K	L	–	Ü	–

Note: *Channel 4 objects without function on module 83.020.0636.0 *gesis* FLEX-0/3EL

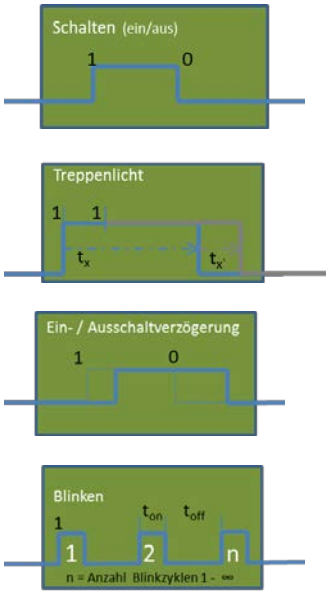
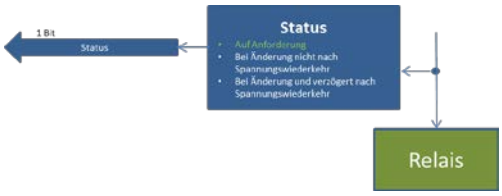
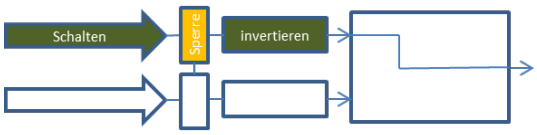
Parameter description

Overview

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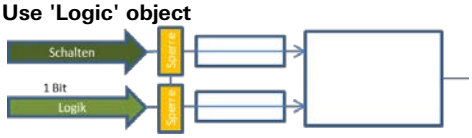
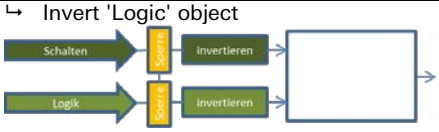
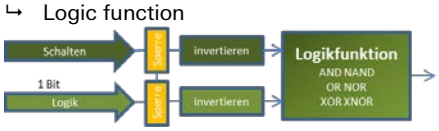
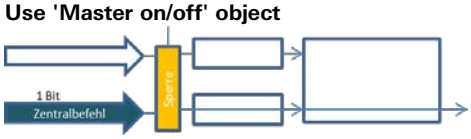
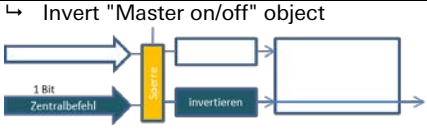
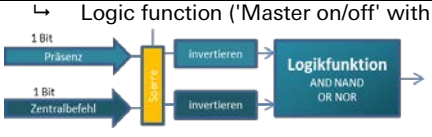
Basic settings - channel 1 to 4

(**Note:** The basic settings are in bold font)

Parameter	Description
Mode	**Please note!** The operating mode only determines the function of the respective channel when **no** lock, inverting, switch-off warning, or priority has been set.
	• **Switch (On/Off)** The object value will be transmitted directly at the output. An object value "1" switches the output to "On". A "0" switches the output off. Caution: This only applies when there is no inverting. • **Staircase lighting** The On duration 'x' (hh:mm:ss 00:00:00 to 18:00:00) determines how long staircase lighting will be switched on. This function can also be switched back off via an "On/Off" object with the corresponding parameterization. If an additional "1" switch object is received while time "x" is elapsing, staircase lighting can be restarted with the corresponding parameterization. If the "1" switch object is set multiple times after switch-on within a time period of 2 seconds, the On duration will multiply, with the corresponding parameterization. The multiplier is limited to a maximum of 7. • **Switch on/Switch off delay** This mode delays the switch-on and switch-off of the respective output. Both times are configurable. A time of "0" means no delay. If there are multiple switching commands in a row, the corresponding time starting from the most recent command will be started. • **Flashing** This function can be used to parameterize both permanent flashing as well as flashing with n-periods. The flashing function can be switched off via the "On/Off object" with the corresponding parameterization.
Use State 	This parameter provides the current state of the corresponding relay contacts on the switching output. Default: ☑ (yes) The following parameterizations are available for transmitting the state: • **On request** The operator must intentionally read the state object when needed. • **On change, not on bus voltage recovery** The object is actively transmitted to the bus when there is a change. • **On change and delayed on bus voltage recovery** The object is sent immediately when there is a change. After bus voltage recovery, the object is sent to the bus with delay. The delay is determined via a random function and can be between 0 and 65 seconds. If there is a state change during the delay time, it will be sent immediately.
Invert "Switch object" 	**Invert "Switch on/off" object** Default: ☐ (no) If the checkmark is enabled, the "On/Off" object (switch) is inverted.
Function of the output	This is where it is possible to determine the effect of the switching output. • **Normally open contact** With an object value of "1", the relay contact is closed and with a value of "0" it is open. • **break contact (N/C contact)** With an object value of "1", the relay contact is open and with a value of "0" it is closed.

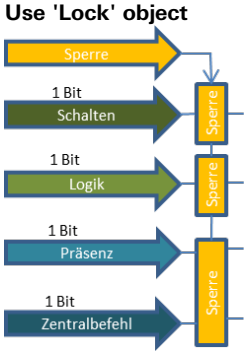
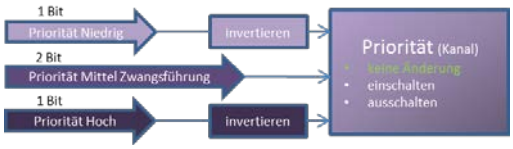
Basic settings - channel 1 to 4

(**Note:** The basic settings are in bold font)

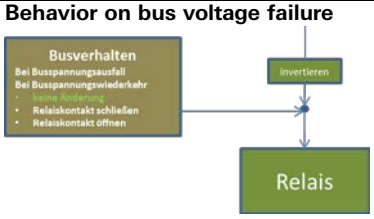
Use 'Logic' object 	Default: ☐ The "Logic" object and the "Switch" object act as input variables for the connecting function. The logic object, as well as the switch object, can be blocked from one another independently, as shown in the diagram. Both types of information are subject to a logical linkage the results of which are transmitted to the operating mode as information.
↳ Invert 'Logic' object 	Default: ☐ Inverts the incoming value of the logic object. The incoming object value "0" is interpreted as "1" and vice versa.
↳ Logic function 	**AND / NAND / OR / NOR / XOR / NXOR** This function can be used to establish a link between the "Switch On/Off" and "Logic" objects using a Boolean function.
Use 'Master on/off' object 	Default: ☐ **(no)** This selection activates the "Master On/Off" function via a master command. The functions caused by operating modes are immediately stopped by the sending of a master command. The output immediately goes into the corresponding state according to the information sent. **Exception:** If an output is supposed to be switched off via a master command and a switch-off warning is already running, it will be executed to the end. By activating the lock, the "Master command" object can additionally be locked or released.
↳ Invert "Master on/off" object 	Default: ☐ **(no)** If this function is selected, the incoming object value is inverted by the master command. The incoming object value "0" is interpreted as "1" and vice versa.
↳ Use 'Presence' and 'Master on/off'	Default: ☐ **(no)** The activation enables the logical linkage of "Master command object" and Presence object. Both objects are evaluated together. The incoming 1-bit pieces of information "1/0" of the two objects are linked with one another via a selectable logic function. The functional method is shown schematically in the figure to the left. An lock, which can be activated, will act on both objects equally. Each object can be inverted independently of one another before the logic linkage (AND, NAND, OR, NOR). The result of the linkage directly determines the value for the switching output. Any pending function of the selected operating mode will be canceled. **Exception:** If an output is supposed to be switched off via the logical result of a presence and master command and a switch-off warning caused by an operating mode is already running, it will be executed to the end.
↳ Invert 'Presence' object	Default: ☐ **(no)** Inverts the incoming value of the presence object. The incoming object value "0" is interpreted as "1" and vice versa.
↳ Logic function ('Master on/off' with 'Presence') 	**AND / NAND / OR / NOR** Both objects ("Master command" and "Presence") are evaluated as a function of a selected logic function. Example: The logic linkage of the "Master command" and "Presence" objects with "OR" prevents the light from being switched off via a master command with the value "0" when there is the presence (presence object "1") of a person in the room. The linkage result is not "0" and the light is not switched off until the presence object assumes the value "0".

Basic settings - channel 1 to 4

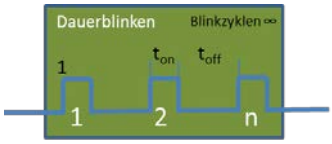
(**Note:** The basic settings are in bold font)

Use 'Lock' object 	Default: ☐ **(no)** The lock object can act selectively on the "Switch (on/off)", "Logic", "Presence", and "Master command" objects. A "1" activates the lock and a "0" deactivates the lock. If scenes are activated at the EM, settings can also be adjusted to the effect that the lock object acts on the scenes.
Use Prioritization  Table 2-bit object priority control Bit 1 / Bit 0 / Status 0 / 0 / No priority control 0 / 1 / No priority control 1 / 0 / Priority control Off 1 / 1 / Priority control On	Default: ☐ **(no)** The priorities contain 3 escalation stages: • "High" priority, 1 bit • "Medium" priority (priority control) 2 bit • "Low" priority, 1 bit The output will be in the "Priority" function as soon as one of the 3 priorities becomes active. A higher priority will take precedence over a lower priority. With the 2-bit "medium" level priority (also referred to as priority control), bit "0" determines whether an output is switched on or off. The parameterization enables separate actions during activation of the respective priority stages and a selectable action during transition into the "No priority" state. The state retains the last value before entering the priority mode. If a higher priority is canceled and a lower priority is set, the switch-on state of the lower priority is set. After withdrawal of the last priority, the parameterized action for this is carried out. Time sequences such as staircase lighting, switch-on switch-off delay, and flashing are canceled when a priority is set. **Exception:** If a switch-off warning is already in process when a priority is set and the function "No change" is set with the priority, the switch-off warning will still be carried out until completion.
Use operating values counting  	Default: ☐ **(no)** With activation of the operating values count, both the number of switching cycles as well as the operating hours are counted. Both numbers can be selected separately and read via the "Operating hours count value" and "Switch cycles count value" objects; in addition, they can be written after activation of the right access with the ETS4. If the operating values count is activated, the alarm objects can also be activated for the count values. The alarm objects are set from "0" to "1" and sent to the bus when the correspondingly set alarm value has been reached. The time during which the relay was closed at the output is included in the operating hours. The counter increases by "1" for every hour that elapses. If there is a power outage, an error of maximum 1 hour can occur. With the switching cycles, each switch-on/switch-off cycle is counted. After 10 switching cycles, the counter is increased by "1". If there is a power outage, an error of maximum 10 switching cycles can occur.

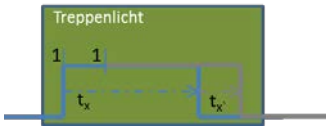
Bus behaviour

Parameter	Description
Behavior on bus voltage failure 	• **no change** • **Close relay contact** • **Open relay contact** Bus voltage outage is detected and transmitted to the application. The parameterized action per output is executed. If "Open relay contact" or "Close relay contact" has been parameterized, the active time sequences will be canceled and the parameterized action executed. As shown in the block diagram, this setting is transmitted directly to the relay; any inverting that has been set is not considered in this case. If "No change" is parameterized, a previously started switch-off warning will still be executed until completion. The relay state will be stored in the event of bus voltage outage; however, the state object set will not be sent.
Behaviour on bus voltage recovery 	• **no change** • **Close relay contact** • **Open relay contact** Bus voltage recovery is detected and transmitted to the application accordingly. Actions will be executed according to the parameterization. If "Open relay contact" or "Close relay contact" has been selected, the time sequences will be canceled and the corresponding action executed. The same as for "Behavior on bus voltage failure," this setting is transmitted directly to the relay; any inverting that has been set is not considered in this case. The state objects are treated corresponding to their parameterization.

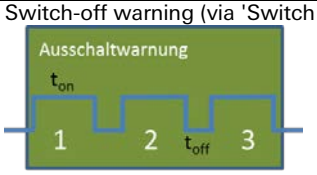
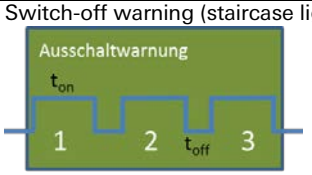
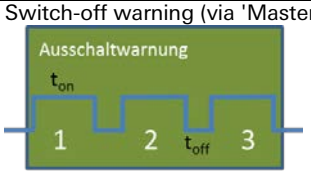
Blink mode

Parameter	Description
Flash permanently 	Default: ☐ **(no)** If this function is selected and a "1" is the switch object, the corresponding output will begin to flash. The switch-on and switch-off duration can be configured separately. Flash permanently can – if configured – be switched off in a defined manner via the "On/Off" object. If a priority with the setting "no change" has been parameterized during the flashing process, the state of the output will depend on the time of the activation of the priority. The output in this case can assume either "0" or "1". After the priority is exited, the flashing can be restarted by a "1" to the corresponding switch object.
Number of blink cycles	Default: **10** In addition to flash permanently, a defined number of flash cycles (1 to 63) can also be specified. The flashing is started by a "1" on the switch object and the flashing stops automatically after the cycles are complete.
On duration	Default: **00:00:20** hh:mm:ss The On duration can be configured in a value range of 0 seconds to 18 hours with all of the flash modes.
Off duration	Default: **00:05:00** hh:mm:ss The Off duration can be configured in a value range of 0 seconds to 18 hours with all of the flash modes.
Can be switched off via "On/Off object?	Default: ☐ **(no)** The "Switch on/off object makes it possible to intentionally end flash mode with a "0" command (or with a "1" command with activated inverting). It is recommended that this function be used especially with the "Flash permanently" function.

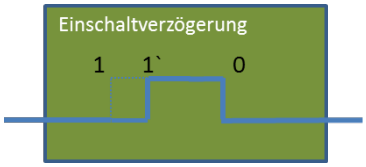
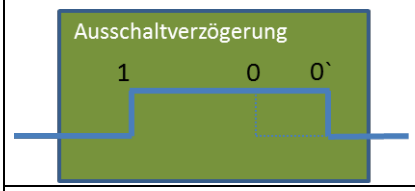
Staircase lighting

Parameter	Description
On duration 	Default: **00:05:00** hh:mm:ss The Actor activates with a switch-on order in relation of lock and inversion for the programmed time and switches of automatically after the time has expired. If a priority is active the action doesn't start.
Retriggerable (restart time with 'Switch on/off' object)	Default: ☐ **(no)** If an 'ON duration is already running, the duty cycle restarts after another switch object is sent. The duty cylce can thus be extended. Exception: if the 'ON duration' has already been extended multiple times with the parameter 'Extendable (mulitply 'On duration')', retriggering is only possible when the retrigger time is longer than the ongoing time cycle.
Disengageable via 'Switch on/off' object	Default: ☑ **(yes)** With this switch object a possible ongoing staircase lighting function can be terminated immediately. If lock as well as inversion or a priority are parameterized they are to be followed.
Extendable (multiply 'ON duration')	Default: ☐ If within the first two seconds after the switch-on order the swtich object '1' is set several times, the 'ON duration' multiplies. If e.g. the switch object ist activated four times on switching on the staircase light, the multiplier has the value '3'. The first command is used fo turn on each other is a multiplier. The 'ON duration' has thus been extended three times. The time can be extended at maximum to the factor 7.

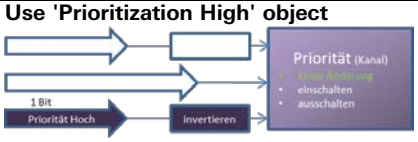
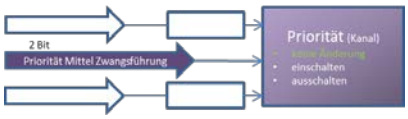
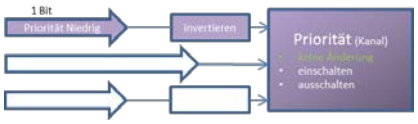
Switch-off warning

Parameter	Description
Switch-off warning (via 'Switch on/off') 	Default: ☐ If this function is selected, the switch-off warning that switch-off is soon is started after a switch-off command via the command object. The switch-off warning, initiated by the master command, ends the function of the operating mode. If the state is already "Off" from the output, there will be no switch-off warning following the switch-off command via the command object. If a switch-off process via the master command occurs during an already ongoing switch-off warning, it will be completed and there will be no new switch-off warning. If an "On" command occurs during a switch-off warning, it will be canceled and the output set to "On".
Switch-off warning (staircase lighting) 	If this function is selected, the switch-off warning that switch-off is soon is started after a switch-off command via the command object. If the command 'ON' meets a switch-of warning, the switch-of warning is aborted and the timer for the staircase light is restarted. The number of the warnings as well as the switch-on / and switch-off duration for each output define the duration of the warning. If the 'OFF' command meets a warning, the warning is not being aborted but carried out.
Switch-off warning (via 'Master on/off'/'Presence') 	Default: ☐ **(no)** If this function is selected, the switch-off warning that switch-off is soon is started after a switch-off command via the command object. The switch-off warning, initiated by the master command, ends the function of the operating mode. If the state is already "Off" from the output, there will be no switch-off warning following the switch-off command via the command object. If a switch-off process via the master command occurs during an already ongoing switch-off warning, it will be completed and there will be no new switch-off warning. If an "On" command occurs during a switch-off warning, it will be canceled and the output set to "On".
↳ Number of switch-off warnings	Default: **1** The number of switch-off warnings is limited to a maximum of 3 impulses.
↳ Warning off duration (time base 100 ms)	Default: **3** The Off duration for the switch-off warning can be entered in a value range from 1 to 255. The time basis for this is 100 ms. The input value 3 thus corresponds to 300 ms for the Off duration.
↳ Warning on duration (sec)	Default: **30** The On duration for the switch-off warning can be entered in a value range from 1 to 255. The time basis for this is 1 s.The input value '30' thus corresponds to 30 ms for the On duration.

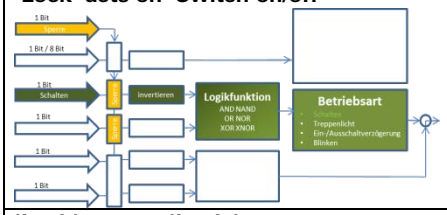
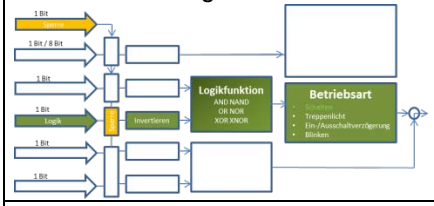
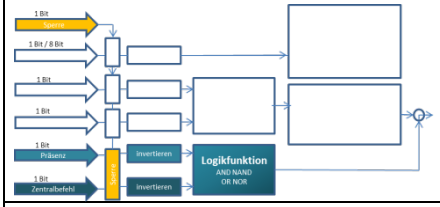
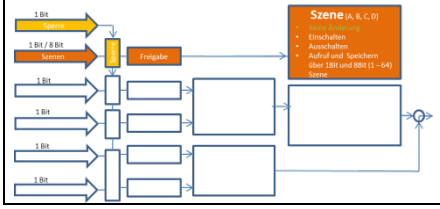
Delay

Parameter	Description
Switch-on delay 	Default: ☐ **(no)** This mode delays the switch-on of the output. The time for the on delay is parameterizable from 00:00:00 hh:mm:ss on. The time '0' means no delay. Note: If a priority is active this action is carried out. Lock, inversion and switch-off warning are to be considered on parameterization.
↳ **Switch-on delay time**	Default: **00:01:00** hh:mm:ss Here the duration of On delay can be set between 0 seconds and 18 hours.
Switch-off delay 	Default: ☐ **(no)** This mode delays the switch-off of the output. The time for the off delay is parameterizable from 00:00:00 hh:mm:ss on. The time '0' means no delay. Note: If a priority is active this action is carried out. Lock, inversion and switch-off warning are to be considered on parameterization.
↳ **Switch-off delay time**	Default: **00:02:00** hh:mm:ss Here the duration of Off delay can be set between 0 seconds and 18 hours.

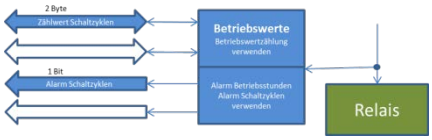
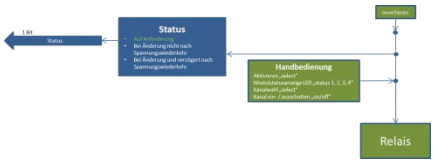
Prioritizations

Parameter	Description
Use 'Prioritization High' object 	Default: ☐ **(no)** The "Prioritization high" object will be displayed. "Prioritization high" is the highest of the 3 selectable priorities. "Prioritization high" takes precedence over all of the other set priorities. Weather alarms as well as any other related items can be configured with the different priorities. When there is an occurrence in the function of the priority, time sequences are canceled. An exception is the switch-off warning. If the priority is parameterized with "no change" or "switch off", the switch-off warning will be completed and then output switched off accordingly.
↳ Invert 'Prioritization High' object	Default: ☐ **(no)** With this "Prioritization high" object, it is possible to invert the value of the input object. Thus, you can use and process differently prepared pieces of information for the values "0" and "1" regardless of the manufacturer.
↳ Behavior on activation (Prioritization high)	• **no change** • switch on • switch off With this setting, the behavior of the output is determined if "Prioritization high" is activated. If the priority is activated with "no change", the time sequences are canceled and the current state is adopted by the output. The system proceeds with the two settings "Switch-on" and "Switch-off" accordingly.
Use "Medium prioritization, Priority control" object 	Default: ☐ **(no)** The "Priority control" object will be displayed. Priority control, or medium prioritization, is a 2-bit command. Bit 1 activates the priority with "1" and deactivates it with "0". Bit "0" is used to determine whether there will be a switch-on or switch-off. If there is a "1" in bit "0", there will be a switch-on. If there is a "0", there will be a switch-off.
Use 'Prioritization Low' object 	Default: ☐ **(no)** The "Prioritization low" object will be displayed. "Prioritization low" is the lowest of the 3 selectable priorities. This prioritization is bypassed in the event of a priority control or Prioritization high. Weather alarms as well as any other related items can be configured with the different priorities. When there is an occurrence in the function of the priority, ongoing time functions are canceled. An exception is the switch-off warning. If the priority is parameterized with "no change" or "switch off", the switch-off warning will be completed and the output switched off afterward.
↳ Invert "Prioritization Low" object	Default: ☐ **(no)** With this "Prioritization Low" object, it is possible to invert the value of the input object. Thus, you can process differently prepared pieces of information for the values "0" and "1" regardless of the manufacturer.
↳ Behavior on activation (Prioritization Low)	• **no change** • switch on • switch off With this setting, the behavior of the output is determined if "Prioritization low" is activated. If the prioritization is activated with "no change", the time sequences are canceled and the current state is adopted by the output. The system proceeds with the two settings "Switch-on" and "Switch-off" accordingly.
↳ Behaviour at end of all prioritizations	• **no change** • switch on • switch off • previous state After the last set prioritization has been exited, this function can be used to select a certain switching behavior for the respective output. If no change is selected, the current state will be retained by the output. Accordingly, with "Switch-on" the output will be switched on and with "Switch-off" the output will be switched off. If previous state is selected, the switching state selected before the current state will be selected.

Lock

Parameter	Description
'Lock' acts on 'Switch on/off' 	Default: ☑ A `1` signal to the lock object activates the lock. A `1` signal to the switch object is not executed while the lock is on. A command to the switch object can only be executed once the lock has been removed by a `0` signal to the lock object.
'Lock' acts on 'Logic' 	Default: ☐ A `1` signal to the lock object activates the lock. A `1` signal to the logic object is not executed while the lock is on. A command to the logic object can only be executed once the lock has been removed by a `0` signal to the lock object.
'Lock' acts on 'Master on/off'/'Presence' 	Default: ☐ A `1` signal to the lock object activates it. A `1` signal to the central command and presence object is not executed while the lock is on. A command to the central command and presence object can only be executed once the lock has been removed by a `0` signal to the lock object.
'Lock' acts on scenes 	Default: ☐ **(no)** A `1` signal to the lock object activates it. A scene command to the object is not executed while the lock is on. A command to the logic object can only be executed once the lock has been removed by a `0` signal to the lock object.

Operating values alarms

Parameter	Description
use switch cycles alarm 	Default: ☐ **(no)** If this function is selected, the "Alarm switch cycles" object will be displayed. This object is set to "1" when the counter has reached the configured number of switch cycles, i.e. the alarm value. **Note:** The "Alarm switch cycles" is only activated when the operating values count has been switched on for the respective channel. In order to reset the alarm, the "S" flag must be activated on the "Switch cycles count value" object and the object must be overwritten with a value less than the configured alarm value.
↳ Alarm at … cycles (input value × 10)	Default: **1000** The number of switch cycles can be entered in a value range from 1 to 65535. This value multiplied by 10 results in the actual value for the alarm value. With an input value of 1000, the alarm will thus be triggered after reaching 10,000 switch cycles.
Use operating hours alarm 	Default: ☐ **(no)** If this function is selected, the "Alarm operating hours" object will be displayed. This object is set to "1" when the counter has reached the configured number of operating hours, i.e. the alarm value. Note: The "Alarm operating hours" is only activated when the operating values count has been switched on for the respective channel. In order to reset the alarm, the "S" flag must be activated on the "Operating hours count value" object and the object must be overwritten with a value less than the configured alarm value.
↳ Alarm at … hours	Default: **1000** The alarm value for the operating hours alarm can be entered in a value range from 1 to 65535. If the value for the operating hours is reached, the "Alarm operating hours" object is set to "1".
Send 'State on/off' 	• **on request** • On change, not on bus voltage recovery • on change and delayed on bus voltage recovery This object outputs the status of the output relay. In the 'On Request' setting, the status must be read, in 'On change, not on bus voltage recovery', the status is transmitted to the bus immediately after a change. 'On change and delayed on bus voltage recovery' determines a delay time using a started random function, with which the status is transmitted to the bus.

Operating values alarms

Parameter	Description

Scenes (channel 1 to 4)

Parameter	Description
"Use scenes 8 bit" pre-selection:	
Use 8-bit scene	Default: ☐ **(no)** In order to use 8-bit scenes, this field must be actively set.
Use 1-bit scene	Default: ☐ **(no)** In order to use 1-bit scenes, this field must be actively set.
Scenes programmable via object	Default: ☐ **(no)** If this function is activated, it is possible to store 1-bit scenes and 8-bit scenes via an object. With this setting, the user can overwrite the previously set scenes. The original settings for the overwritten scenes will be lost.
Overwrite scenes at download	Default: ☑ **(yes)** During initial commissioning and programming, it is useful to ensure that this function is set in order to ensure that all of the data created in the parameterization is adopted including scenes. If this selection is deactivated, all parameters, except for those of the scenes, will be programmed during the download. This makes it possible to carry out changes in the parameterization at a later time without overwriting changed scenes in the meantime.
Assignment to 8-bit scene number	Default: • **Scene A: 1** • **Scene B: 2** • **Scene C: 3** • **Scene D: 4** It is possible to assign four 8-bit scenes in a value range from 1 to 64 to each individual output via scenes A, B, C, and D. Thus, with an extension module,a maximum of 16 of these 8-bit scenes can be linked with 4 outputs. The corresponding actions of the individual outputs can be defined with scenes A through D. • Bit 7 of an 8-bit scene determines whether a scene is set or stored (bit 7 0/1 = set/save). The scenes are permanently stored and will also be available after a power outage. • Bit 0 to bit 5 form the value for the scene number. **Note:** If an output is populated multiple times with the same 8-bit scene via scenes A B, C, D, the priority sequence "scene A" before scene B before scene C before scene D" applies.
↳ Action scene A Scene B Scene C Scene D	• **no change** • switch on • switch off This setting option makes it possible to assign a certain action to each scene for the corresponding output. With the "No change" setting, the current state at the output will not be changed when a scene is activated. If "Switch-on" is selected with a scene, switch object "1" will be set. The output will execute the selected function according to the operating mode and its parameterization. If "Switch-off" is configured with a scene, switch object "0" will be set. The output will execute the selected function according to the operating mode and its parameterization.
"Use scenes 1 bit" pre-selection:	
Use 1-bit scene	Default: ☐ **(no)** In order to use 1-bit scenes, this field must be actively set.

Operating values alarms

Parameter	Description
↳ Action scene A Scene B Scene C Scene D	• **no change** • switch on • switch off This setting option makes it possible to assign a certain action to each scene for the corresponding output. With the "No change" setting, the current state at the output will not be changed when a scene is activated. If "Switch-on" is selected with a scene, switch object "1" will be set. The output will execute the selected function according to the operating mode and its parameterization. If "Switch-off" is configured with a scene, switch object "0" will be set. The output will execute the selected function according to the operating mode and its parameterization.

3.6 DALI Broadcast

3.6.1 *gesis* FLEX-0/4 DA 4x DALI Broadcast



General description

Product: Functional module

- Designation: DALI Broadcast, 4-channel, 16 ECG (electronic ballast) each
- Type / Item No.: *gesis* FLEX-0/4 DA 83.020.0630.0 (plug set not included)
  gesis FLEX-0/4 DA Z 83.020.0630.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

DANGER
The DALI bus voltage is a potential-free extra-low voltage with basic insulation. In the operating mode, it is possible that the DALI connection is broken-in by the 230 V AC power supply. For this reason, the connections, connectors, leads and consumables fulfill the requirements for 230 V AC.

Function description

The DALI output for 4 separately controllable broadcast channels for 16 DALI ECGs each in the flat surface-mounted housing, which can be mounted on a DIN rail, for decentralized installation, is controlled by the basic module. It receives its mains and bus supply from the upstream module. The extensive parameter set enables various automation functions. The manual mode level enables function tests without prior system integration. The electrical connections, which can be connected in accordance with IEC 61535, separate automation and installation.

Specifications

Construction type

Enclosure	*gesis* FLEX 130 mm

Mounting	Foot for mounting on mounting rail
Connection type	Connector

Function description

Extension module of the modular *gesis* FLEX switching system with 4 DALI outputs for activating DALI operating units in broadcast mode (parallel mode). One group of up to 16 DALI units can be connected to each independent output. Manual addressing or DALI commissioning of the connected DALI units is not required. The DALI power supply is integrated into the extension module. The module can be connected to a *gesis* FLEX basic, feed, or an extension module. The module can be operated in connection with a basic module. The outputs of the extension module can be activated via a bus system through the connection to the basic module. The special functions of the module and the type of bus system used (e.g. KNX) therefore depend on the basic module used.

Attention!

The mains voltage must be switched off on the base module for plugging-in and unplugging the modules!

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. The module state error (red flashing), a DALI error (green flashing), with the exception of interruption, and burn-in mode are displayed without activation.

Function of manual operation

"Select" button	• Brief press: Selects an output. • Long pressing (> 3 sec): Will end the state display and manual operation.
"Burn-in" button	• Long pressing (> 3 sec) toggles the 100 h burn-in mode for the selected output. • A timer is set to 100 h if the “burn in” process is active. The light can no longer be dimmed from this point onwards. Buttons that are connected with this output via objects can continue to switch the light on and off. The “burn in” timer is only decremented during the on phase. The “burn in” process is ended upon reaching the 100 h. The output retains full functionality. • If a “burn in” process is interrupted and then reactivated, it starts again with 100 h.
"On" button	• Short pressing switches the selected output On • Long pressing (> 0.5 sec) makes the selected output brighter
"Off" button	• Short pressing switches the selected output Off • Long pressing (> 0.5 sec) makes the selected output darker

Status indicator function

LED 'status'	Green:	Module state OK, no errors
	Red flashing	Module state error will always be displayed (configuration errors, communication errors)
"Error/burn-in" LEDs	Flashing	Error display DALI output 1 to 4 (ECG error, lamp error, short-circuit, interruption)
	Permanent On	Burn-in active for the respective DALI output

Note:

The display for the "Error" fault has precedence over the display for the "Burn-in" function. Errors and indication of the "Burn-in" function are always indicated on the unit. This is true even when on-site operation is deactivated. An exception to this is an interruption error. This is only displayed on the unit during active visualization of on-site operation.

LEDs 1 … 4	State display output 1 to 4 lit up green = ON Flashing or superimposed flashing indicates the selected output.

Ending the state display and manual operation
By a long pressing of the "Select" button (> 3 sec) or if no button was pressed for 10 minutes.

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The but is routed through the module to the output, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 V DC (+/-5%)
Current consumption	Approx. 24 mA eff. (LEDs OFF) / approx. 44 mA eff. (All LEDs On)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX extension or feed modules can be connected. Internally, phase conductor L1 is used to generate the DALI bus voltage.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 V AC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A
Internal power consumption (L1)	Max. 4 W typ. approx. 2.7 W (4 × 16 ECG)

Output

Count	4 DALI outputs as per EN 60929 / 62386 (broadcast)
Connection type	GST15i2 female connector, 2-pole, pastel blue (D1=+/D2 =-)
DALI bus voltage	typically 13 V DC (9.5 … 22.5 V DC) Approx. 12.5 V DC (load/output = 500 R ≅ 16 ECG) Approx. 13.5 V DC (load/output = 8 k ≅ 1 ECG)
Output power	16 DALI ECGs as per EN60929 with 8 kΩ input impedance which can be connected
Output current with short-circuit	Approx. 50 mA
Unit protection	Outputs are short-circuit- and overvoltage-proof

Notes:
DALI bus voltage is provided by the actuator. This is potential-free low-voltage with basic insulation to the main power supply. The connection of an additional, external DALI power supply is not permitted.

Electric safety

Protection class	I
Protection Class	IP20 (as per EN 60529)
Pollution degree	2

Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V Phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)

Galvanic isolation

Internal bus / mains	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Internal bus / DALI voltage	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
DALI voltage / main power supply	Clearance and creepage distances > 3 mm, isolation voltage 2.8 kV AC / 4 kV impulse
Protective conductor resistance	Approx. 1.9 m Ω (mains input to mains output + plug connection)

installation notes

The DALI bus voltage is a potential-free extra-low voltage with basic insulation. In the operating mode, it is possible that the DALI connection is broken-in by the 230 V AC power supply. For this reason, the connections, connectors, leads and consumables fulfill the requirements for 230 V AC. Routing the DALI voltage and mains voltage in a single lead is permitted. The instructions and regulations of the ECG manufacturer must be taken into account!

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 … +45 °C
Storage temperature	-25 … +70 °C
Relative humidity	5% … 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.6.2 *gesis* FLEX-0/3 DA 3x DALI Broadcast



General description

Product: Functional module

- Designation: DALI Broadcast 3 channels each 16 ECG with AC supply for lamp
- Type / Item No.: *gesis* FLEX-0/3 DA 83.020.0641.0 (plug set not included)
  gesis FLEX-0/3 DA AC Z 83.020.0641.1 (plug set included)

Comment:
In the event of the DALI 3-fold broadcasting output, all the software functions are available for four outputs (channels). Since the output (channel) four is not present, however, set functions are not carried out.

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

DANGER
The DALI bus voltage is a potential-free extra-low voltage with basic insulation. In the operating mode, it is possible that the DALI connection is broken-in by the 230 V AC power supply. For this reason, the connections, connectors, leads and consumables fulfill the requirements for 230 V AC.

Function description

The DALI2 output 3-fold (DALI + 230 V) with three separate controllable broadcast channels, each for 16 DALI ECGs is managed from the base module. The flat carrier AP housing, mountable on a mounting rail is intended for decentralized installation. It receives its mains power and bus supply from the upstream module. The outputs can be 5-pole pluggable and provide the DALI signal and the mains power supply with 230 V. The comprehensive parameter set permits various different automation functions. The manual operation level permits function tests without prior system integration. The electrical connections, pluggable in accordance with IEC 61535, separate automation and installation.

Specifications

Construction type

Enclosure	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Function description

Extension module of the modular switching system *gesis* FLEX with 3 DALI outputs for controlling DALI operating equipment in broadcast operating mode (parallel operating mode). A group of up to 16 DALI devices can be connected to each independent output. Manual addressing of DALI commissioning of the connected DALI devices is not necessary. The DALI power supply is integrated in the extension module.

Caution:
The module is not capable of multimaster. Connecting an additional external DALI power supply can lead to malfunctions or destruction.

The module can be plugged into a *gesis* FLEX base, input or extension module. The module cannot be operated independently, only in combination with a base module. The connection to the base module means that the outputs from the extension module can be controlled via a bus system. The special functions of the module and the type of bus system employed (e.g. KNX) are therefore dependent on the base module used.

Caution: The mains voltage must be switched off from the base module for plugging-in and unplugging the modules!

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation
Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. The module state error (red flashing), a DALI error (green flashing), with the exception of interruption, and burn-in mode are displayed without activation.

Function of manual operation

"Select" button	• Select an output by short press • Long pressing (> 3 s) will end the state display and manual operation
"Burn-in" button	• Long pressing (> 3 s) toggles the 100 h burn-in mode for the selected output. • A timer is set to 100 h if the “burn in” process is active. The light can no longer be dimmed from this point onwards. Buttons that are connected with this output via objects can continue to switch the light on and off. The “burn in” timer is only decremented during the on phase. The “burn in” process is ended upon reaching the 100 h. The output retains full functionality. • If a “burn in” process is interrupted and then reactivated, it starts again with 100 h.
"On" button	• Short pressing switches the selected output On • Long pressing (> 0.5 s) makes the selected output brighter
"Off" button	• Short pressing switches the selected output Off • Long pressing (> 0.5 s) makes the selected output darker

Status indicator function

LED 'status'	Green:	Module state OK, no errors
	Red flashing	Module state error will always be displayed (configuration errors, communication errors)
"Error/burn-in" LEDs	Flashing	Error display DALI output 1 to 4 (ECG error, lamp error, short-circuit, interruption)
	Permanent On	Burn-in active for the respective DALI output

Note:
The display for the "Error" fault has precedence over the display for the "Burn-in" function. Errors and indication of the "Burn-in" function are always indicated on the unit. This is true even when on-site operation is deactivated. An exception to this is an interruption error. This is only displayed on the unit during active visualization of on-site operation.

LEDs 1 to 4	State display output 1 to 3 lit up green = ON Flashing or superimposed flashing indicates the selected output.

Ending the state display and manual operation
By a long pressing of the "Select" button (> 3 sec) or if no button was pressed for 10 minutes.

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The but is routed through the module to the output, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX extension or feed modules can be connected. Internally, phase conductor L1 is used to generate the DALI bus voltage.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 V AC (-15 % / +10 %)
Rated frequency	50/60 Hz
Rated current	16 A
Power consumption internally, internal electronics	< 1 W

Output

Count	3 DALI outputs 3 (broadcast)
Output type	Single-Master Application Controller with integrated power supply unit
Connection type	GST15i5 female connector, 5-pole, pastel blue (D1=+/D2 =-)
Conductor assignments	Power supply: L PE N - DALI: D1 = DA+ / D2 = DA-
DALI bus voltage	>12 V DC, < 20.5 V DC (no function or safety extra-low voltage) approx. 12.5 VDC (load / output = 16 x 2 mA = 16 ECGs) approx. 13.5 VDC (load / output = 1 x 2 mA = 1 ECG)
Output power	max. 16 DALI ECGs can be connected per output in accordance with EN62386-102
Output summation current max.	250 mA (in accordance with DALI2 specification for DALI systems in maximum extension)
Output current	38 mA per DALI2 channel
Output current with short-circuit	approx. 75 mA per DALI2 channel
Unit protection	Outputs are short-circuit- and overvoltage-proof.

Notes:
The DALI bus voltage is provided by the actor. This is a function extra-low voltage with basic insulation to mains connection. The connection of an additional external DALI power supply is not permitted!

Electric safety

Protection class	I
Protection Class	IP20 (as per EN 60529)
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V Phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)

Galvanic isolation

Internal bus / mains	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Internal bus / DALI voltage	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
DALI voltage / main power supply	Clearance and creepage distances > 3 mm, isolation voltage 2.8 kV AC / 4 kV impulse
Protective conductor resistance	Approx. 1.5 m Ω (mains input to mains output + plug connection)

installation notes
The DALI bus voltage is a potential-free extra-low voltage with basic insulation. In the operating mode, it is possible that the DALI connection is broken-in by the 230 V AC power supply. For this reason, the connections, connectors, leads and consumables fulfill the requirements for 230 V AC. Routing the DALI voltage and mains voltage in a single lead is permitted. The instructions and regulations of the ECG manufacturer must be taken into account!

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5 % to 93 %
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

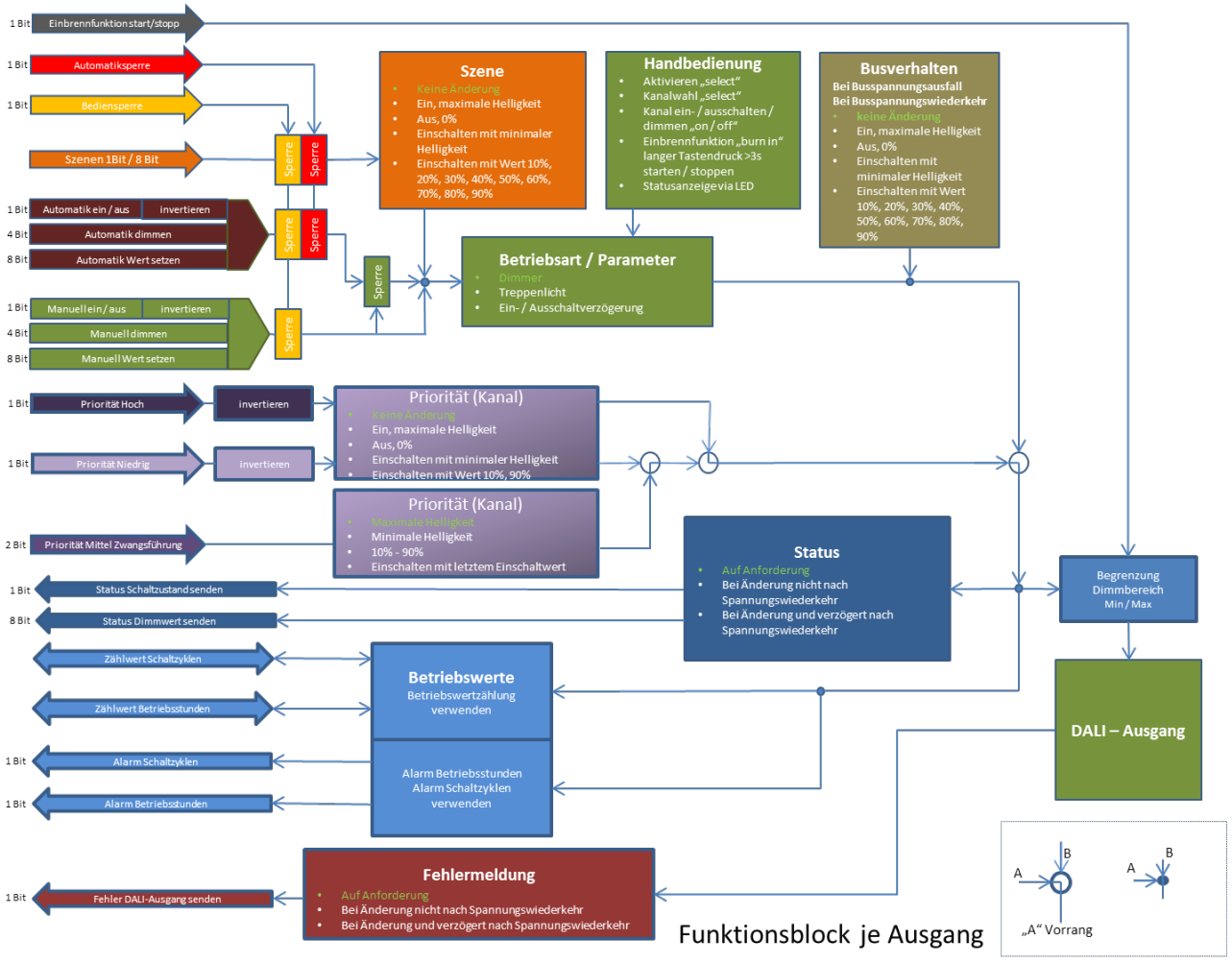
Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.6.3 Application description for DALI Broadcast

Flowchart



Communication objects

Info

- The operating modes are set via parameters.
- The object numbers indicated in the tables stand for the first module in the system in each case. The object numbers for module locations 2 to 6 are derived as follows: Obj. No. EM 2 = Obj. No.Table + 100 Obj. No. EM 3 = Obj. No. Table + 200 Obj. No. EM 4 = Obj. No.Table + 300 Obj. No. EM 5 = Obj. No.Table + 400 Obj. No. EM 6 = Obj. No. Table + 500

Module 1 **Obj. No.**	**Function**	**D**ata **P**oint **T**ype **DPT**	**Object**	**Length**	**Flags** K	L	S	Ü	A
82	Scene 8 bit Output 1 - 4	18.001	Retrieve/save scenes 8 bit	1 byte	K	–	S	Ü	–
83	Scene 1 bit Output 1 – 4	1.022	Call scenes A/B	1 bit	K	–	S	Ü	–
84	Scene 1 bit Output 1 – 4	1.022	Call scenes C/D	1 bit	K	–	S	Ü	–
85	Scene 1 bit Output 1 – 4	1.022	Save scenes A/B	1 bit	K	–	S	Ü	–
86	Scene 1 bit Output 1 – 4	1.022	Save scenes C/D	1 bit	K	–	S	Ü	–

Module 1 **Obj. No. of channels**				**Function**	**D**ata **P**oint **T**ype **DPT**	**Object**	**Length**	**Flags** K	L	S	Ü	A
1	**2**	**3**	**4**									
2	22	42	62	Staircase lighting dimmer,	1.002	operating lock	1 bit	K	–	S	–	–
3	23	43	63	Switch-on/Switch-off delay	1.002	Switch On/Off	1 bit	K	–	S	–	–
4	24	44	64		3.007	Dim	1 bit	K	–	S	–	–
5	25	45	65		5.001	Set value (0% – 100%)	8 bits	K	–	S	–	–
6	26	46	66	Lock object	1.002	automatic lock	1 bit	K	–	S	–	–
7	27	47	67	Staircase lighting dimmer,	1.001	Automatic on/off	1 bit	K	–	S	–	–
8	28	48	68	Switch-on/Switch-off delay	3.007	Automatic Dim	4bit	K	–	S	–	–
9	29	49	69		5.001	Automatic Set value	8 bits	K	–	S	–	–
10	30	50	70	Prioritization	1.002	Prioritization Low	1 bit	K	–	S	–	–
11	31	51	71		2.001	Priority control	2 bit	K	–	S	–	–
12	32	52	72		1.002	Prioritization High	1 bit	K	–	S	U	–
13	33	53	73	State object	1.001	State on/off	1 bit	K	L	–	Ü	–
14	27	40	53		5.001	State Dim value	8 bits	K	L	–	Ü	–
15	35	55	75	DALI error message	1.002	Error DALI output	1 bit	K	L	–	Ü	–
16	36	56	76	Not used								
17	37	57	77	Operating value	7.001	Switch cycles count value Can be read and written	2 byte	K	L	–	–	–
18	38	58	78	alarm	1.005	Alarm switch cycles Object will be set with "1" when alarm value is reached	1 bit	K	L	–	Ü	–
19	39	59	79	Operating value	7.007	Operating hours count value Can be read and written	2 byte	K	L	–	–	–
20	40	60	80	alarm	1.005	Alarm operating hours Object will be set with "1" when alarm value is reached	1 bit	K	L	–	Ü	–
21	41	61	81	Commissioning	1.010	Burn-in start/stop (100 h duration, dimming deactivated)	1 bit	K	L	S	–	–

Parameter description

Overview

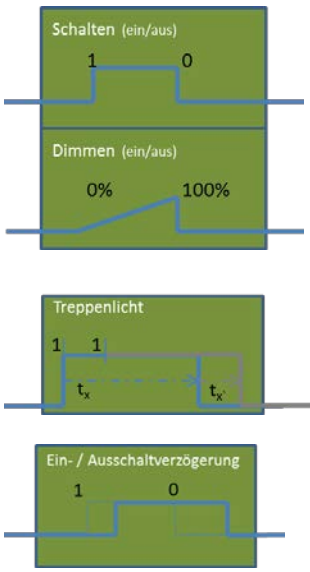
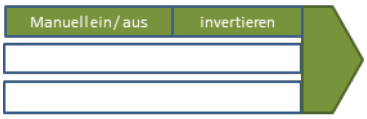
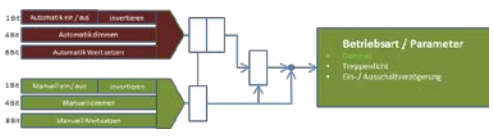
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Extension module

Parameter	Description
Type of module	**Please note!** The operating mode only determines the function of the respective channel when **no** lock, switch-off warning, or priority has been set. • **4 DALI output** At this location, the module function for this station is selected. For the module station, the "DALI" function is selected in this case.
Use scenes 8 bit	Default: ☐(no) If this setting is activated, it is possible to set 8-bit scenes and to store the 8-bit scene DTP 18.001 accordingly. In this case, bit 7 is where it is defined whether a scene is stored ("1") or set ("0"). Bit 0 to 5 represents the scene number. Non-configured scene numbers are ignored.
Use scenes 1 bit	Default: ☐(no) Via 2 1-bit objects, 2 1-bit scenes can be stored. With the object for Scenes A/B, value "0" stores Scene A and value "1" stores Scene B. With object for Scenes C/D, value "0" stores Scene C and value "1" stores Scene D. Via 2 additional 1-bit objects, 2 1-bit scenes can be stored. With the object for Scenes A/B, value "0" sets Scene A and value "1" sets Scene B. With object for Scenes C/D, value "zero" sets Scene C and value "1" sets Scene D.
↳ Program scenes via object	Default: ☐(no) With this setting, it is possible to save scenes. This is possible with 1-bit as well as 1-byte scenes. Outputs that have been parameterized with "No change," will be excluded from the saving and activating of scenes and not changed. With an active priority, scenes can be saved but not activated. Caution: With a transfer of parameters by pressing the "Config" button on the unit, current scene values will not be adopted. Scene values are only transferred after a download via the ETS.
↳ Overwrite scenes at download	Default: ☑ If this setting option is selected, all of the scene settings that have been made up to the time of a download will be overwritten. The scenes configured via ETS will be programmed.
Use burn-in function (100 hrs no dimming; start via object)	Default: ☐(no) This function supports the burn-in of light sources as per standard EN 60901. Subsequently, light sources can be switched on add only 100% and not dimmed for a time period of 100 hours. Dimming values will be ignored in this time period and forwarded as a 100% switch-on value to the ECG. The burn-in function is started at the object with a "1" and then stopped at the object after 100 hours has expired with a "0". An active burn-in function is indicated on the unit with the "Error/Burn-in" LED. It is also possible to start or stop the burn-in function directly on the unit with a long button press with the "Burn-in" button. Caution! This function makes use of the operating hours count. A reset or changing of the operating hours influences the burn-in time as well.

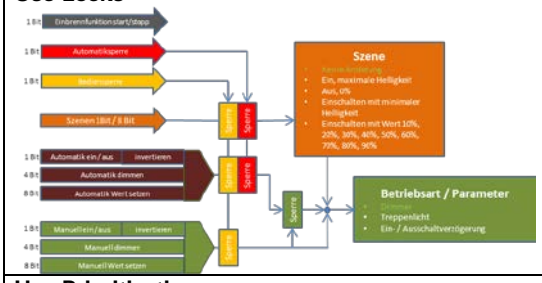
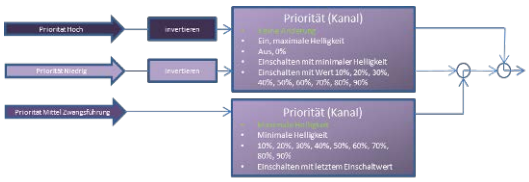
Basic settings - channel 1 to 4

(**Note:** The basic settings are in bold font)

Parameter	Description
Mode 	**Please note!** The operating mode only determines the function of the respective channel when **no** lock, switch-off warning, or priority has been set. • **Dimmer** This function enables immediate and dimmed switch-on and switch-off via the "On/Off" switch object. Dimming can be carried out in increments with the dimming object. The dimming value object enables values to be set directly or on to dimming. With a brightness control by means of the value object, it is preferable to parameterize "Switch-on with the last value." • **Staircase lighting** The On duration 'x' (hh:mm:ss 00:00:00 to 18:00:00) determines how long staircase lighting will be switched on. After the time has elapsed, a switch-off time command will be generated automatically. Lights can be made brighter or darker via the "Dim" object. However, dim or value objects will not suppress a switch-off command. A permanently on light in the staircase lighting can be implemented by means of priority or scene. If an additional "1" switch object is received while time "x" is elapsing, the time can be restarted with the corresponding parameterization. If the "1" switch object is set multiple times after switch-on within a time period of 2 seconds, the On duration will multiply, with the corresponding parameterization. The multiplier is limited to a maximum of 7. This function also works when the staircase lighting is already switched on. • **Switch on/Switch off delay** The dim mode is expanded here by the switch-on switch-off delay functions. This mode delays the switch-on and switch-off of the respective output. Both times are configurable. A time of "0" means no delay. If there are multiple switching commands in a row, the corresponding time starting from the most recent command will be started. The same thing applies to switch-off.
Use State and Error 	With this parameter, the current state is provided from the switch state (1 bit), the dim value state (8 bit), and error on the DALI bus generally as 1-bit information. Default: ☑ **(yes)** **Note:** Further details can be found under the menu item Status.
Invert Switch object Invert "Switch on/off" object 	Inverts the object value. Default: ☐**(no)** If the check mark is set, the "Switch on/off" object is inverted. A "0" sends a switch-on telegram and a "1" sends a switch-off telegram to the DALI bus.
Use Automatic 	Here it is possible to activate objects for an automatic function. Default: ☐**(no)** With the activating of this function, it is possible to implement an automatic function, in addition to manual operation, such as automatic light control, independently of manual operation, for example via presence indicator. The "Automatic Set value", "Automatic on/off", and "Automatic Dim" objects are available here.

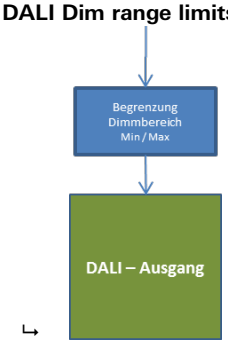
Basic settings - channel 1 to 4

(**Note:** The basic settings are in bold font)

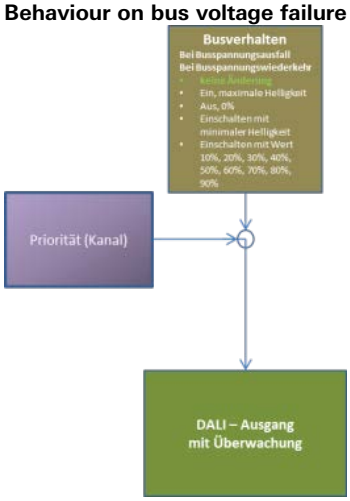
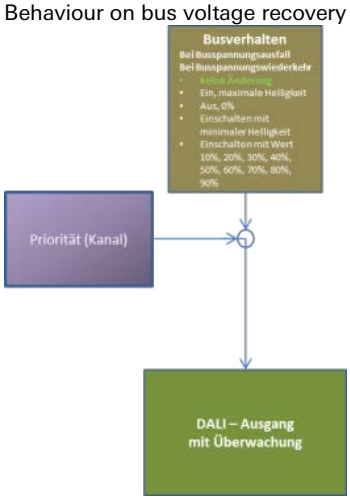
Parameter	Description
↳ Invert 'Automatic on/off' object 	Inverts the object value. Default: ☐(no) If the check mark is set, the "Automatic on/off" object is inverted. A "0" sends a switch-on telegram and a "1" sends a switch-off telegram to the DALI bus.
Use Locks 	Default: ☐(no) The Use Locks function activates 2 possible lock functions. These are the control/automatic lock and the automatic lock by manual command. They can be individually configured for the respective channel. **Note:** Details of functions are to be found in chapter "Lock".
Use Prioritization  Table 2-bit object "priority control" Bit 1 / Bit 0 / Status 0 / 0 / No priority control 0 / 1 / No priority control 1 / 0 / Priority control Off 1 / 1 / Priority control On	Default: ☐(no) The priorities contain 3 escalation stages: • "High" priority, 1 bit • "Medium" priority (priority control) 2 bit • "Low" priority, 1 bit The output will be in the "Priority" function as soon as one of the 3 priorities becomes active. A higher priority will take precedence over a lower priority. With the 2-bit "medium" level priority (also referred to as priority control), bit "0" determines whether there is a switch-on or switch-off. The parameterization enables separate actions during activation of the respective priority stages and a selectable action during transition into the "No priority" state. The state retains the last value before entering the priority mode. If a higher priority is canceled and a lower priority is set, the switch-on state of the lower priority is set. After withdrawal of the last priority, the parameterized action for this is carried out. Time sequences such as switch-on switch-off delay are canceled when a priority is set. **Exception:** If a switch-off warning is already in process when a priority is set and the function "No change" is set with the priority, the switch-off warning will still be carried out until completion.
Use operating values counting  	Default: ☐ (no) With activation of the operating values count, both the number of switching cycles as well as the operating hours are counted. Both numbers can be selected separately and read via the "Operating hours count value" and "Switch cycles count value" objects; in addition, they can be written after activation of the right access with the ETS4. If the operating values count is activated, the alarm objects can also be activated for the count values. The alarm objects are set from "0" to "1" and sent to the bus when the correspondingly set alarm value has been reached. The time during which the dimming value of the output is > 0% or active, is included in the operating hours. The counter increases by "1" for every hour that elapses. If there is a power outage, an error of maximum 1 hour can occur. With the switching cycles, each switch-on/switch-off cycle is counted. After 10 switching cycles, the counter is increased by "1". If there is a power outage, an error of maximum 10 switching cycles can occur.

Basic settings - channel 1 to 4

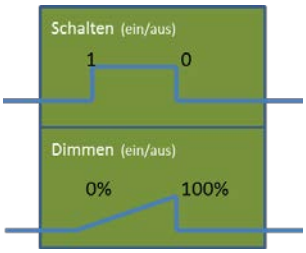
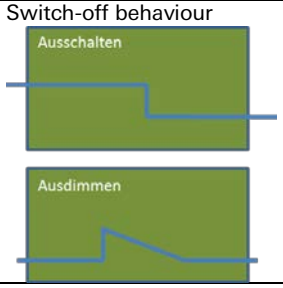
(**Note:** The basic settings are in bold font)

Parameter	Description
DALI Dim range limits 	The dimming behavior of electronic ballasts, e.g. of LED lights, differs greatly from type to type. To adapt the dimming range to the behavior of the different loads to the optimum and to use it, the range can be adjusted accordingly for minimum and maximum brightness. The dimming values are converted to the limited range, according to the selected limitation. The following applies: 0% – 100% in the value range 0…255 correspond to 0% – 100% in the restricted range. "0" = Off and 100% corresponds to the value set for maximum brightness. This approach allows full use of the control dynamics for the object and status values 0 … 255, in spite of a limited range.
Maximum brightness (%)	With this parameterization, it is possible to limit the maximum brightness at the DALI output. The set maximum value corresponds to the object value 100%. • **100 % (no limit)** • 95% • 90 % • 85% • 80 % • 75% • 70 % • 65% • 60 %
Minimum brightness (%)	With this parameterization, it is possible to limit the minimum brightness at the DALI output. The set minimum value corresponds to the object value 0%. • **0%** to 60%

Bus behaviour

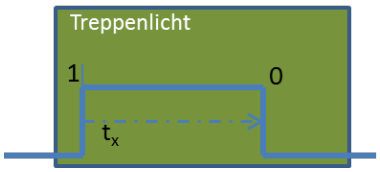
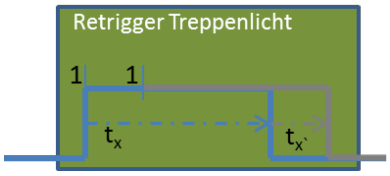
Parameter	Description
Behaviour on bus voltage failure 	• **no change** • on, maximum value • off (0 %) • switch on using minimum value • switch on to value 10 % • switch on to value 20 % • switch on to value 30 % • switch on to value 40 % • switch on to value 50 % • switch on to value 60 % • switch on to value 70 % • switch on to value 80 % • switch on to value 90 % Bus voltage outage is detected and transmitted to the application. The parameterized action per output is executed. If "Open relay contact" or "Close relay contact" has been parameterized, the active time sequences will be canceled and the parameterized action executed. If "No change" is parameterized, a previously started switch-off warning will still be executed until completion. The relay state will be stored in the event of bus voltage outage; however, the state object set will not be sent.
Behaviour on bus voltage recovery 	• **no change** • on, maximum value • off (0 %) • switch on using minimum value • switch on to value 10 % • switch on to value 20 % • switch on to value 30 % • switch on to value 40 % • switch on to value 50 % • switch on to value 60 % • switch on to value 70 % • switch on to value 80 % • switch on to value 90 % • switch on using last on value Bus voltage recovery is detected and transmitted to the application accordingly. Actions will be executed according to the parameterization. If "Open relay contact" or "Close relay contact" has been selected, the time sequences will be canceled and the corresponding action executed. The state objects are treated corresponding to their parameterization.

Dim settings

Parameter	Description
Dim time settings	For each channel up to three different dim time settings can be programmed. Those can be assigned indivudally for functions like 'behaviour on dim object' or 'behaviour on value object'.
↳ Dim time 1	Default: **00:00:01**hh:mm:ss Dim time 1 can be set from min. 1s to max. 18h. It can be individually allocated to functions such as "Behavior on reception of dim object" and "Behavior on reception of set value object".
↳ Dim time 2	Default: **00:00:05**hh:mm:ss Dim time 2 can be set from min. 1s to max. 18h. It can be individually allocated to functions such as "Behavior on reception of dim object" and "Behavior on reception of set value object".
↳ Dim time 3	Default: **00:00:10**hh:mm:ss Dim time 3 can be set from min. 1s to max. 18h. It can be individually allocated to functions such as "Behavior on reception of dim object" and "Behavior on reception of set value object".
Behaviour of 'Switch on/off' object	
↳ Switch-on value	• **Maximum brightness** • **minimum brightness** • 10% • 20% • 30% • 40% • 50% • 60% • 70% • 80% • 90% • switch on using last on value The switch-on value determines the brightness value for the switch object output on the DALI bus. When DALI dim range limits have been set to adapt to the light source (see basic settings), the minimum and maximum brightness corresponds to the values set there. This limited range corresponds to the value range 0% – 100%.
↳ Switch-on behaviour 	• **set switch-on value instantaneously** • dim on using Dim time 1 • dim on using Dim time 2 • dim on using Dim time 3 Parameter setting makes it possible either to switch on the lighting on the DALI Bus instantaneously and without a dimming process according to the preset switch-on value or to dim according to one of the three settable dim times 1 – 3 (see dim time settings).
↳ Switch-off behaviour 	• **switch off instantaneously** • dim off using Dim time 1 • dim off using Dim time 2 • dim off using Dim time 3 The lighting on the DALI bus can either be instantaneously switched off or be dimmed according to one of the settable dim time settings 1 – 3 (see dim time settings). Brightness value = 0%.

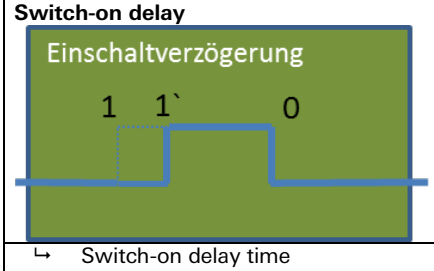
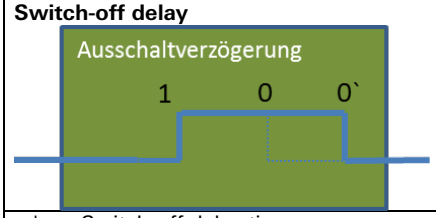
Behaviour Dim object	
↳ Duration for dimming	• Dim using Dim time 1 • **Dim using Dim time 2** • Dim using Dim time 3 Three predefined dim time settings make it possible to determine the dimming behavior during the dimming process. The time set for the dim object may differ from the time set for the fixed value object. This makes it possible to control the individual lighting groups during scenes or dimming processes according to different dim time settings.
↳ Allow switch-on via Dim object	**Default: ☑(yes)** These parameter settings make it possible to switch on a DALI light group by using the dim command. As soon as the process is started with the preset "Duration for dimming" and the brightness value sent is >0%, the light group is switched on and the corresponding dim value is sent. A separate switch-on command is not required. The last command is executed.
↳ Allow switch-off via Dim object	Default: **☐(no)** This parameter setting determines whether the DALI bus is dimmed according to the preset "Duration for dimming" time or whether it is switched off instantaneously. When "Switch off by dimming" is selected, the light group is dimmed according to the preset dim time and switched off once the value 0% has been reached.
Behaviour of 'Set value' object	
↳ Behaviour on reception of 'Set Value' object	• set new value instantaneously • dim on using Dim time 1 • **dim on using Dim time 2** • dim on using Dim time 3 • set new value instantaneously (only when on) • dim on using Dim time 1 (only when On) • dim on using Dim time 2 (only when On) • dim on using Dim time 3 (only when On) The connected light groups can be set to a specific value with the value object without dimming operation or can be dimmed accordingly with a parameterizable dimming time. This operation can take place independently or dependently (if only On) of the status (On/Off) of the light group.

Staircase lighting

Parameter	Description
Staircase lighting 	With this function the parameters for comfortable staircase lighting controls like retriggerable, multiply duty cicle, warning after termination of on time as well as dim brightness can be adjusted. **Note:** For settings on the switch-off delay, see the Warning parameter page. Only when the staircase function has already been switched on it is possible to dim the light using an appropriately parameterized dimming object or value object. If the dimming value '0' is reached, the light is switched off immediately without a parameterized warning. To prevent the staircase light function from being canceled, a minimum brightness (>0%) should be parameterized for the dimming value.
On duration	Default: **00:05:00** hh:mm:ss The duty cycle for the staircase light can be set in a broad time range between 0 s and 18 h. After the duty cycle has expired, an Off command is generated automatically. The value object or dimming object can be used to set or dim dimming values directly during the duty cycle. The Off command is not suppressed after the duty cycle has expired. Brightness control can be implemented using a value object, e.g. through the 'Switch on using last value'. **Note:** The actor only reacts on 'Dim' and on 'Set value' object when the stairlight is switched on. If the dim value '0' is reached via value object or dim object, the Output switches off immediately and without switch-off warning.
Retriggerable (restart time with 'Switch on/off' object) 	Default: ☑**(yes)** If this function is activated, then, if a duty cycle is already elapsing, a further switching object will restart the duty cycle. Exception: If the duty cycle has already been extended by the parameter 'Extendable (multiply duty cycle)' by a multiple, retriggering will only take place if the duty cycle is greater than the currently elapsing time. **Note:** The actor only reacts on 'Dim' and on 'Set value' object when the stairlight is switched on. If the dim value '0' is reached via value object or dim object, the Output switches off immediately and without switch-off warning.
Disengageable via 'Switch on/off' object	Default: ☑**(yes)** Already running staircase lighting functions can be aborded with switch object. A parameterized switch-off warning is then executed after the switch-off command. If the switch-off command is transmitted during a switch-off warning, this command is ignored, the switch-off warning runs to the end and the staircase light function terminated.
Extendable (multiply 'On duration')	Default: ☐**(no)** If within the first two seconds after the switch-on order the swtich object '1' is set several times, the 'ON duration' multiplies. If e.g. the switch object ist activated four times on switching on the staircase light, the multiplier has the value "3". The first command is used fo turn on each other is a multiplier. The 'ON duration' has thus been extended three times. The time can be extended at maximum to the factor 7. **Note:** The actor only reacts on 'Dim' and on 'Set value' object when the stairlight is switched on. If the dim value '0' is reached via value object or dim object, the Output switches off immediately and without switch-off warning.

↳ Maximum extendable - factor	1 -2-3 -4 -5 -6 -7 This parameter determines by which factor the duty cycle of the staircase light is extended. A maximum factor of 7 is possible. The time can also be extended during an already active staircase light function. **Note:** The calculated time is only applied if it is longer than the elapsing time. Note: The actor only reacts on 'Dim' and on 'Set value' object when the stairlight is switched on. If the dim value '0' is reached via value object or dim object, the Output switches off immediately and without switch-off warning.

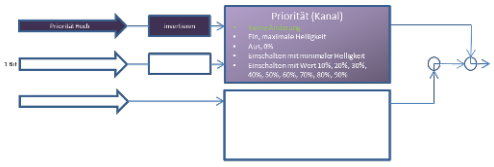
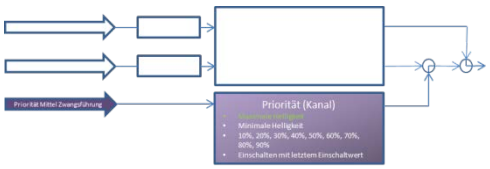
Delay times

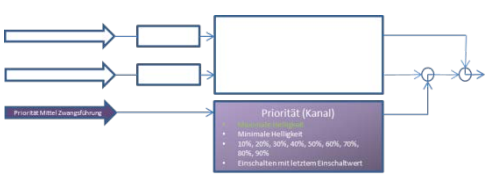
Parameter	Description
Switch-on delay 	Default: ☐ (no) This function allows to switch on or dim a light on the DALI bus with a defined time delay.
↳ Switch-on delay time	Default: **00:01:00** hh:mm:ss The time for the on delay can be set in a wide range from 0 s to 18h. The default value is 1 min.
Switch-off delay 	Default: ☐ (no) This function allows to switch off or dim a light on the DALI bus with a defined time delay.
↳ Switch-off delay time	Default: **00:02:00** hh:mm:ss The duty cycle for the staircase light can be set in a broad time range between 0 s and 18 h. 2 min is set as the default value.

Switch-off warning (Staircase lighting and Automatic)

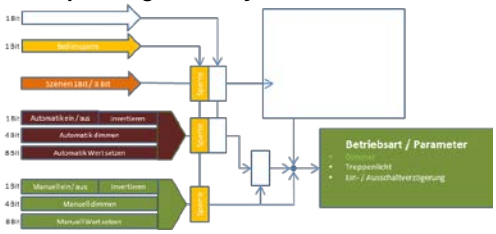
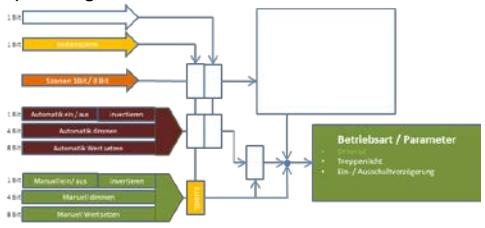
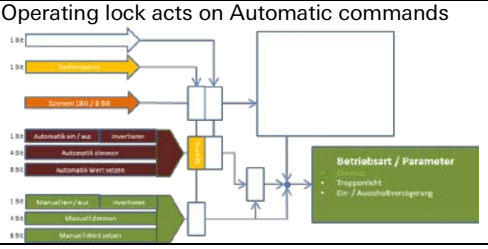
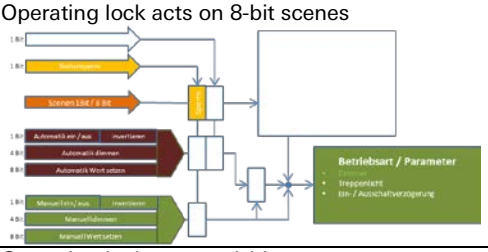
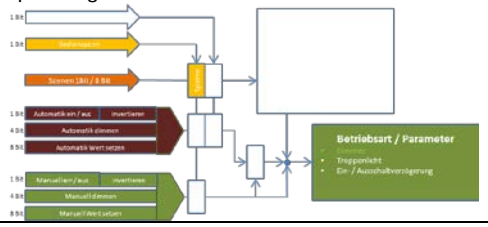
Parameter	Description
Switch-off warning (via "Master on/off") 	Default: ☐ **(no)** If this function is selected, the switch-off warning that switch-off is soon is started after a switch-off command via the command object. The switch-off sequence is attached to the duty cycle period. The number of warnings, as well as the warning length and spacing of the warnings, is executed according to the parameterization. The visual appearance of the warning pulses is dependent on the current brightness value. With a brightness value > 50%, the brightness value is reduced to 25% for the length of the warning pulse. With a brightness ≤ 50%, the brightness is increased to 100% for the length of the warning pulse. If a dimmed switch-off overlaps with the switch-off warning, the procedure is as described above. Function Mode If a switch-off process via the master command occurs during an already ongoing switch-off warning, it will be completed and there will be no new switch-off warning. If an "On" command occurs during a switch-off warning, it will be canceled and the output set to "On".
↳ Number of switch-off warnings	Default: **1** The number of switch-off warnings is limited to a maximum of 3 impulses.
↳ Warn duration	Default: **1 s** The Off duration for the switch-off warning can be selected in a value range from 0.1 to 5 s. **Note:** Due to the differing electronic ballasts and lamps on the market, it is possible that the visually perceived warning time does not correspond to the parameterized time. The functions may be impaired due to the discharging and charging operations.
↳ Time interval between two warnings (s)	Default: **30** The On duration for the switch-off warning can be entered in a value range from 1 to 255. The time basis for this is 1 s.The input value 30 thus corresponds to 30 ms for the On duration. **Note:** Due to the differing electronic ballasts and lamps on the market, it is possible that the visually perceived time does not correspond to the parameterized time. The functions may be impaired due to the discharging and charging operations.

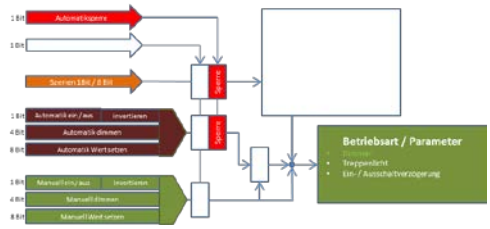
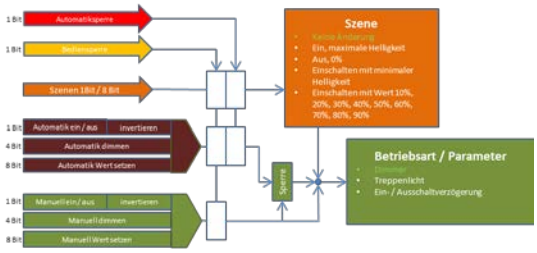
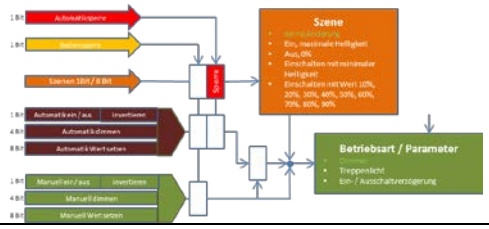
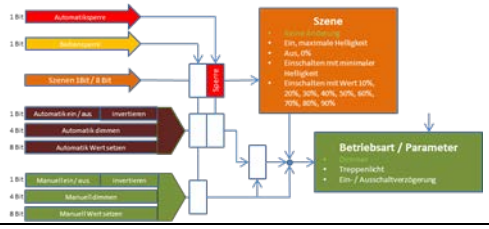
Prioritization

Parameter	Description
Use 'Prioritization High' object 	Default: ☐ (no) "Prioritization high" is the highest of the 3 selectable priorities. This prioritization takes precedence over all of the other set priorities. The different priorities enable any relationship between events to be configured. When there is an occurrence in the function of the priority, time sequences are canceled. An exception is the switch-off warning. If the priority is parameterized with "no change", the switch-off warning will be completed and then the configured value will be sent. If a higher priority is withdrawn and a lower priority is still pending, the switch-on state of the next-lower priority state is set. After withdrawal of the last-set priority, the parameterized switch-off behavior will be executed.
↳ Invert 'Prioritization High' object	Default: ☐ (no) With this "Prioritization high" object, it is possible to invert the value of the input object. Thus, you can use and process differently prepared pieces of information for the values "0" and "1" regardless of the manufacturer.
↳ Behavior on activation (Prioritization high)	With this setting, the behavior of the lights connected at the DALI output is determined if the priority is activated. This requires that there be no higher priority active. • **No change** • On, maximum brightness • off (0 %) • Switch on using minimum value • Switch on to value 10% • Switch on to value 20 % • Switch on to value 30 % • Switch on to value 40 % • Switch on to value 50 % • Switch on to value 60 % • Switch on to value 70 % • Switch on to value 80 % • switch on to value 90 %
Use "Medium prioritization, Priority control" object 	Default: ☐(no) Priority control, or medium prioritization, is a 2-bit command. Bit 1 activates the priority with "1" and deactivates it with "0". Bit "0" is used to determine whether there will be an On or Off command sent. If there is a "1" in bit "0", there will be a switch-on. If there is a "0", there will be a switch-off. This prioritization is bypassed in the event of a Prioritization high. The different priorities enable any relationship between events to be configured. When there is an occurrence in the function of the priority, ongoing time functions are canceled.
↳ Behavior on activation ("Prioritization medium", Priority control)	With this setting, the behavior of the lights connected to the DALI output is determined if priority control is activated. • **Maximum brightness** • minimum brightness • 10% • 20% • 30 % • 40 % • 50 % • 60 % • 70 % • 80 % • 90 % • switch on using last on value

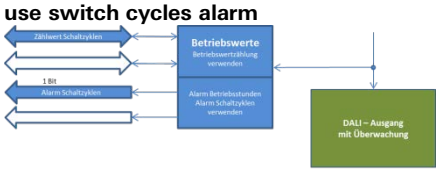
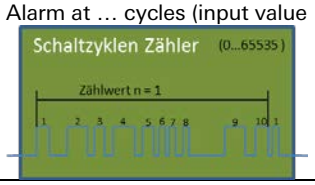
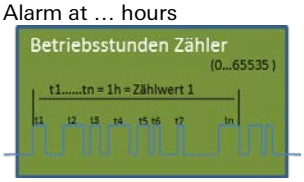
Use 'Prioritization Low' object 	Default: ☐ (no) "Prioritization low" is the lowest of the 3 selectable priorities. This prioritization is bypassed in the event of a priority control or Prioritization high. The different priorities enable any relationship between events to be configured. When there is an occurrence in the function of the priority, ongoing time functions are canceled. An exception is the switch-off warning. If the priority is parameterized with "no change", the switch-off warning will be completed and the corresponding command executed afterward.
↳ Invert "Prioritization Low" object	Default: ☐ (no) With this "Prioritization Low" object, it is possible to invert the value of the input object. Thus, you can process differently prepared pieces of information for the values "0" and "1" regardless of the manufacturer.
↳ Behavior on activation (Priority "low")	With this setting, the behavior of the lights connected at the DALI output is determined if priority low is activated. This requires that there be no higher priority active. • **No change** • On, maximum brightness • off (0 %) • Switch on using minimum value • Switch on to value 10% • Switch on to value 20 % • Switch on to value 30 % • Switch on to value 40 % • Switch on to value 50 % • Switch on to value 60 % • Switch on to value 70 % • Switch on to value 80 % • switch on to value 90 %
↳ Behaviour at end of all prioritizations	After the last-set priority has been exited, this function can be used to select a certain switch-off behavior for the respective output. • **No change** • On, maximum brightness • Off (0%), switch on with minimum brightness. • Switch on to value 10% • Switch on to value 20 % • Switch on to value 30 % • Switch on to value 40 % • Switch on to value 50 % • Switch on to value 60 % • Switch on to value 70 % • Switch on to value 80 % • switch on to value 90 % • switch on using last on value

Locking

Parameter	Description
Use 'Operating lock' object 	Default: ☐(no) When activating the operating lock, it is possible to lock scenes, automatic commands, and the also manual commands. Control on the unit via the manual control button and a control by the output via the three available actuatable priorities is also possible. This lock can be deactivated via the "operating lock" object or after an adjustable time.
↳ Operating lock acts on manual commands 	Default: ☑ **(Yes) All manual commands are disabled with activation '1' of the operating lock.** This lock can be ended with a '0' in the object 'Operating lock' or after a defined time has elapsed. See also "Operating lock deactivation".
↳ Operating lock acts on Automatic commands 	Default: ☐ **(No) All automatic commands are disabled with a '1' on the object "Operating lock".** This lock can be ended with a '0' in the object 'Operating lock' or after a defined time has elapsed. See also "Operating lock deactivation".
↳ Operating lock acts on 8-bit scenes 	Default: ☐**(No) All the 8-bit scenes are disabled with a '1' on the object "Operating lock"** . This lock can be ended with a '0' in the object 'Operating lock' or after a defined time has elapsed. See also "Operating lock deactivation".
↳ Operating lock acts on 1-bit scenes 	Default: ☐ **(No) All the 1-bit scenes are disabled with a '1' on the object "Operating lock"** . This lock can be ended with a '0' in the object 'Operating lock' or after a defined time has elapsed. See also "Operating lock deactivation".
↳ Bediensperre Deaktivierung Freigabezeit	• **Via "Operating lock" object** If the object receives an operating lock, a "0" will cancel the lock. • **via object 'Operating lock' and time** If the "Operating lock" object receives a "0" and the configured release time (ranging from 1 second to 18 hours) has elapsed, the lock will be canceled. • **Via time** If the operating lock was activated, it will be canceled after the configured release time has elapsed (1 second to 18 hours).

Use automatic lock 	Default: ☐ (no) The automatic lock acts selectively upon scenes and automatic commands. Manual commands and operation at the unit via the manual control button and a control of the output via the 3 available priorities that can be actuated are still possible and can not be influenced by the automatic lock. This lock can be ended with a '0' in the object 'Automatic lock' or after a defined time has elapsed. See also automatic lock deactivation
↳ Automatic lock acts on Automatic commands	☑ (Yes) **All the automatic commands are disabled with a "1" when the automatic lock is activated.**This lock can be ended with a "0" in the object 'Automatic lock' or after a defined time has elapsed. See also 'automatic lock deactivation'.
↳ Automatic lock by manual commands 	Default: ☐ (no) With the activation of this function, the likewise configured automatic mode is locked with a manual command for light control. This enables the DALI lights to be controlled manually according to individual requirements. This is used in rooms having a presence indicator installed. This lock can be ended with a '0' in the object 'Automatic lock' or after a defined time has elapsed. See also automatic lock deactivation
↳ Automatic lock acts on 8-bit scenes 	☐ (No) **All the 8-bit scenes are disabled with a "1" on the "Automatic lock" object.** This lock can be ended with a '0' in the object 'Automatic lock' or after a defined time has elapsed. See also automatic lock deactivation
↳ Automatic lock acts on 1-bit scenes 	☐ (No) **All the 1-bit scenes are disabled with a "1" on the "Automatic lock" object.** This lock can be ended with a '0' in the object 'Automatic lock' or after a defined time has elapsed. See also automatic lock deactivation
↳ Automatic lock deactivation	• **Via "Automatic lock" object** If the object "Automatic lock" receives a "0" a set lock will be canceled again. • **via object 'Automatic lock' and time** If the "Automatic lock" object receives a "0" and the configured release time (ranging from 1 second to 18 hours) has elapsed, the set lock will be canceled again. • **Via time** If the automatic lock was activated, it will be canceled after the configured release time has elapsed (1 second to 18 hours).

Operating values alarms

Parameter	Description
use switch cycles alarm 	Default: ☐ (no) If this function is selected, the 'Switch cycles alarm' object is shown. This object can be read and written to. The switch cycles of the DALI output are counted. If there is a short-circuit or interruption in communication, counting ceases. Switching on and off once is a cycle. The counter increases by one after ten cycles. If this function is selected, the "Alarm switch cycles" object will be displayed. This object is set to "1" when the counter has reached the configured number of switch cycles, i.e. the alarm value. **Note:** In order to reset the alarm or overwrite it with a value, the "S" flag must be activated on the "Switch cycles count value" object. Then the object can be overwritten with a value less than the configured alarm value. In case of voltage failure or reset up to 10 switching operations can be lost.
↳ Alarm at … cycles (input value × 10) 	Default: 1000 The number of switch cycles can be entered in a value range from 1 to 65535. This value multiplied by 10 results in the actual value for the alarm value. With an input value of 1000, the alarm will thus be triggered after reaching 10,000 switch cycles.The change of the object value is transmitted to the bus.
Use operating hours alarm 	Default: ☐(no) If this function is selected, the 'Operating hours alarm' object is shown. This object can be read and written to. The operating hours of the DALI output are counted. If there is a short-circuit or interruption in communication, counting ceases. Only elapsed hours are counted. This object is set to "1" when the counter has reached the parameterized number of operating hours, i.e. the alarm value. **Note:** In order to reset the alarm, the "S" flag must be activated on the "Operating hours count value" object and the object must be overwritten with a value less than the configured alarm value. In case of voltage failure or reset, counting values up to 1 h are being lost.
↳ Alarm at … hours 	Default: 1000 The number of operating hours can be entered in a value range from 1 to 65535. If the value for the operating hours is reached, the "Alarm operating hours" object is set to "1". Change of the object value is transmitted to the bus.

Status and error

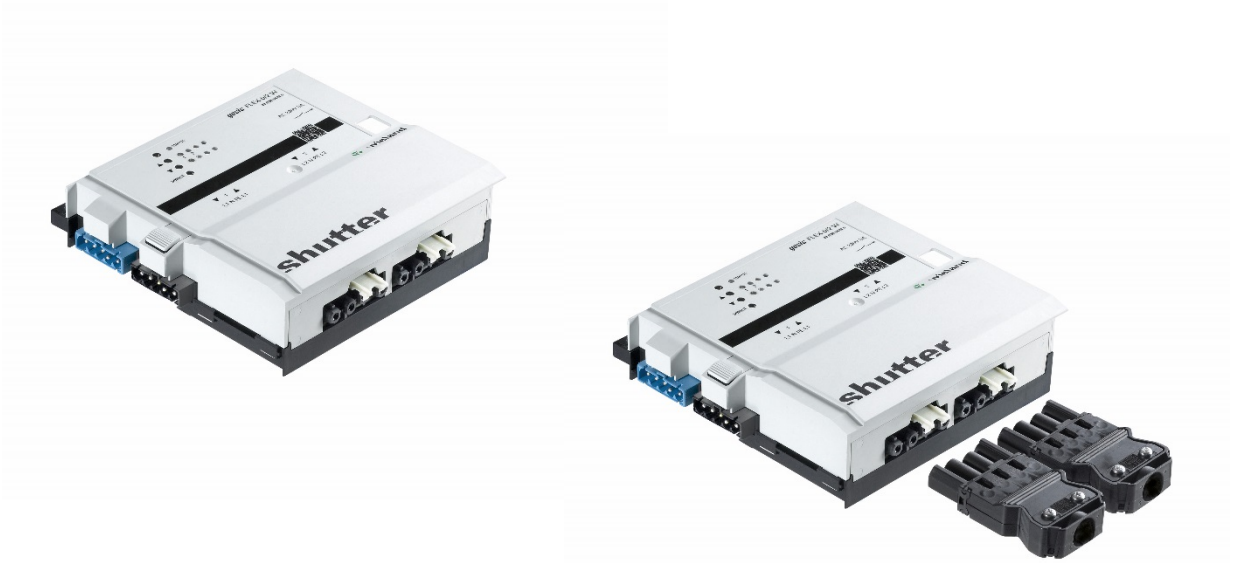
Parameter	Description
Use State and Error 	With this parameter, the current state is provided from the switch state (1 bit), the dim value state (8 bit), and error on the DALI bus generally as 1-bit information. Default: ☑ (yes)
↳ Send 'State on/off' 	**This state provides information by means of a 1-bit telegram via the current switch state at the DALI output. (On/Off). An active switch-off warning in the function "Staircase lighting" is evaluated as '1'. The status changes only changes after this sequence has expired.** • **on request** The object can be read. The operator must intentionally read the "State on/off' when needed. • **on change, not on bus voltage recovery** The object is actively transmitted to the bus when there is a change. • **on change and delayed on bus voltage recovery** The object is transmitted to the bus when there is a change and on bus voltage recovery with delay. The delay is determined via a random function and can be between 0 and 65 seconds. If there is a state change during the delay time, it will be sent immediately.
↳ Send 'State Dim value' 	**This state provides information by means of a 8-bit telegram via the current dim value at the DALI output. (0 to 100%).** • **on request** The object can be read. The operator must intentionally read the "Dim value state" when needed. • **on change, not on bus voltage recovery** The object is actively transmitted to the bus when there is a change. • **on change and delayed on bus voltage recovery** The object is transmitted to the bus when there is a change and on bus voltage recovery with delay. The delay is determined via a random function and can be between 0 and 65 seconds. If there is a state change during the delay time, it will be sent immediately.
↳ Send object "Error DALI output" 	**This object transmits information with 1 bit as a collective error message generally as to whether a DALI bus error or/and a lamp error are pending at the corresponding DALI port. A "1" indicates an error in one or more lamps.** • **on request** The object can be read. The operator must intentionally read the "Lamp error" object when needed. • **on change, not on bus voltage recovery** The object is actively transmitted to the bus when there is a change. • **on change and delayed on bus voltage recovery** The object is transmitted immediately to the bus when there is a change and on bus voltage recovery with delay. The delay is determined via a random function and can be between 0 and 65 seconds. If there is a change during the delay time, it will be sent immediately.

Scenes channel 1 – 4

Parameter	Description
"Use scenes 8 bit" pre-selection:	
Use 8-bit scene	Default: ☐(no) In order to use 8-bit scenes, this field must be actively set.
Use 1-bit scene	Default: ☐(no) In order to use 1-bit scenes, this field must be actively set.
Scenes programmable via object	Default: ☐(no) If this function is activated, it is possible to store 1-bit scenes and 8-bit scenes via an object. With this setting, the user can overwrite the previously set scenes. The original settings for the overwritten scenes will be lost.
Overwrite scenes at download	Default: ☑ During initial commissioning and programming, it is useful to ensure that this function is set in order to ensure that all of the data created in the parameterization is adopted including scenes. If this selection is deactivated, all parameters, except for those of the scenes, will be programmed during the download. This makes it possible to carry out changes in the parameterization at a later time without overwriting changed scenes in the meantime.
Assignment to 8-bit scene number	Default: • **Scene A: 1** • **Scene B: 2** • **Scene C: 3** • **Scene D: 4** It is possible to assign 4 8-bit scenes in a value range from 1 to 64 to each individual output via scenes A, B, C, and D. Thus, with an extension module,a maximum of 16 of these 8-bit scenes can be linked with 4 outputs. The corresponding actions of the individual outputs can be defined with scenes A through D. • Bit 7 of an 8-bit scene determines whether a scene is set or stored (bit 7 0/1 = set/save). The scenes are permanently stored and will also be available after a power outage. • Bit 0 to bit 5 form the value for the scene number. **Note:** If an output is populated multiple times with the same 8-bit scene via scenes A B, C, D, the priority sequence "scene A" before scene B before scene C before scene D" applies.
↳ Action scene A Scene B Scene C Scene D	• **no change** • **switch on** • **switch off** This setting option makes it possible to assign a certain action to each scene for the corresponding output. With the "No change" setting, the current state at the output will not be changed when a scene is activated. If "Switch-on" is selected with a scene, switch object "1" will be set. The output will execute the selected function according to the operating mode and its parameterization. If "Switch-off" is configured with a scene, switch object "0" will be set. The output will execute the selected function according to the operating mode and its parameterization.
"Use scenes 1 bit" pre-selection:	
Use 1-bit scene	Default: ☐(no) In order to use 1-bit scenes, this field must be actively set.
↳ Action scene A Scene B Scene C Scene D	• **no change** • **switch on** • **switch off** This setting option makes it possible to assign a certain action to each scene for the corresponding output. With the "No change" setting, the current state at the output will not be changed when a scene is activated. If "Switch-on" is selected with a scene, switch object "1" will be set. The output will execute the selected function according to the operating mode and its parameterization. If "Switch-off" is configured with a scene, switch object "0" will be set. The output will execute the selected function according to the operating mode and its parameterization.

3.7 Sunblind outputs AC / DC F

3.7.1 *gesis* FLEX-0/2 W 2x AC shutter outputs



General description

Product: Functional module

- Designation: Shutter outputs AC 2 channel
- Type / Item No.: *gesis* FLEX-0/2W DC 83.020.0624.0 (plug set not included)
  gesis FLEX-0/2 W Z 83.020.0624.1 (plug set included)

With the variant with a connector set, all the necessary connectors are provided.

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The 2x 230 V/8 A shutter output in the flat surface-mounted housing, which can be mounted on DIN rails for decentralized installation, is managed by the basic module. It receives its mains and bus supply from the upstream module. The extensive parameter set enables various automation functions. The manual mode level enables function tests without prior system integration. The electrical connections, which can be connected in accordance with IEC 61535, separate automation and installation.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Protection only with

gesis FLEX-0/2W	83.020.0624.0
gesis FLEX-0/2W Z	83.020.0624.1

Each output is protected separately using a 5 × 20 mm device protection fuse (miniature fuse) with the rated value 3.15 Amps and slow-blow characteristics. If triggered, this fuse may only be replaced with a fuse with the same technical data.

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	Brief press:	Selects an output.
	Long pressing > 3 s:	Ends the display and manual operation.
	Button press > 30 s:	Deletes all saved drive times.
▲ (up) button	Brief press:	Stops an active movement or executes a louver movement toward the top.
	Long pressing:	Starts an upward movement.
▼ (down) button	Brief press:	Stops an active movement or executes a louver movement toward the bottom.
	Long pressing:	Starts a downward movement.

Status indicator function

LED 'status'	Green:	Module state OK, no errors
	Red flashing:	Module state error will always be displayed (configuration errors, communication errors)
	▲ (up) "1" and "2" LED	State display output 1 to 2 (green = drive up) Flashing or superimposed flashing indicates the selected output.
	▼ (down) "1" and "2" LED	State display output 1 to 2 (green = drive down) Flashing or superimposed flashing indicates the selected output.

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec, < 30 sec) or if no button was pressed for 10 minutes.

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX base module or to an expansion or feed module, which is already being supplied by a basic module. The bus is routed through the module to the output of the internal bus, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/4 GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/4 GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 10.5 mA eff. (LEDs OFF) / approx. 14.5 mA eff. (LED state ON)
Current consumption when moving	Approx. 50.5 mA eff. (LEDs OFF) / approx. 14.5 mA eff. (LEDs ON)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the individual phase conductors of the mains are used as switching voltage for the shutter outputs.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A
Internal power consumption	Max. 1.5 W when moving without reverse voltage Max. 3.5 W when moving with reverse voltage

Output

Number	2 shutter outputs with reverse voltage detection, locked with precedence down
Protection only for *gesis* FLEX-0/2WF 83.020.0624.0 *gesis* FLEX-0/2WF Z 83.020.0624.1	Separate device fuse (miniature fuse) for each channel 5x20 mm rated current 3.15 A slow-blow characteristics
Switch element	Monostable relays, non-isolated contacts
Connection type	GST18i4 female connector, 4-pole, black, (2 [down] / N / PE / 1 [up])
Rated voltage	230 VAC (for switching purposes, the main power is used) Output 1 switches phase conductor L1 while output 2 switches phase conductor L2
Rated current	8 A (ohmic load)
Short circuit strength	Not short-circuit proof
Minimum load	2.5 VA
Switching power/service life	2000 VA cosφ 1 — 1 × 105 Switching cycles 700 VA cos 0.7φ (inductive load) — 3 × 105 Switching cycles
Motor reverse voltage	Min. 140 VAC (reliable detection of reverse voltage) Max. 300 VAC
Cable length at output	Max. 25 m or capacitance max. 2.2 nF (only with evaluation of reverse voltage)

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V Phase conductor to N or PE 400 V Phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Contact opening of relays	µContact
Galvanic isolation (internal bus/mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 3.2 mΩ (mains input to mains output

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 910 fit (at 40 °C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free light gray

Fire resistance (housing)

UL 94 V-2 (passes glow-wire test at 960 °C as per IEC 695-2-1)

Fire load

Approx. 2 kWh

Weight

Approx. 315 g

Dimensions

Width:	149 mm in the direction of the DIN rails, 130 mm installed in rows in the group:
Length:	149 mm at right angles to DIN rail
Height	44 mm without and about 47 mm with TH 35-7.5 DIN rail

Licensing and certification

KNX-certified

CE marking

In accordance with EMC Guideline (for residential and non-residential buildings)

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.7.2 *gesis* FLEX 0/2W F AC shutter output 2x protected





General description

Product: Functional module

- Designation: AC shutter output, 2-channel
- Type / Item No.: *gesis* FLEX-0/2 W F 83.020.0634.0 (plug set not included)
  gesis FLEX-0/2W F Z 83.020.0634.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The protected 2x shutter output 230 ACV/3 A is managed by the base module. It is supplied in the flat, surface mounted housing, which can be mounted on mounting rails, for decentralized installation. Each output is protected with a 3.15 AT miniature fuse. It receives its power and bus supply from the upstream module. The comprehensive parameter set allows various automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which can be connected according to IEC 61535, separate automation and installation.
With the variant with a connector set, all the necessary connectors are provided.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Protection only with

gesis FLEX-0/2WF	83.020.0634.0
gesis FLEX-0/2WF Z	83.020.0634.1

Each output is protected separately using a 5 × 20 mm device protection fuse (miniature fuse) with the rated value 3.15 Amps and slow-blow characteristics. If triggered, this fuse may only be replaced with a fuse with the same technical data.

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	Brief press:	Selects an output.
	Long pressing > 3 s:	Ends the display and manual operation.
	Button press > 30 s:	Deletes all saved drive times.
▲ (up) button	Brief press:	Stops an active movement or executes a louver movement toward the top.
	Long pressing:	Starts an upward movement.
▼ (down) button	Brief press:	Stops an active movement or executes a louver movement toward the bottom.
	Long pressing:	Starts a downward movement.

Status indicator function

LED 'status'	Green:	Module state OK, no errors
	Red flashing:	Module state error will always be displayed (configuration errors, communication errors)
	▲ (up) "1" and "2" LED	State display output 1 to 2 (green = drive up) Flashing or superimposed flashing indicates the selected output.
	▼ (down) "1" and "2" LED	State display output 1 to 2 (green = drive down) Flashing or superimposed flashing indicates the selected output.

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec, < 30 sec) or if no button was pressed for 10 minutes.

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX base module or to an expansion or feed module, which is already being supplied by a basic module. The bus is routed through the module to the output of the internal bus, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/4 GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/4 GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 10.5 mA eff. (LEDs OFF) / approx. 14.5 mA eff. (LED state ON)
Current consumption when moving	Approx. 50.5 mA eff. (LEDs OFF) / approx. 14.5 mA eff. (LEDs ON)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the individual phase conductors of the mains are used as switching voltage for the shutter outputs.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A
Internal power consumption	Max. 1.5 W when moving without reverse voltage Max. 3.5 W when moving with reverse voltage

Output

Number	2 shutter outputs with reverse voltage detection, locked with precedence down
Protection only for *gesis* FLEX-0/2WF 83.020.0634.0 *gesis* FLEX-0/2WF Z 83.020.0634.1	Separate device fuse (miniature fuse) for each channel 5x20 mm rated current 3.15 A slow-blow characteristics
Switch element	Monostable relays, non-isolated contacts
Connection type	GST18i4 female connector, 4-pole, black, (2 [down] / N / PE / 1 [up])
Rated voltage	230 VAC (for switching purposes, the main power is used) Output 1 switches phase conductor L1 while output 2 switches phase conductor L2
Rated current	8 A (ohmic load)
Short circuit strength	Not short-circuit proof
Minimum load	2.5 VA
Switching power/service life	2000 VA cosφ 1 — 1 × 105 Switching cycles 700 VA cos 0.7φ (inductive load) — 3 × 105 Switching cycles
Motor reverse voltage	Min. 140 VAC (reliable detection of reverse voltage) Max. 300 VAC
Cable length at output	Max. 25 m or capacitance max. 2.2 nF (only with evaluation of reverse voltage)

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V Phase conductor to N or PE 400 V Phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Contact opening of relays	µContact
Galvanic isolation (internal bus/mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 3.2 mΩ (mains input to mains output

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 910 fit (at 40 °C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free light gray

Fire resistance (housing)

UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load

Approx. 2 kWh

Weight

Approx. 315 g

Dimensions

Width: 149 mm in the direction of the DIN rails, 130 mm installed in rows in the group:
Length: 149 mm at right angles to DIN rail
Height: 44 mm without and about 47 mm with TH 35-7.5 DIN rail

Licensing and certification

KNX-certified

CE marking

In accordance with EMC Guideline (for residential and non-residential buildings)

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.7.3 *gesis* FLEX-0/2 W DC 2x shutter outputs



General description

Product: Functional module

- Designation: DC shutter output, 2-channel
- Type / Item No.: *gesis* FLEX-0/2W DC 83.020.0627.0 (plug set not included)
  gesis FLEX-0/2W DC Z 83.020.0627.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The 2x 24 VDC/3 A shutter output in the flat surface-mounted housing, which can be mounted on DIN rails for decentralized installation, is managed by the basic module and receives the bus supply from the upstream module. The 24 VDC supply is provided externally. The extensive parameter set enables various automation functions. The electrical connections, which can be connected in accordance with IEC 61535, separate automation and installation.

Technical data

Construction type

Housing	*gesis* FLEX 95 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Function description

Extension module for the modular switch system *gesis* FLEX with 2 shutter outputs for controlling and positioning consuming units with 2 movement directions and 24 VDC rated voltage (e.g. roller shutters, skylights, etc.). Depending on the DC voltage connected, drives with 6 V or 12 V operating voltage can also be connected. The module can be connected to a *gesis* FLEX base, feed, or an extension module. The basic module is required for operating the extension module. The outputs of the extension module can be activated via a bus system through the connection to the basic module. The special functions of the module and the type of bus system used (e.g. KNX) depend on the basic module used. **Caution!** In order to connect and disconnect the modules, the mains power source must be switched off at the basic module.

Protection only with

gesis FLEX-0/2WF	83.020.0637.0
gesis FLEX-0/2WF Z	83.020.0637.1

The 24 V input is protected separately using a 5 × 20 mm device protection fuse (miniature fuse) with the rated value 6.3 Amps and slow-blow characteristics. If triggered, this fuse may only be replaced with a fuse with the same technical data.

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Module state Error (red flashing) is displayed without activation.

Function of manual operation

"Select" button	Brief press:	Selects an output.
	Long pressing > 3 s:	Ends the display and manual operation.
	Long pressing > 30 s:	Deletes all saved drive times.
▲ (up) button	Brief press:	Stops an active movement or executes a louver movement toward the top.
	Long pressing:	Starts a drive up.
▼ (down) button	Brief press:	Stops an active movement or executes a louver movement toward the bottom.
	Long pressing:	Starts a drive down.

Status indicator function

LED 'status'	Green:	Module state OK, no errors
	Red flashing:	Module state error will always be displayed (configuration errors, communication errors)
▲ (up) "1" and "2" LED		State display 1 to 2 (green = drive up) Flashing or superimposed flashing indicates the selected output.
▼ (down) "1" and "2" LED		State display output 1 to 2 (green = drive down) Flashing or superimposed flashing indicates the selected output.

Ending the state display and manual operation
By a long pressing of the "Select" button (> 3 sec, < 30 sec) or if no button was pressed for 10 minutes.

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The but is routed through the module to the output of the internal bus, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 10.5 mA eff. (LEDs OFF) / approx. 14.5 mA eff. (LED state ON)
Current consumption when moving	Approx. 50.5 mA eff. (LEDs OFF) / approx. 58.5 mA eff. (LEDs ON)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX expansion or feed modules can be connected. The mains voltage is not used within the module.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A
Internal power consumption	None (the main power supply is not used in this module)

DC shutter voltage connection

External DC low voltage must be connected to supply the two shutter outputs.

Protection only for	*gesis* FLEX-0/2W DC F	83.020.063470
	gesis FLEX-0/2W DC F Z	83.020.0637.1
Fuse type	5AT, miniature fuse 5x20mm	
Nominal current	6.3 A	
Characteristics	Slow-blow	
Connection type: DC feed	GST15i2 male connector, 2-pole, light blue, (1 = + / 2 = -)	
Rated voltage	5 to 24 VDC	
Rated current	6 A	

Output

Number	2 shutter outputs for connecting DC motors (pole reversal) without automatic drive time detection
Switch element	Monostable relay
Connection type	GST15i2 female connection, 2-pole, light blue KNX UP telegram at the connection contact 1 = + / 2 = - KNX DOWN telegram at the connection contact 1 = - / 2 = +
Rated voltage	5 to 24 VDC (from the DC shutter voltage connection)
Rated current	3 A
Short circuit strength	Not short-circuit proof

Minimum load	0.5 W	
Switching power/service life	3 A DC ohmic load	1 × 105 Switching cycles
	3 A DC L/R = 7 ms	5 × 104 Switching cycles
	3 A DC L/R = 15 ms	3 × 104 Switching cycles

Info:
In the switched-off state, motor winding is short-circuited and connected to the "-" potential. Only motors with end position switches may be connected. This means that the switch-off in the end position must take place independently by means of the connected motor or drive.

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Contact opening of relays	µ-Contact

Galvanic isolation

Internal bus / mains	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
DC shutter voltage/mains	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Internal bus / DC shutter voltage	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse

Protective conductor resistance

Approx. 1.8 m© (mains input to mains output, conductor path + plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free, light gray upper piece, black lower piece

Fire resistance (housing)

UL 94 V-2 (passes glow-wire test at 960 °C as per IEC 695-2-1)

Fire load	Approx. 1.7 kWh
Weight	Approx. 270 g
Dimensions	Width: 114 mm in the direction of the DIN rails, 95 mm installed in rows in the group: Length: 149 mm at right angles to DIN rail Height: 44 mm without and about 47 mm with TH 35-7.5 DIN rail
CE marking	In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.7.4 *gesis* FLEX-0/2 W DC F 2x shutter outputs



General description

Product: Functional module

- Designation: DC shutter output, 2-channel
- Type / Item No.: *gesis* FLEX-0/2W DC F 83.020.0637.0 (plug set not included)
  gesis FLEX-0/2W DC FZ 83.020.0637.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The protected shutter output 2x 24 VDC/6 A in the flat surface-mounted housing, mountable on a mounting rail, for decentral installation is managed by the base module. The 24 VDC supply comes from outside and is protected with a 6.3 AT miniature fuse. The comprehensive parameter set allows various automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which can be connected according to IEC 61535, separate automation and installation.

Technical data

Construction type

Housing	*gesis* FLEX 95 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Function description

Extension module for the modular switch system *gesis* FLEX with 2 shutter outputs for controlling and positioning consuming units with 2 movement directions and 24 VDC rated voltage (e.g. roller shutters, skylights, etc.). Depending on the DC voltage connected, drives with 6 V or 12 V operating voltage can also be connected. The module can be connected to a *gesis* FLEX base, feed, or an extension module. The basic module is required for operating the extension module. The outputs of the extension module can be activated via a bus system through the connection to the basic module. The special functions of the module and the type of bus system used (e.g. KNX) depend on the basic module used. **Caution!** In order to connect and disconnect the modules, the mains power source must be switched off at the basic module.

Protection only with

gesis FLEX-0/2WF	83.020.0637.0
gesis FLEX-0/2WF Z	83.020.0637.1

The 24 V input is protected separately using a 5 × 20 mm device protection fuse (miniature fuse) with the rated value 6.3 Amps and slow-blow characteristics. If triggered, this fuse may only be replaced with a fuse with the same technical data.

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Module state Error (red flashing) is displayed without activation.

Function of manual operation

"Select" button	Brief press:	Selects an output.
	Long pressing > 3 s:	Ends the display and manual operation.
	Long pressing > 30 s:	Deletes all saved drive times.
▲ (up) button	Brief press:	Stops an active movement or executes a louver movement toward the top.
	Long pressing:	Starts a drive up.
▼ (down) button	Brief press:	Stops an active movement or executes a louver movement toward the bottom.
	Long pressing:	Starts a drive down.

Status indicator function

LED 'status'	Green:	Module state OK, no errors
	Red flashing:	Module state error will always be displayed (configuration errors, communication errors)
▲ (up) "1" and "2" LED		State display 1 to 2 (green = drive up) Flashing or superimposed flashing indicates the selected output.
▼ (down) "1" and "2" LED		State display output 1 to 2 (green = drive down) Flashing or superimposed flashing indicates the selected output.

Ending the state display and manual operation
By a long pressing of the "Select" button (> 3 sec, < 30 sec) or if no button was pressed for 10 minutes.

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The but is routed through the module to the output of the internal bus, to which the additional *gesis* FLEX extension or feed modules can be connected. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 10.5 mA eff. (LEDs OFF) / approx. 14.5 mA eff. (LED state ON)
Current consumption when moving	Approx. 50.5 mA eff. (LEDs OFF) / approx. 58.5 mA eff. (LEDs ON)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX expansion or feed modules can be connected. The mains voltage is not used within the module.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A
Internal power consumption	None (the main power supply is not used in this module)

DC shutter voltage connection

External DC low voltage must be connected to supply the two shutter outputs.

Protection	*gesis* FLEX-0/2W DC F	83.020.063470
Only for	*gesis* FLEX-0/2W DC F Z	83.020.0637.1
Fuse type	5AT, miniature fuse 5x20 mm	
Nominal current	6.3 A	
Characteristics	Slow-blow	
Connection type: DC feed	GST15i2 male connector, 2-pole, light blue, (1 = + / 2 = -)	
Rated voltage	5 to 24 VDC	
Rated current	6 A	

Output

Number	2 shutter outputs for connecting DC motors (pole reversal) without automatic drive time detection
Switch element	Monostable relay
Connection type	GST15i2 female connection, 2-pole, light blue KNX UP telegram at the connection contact 1 = + / 2 = - KNX DOWN telegram at the connection contact 1 = - / 2 = +
Rated voltage	5 to 24 VDC (from the DC shutter voltage connection)
Rated current	3 A
Short circuit strength	Not short-circuit proof
Minimum load	0.5 W

Switching power/service life	3 A DC ohmic load	1 × 105 Switching cycles
	3 A DC L/R = 7 ms	5 × 104 Switching cycles
	3 A DC L/R = 15 ms	3 × 104 Switching cycles

Info:
In the switched-off state, motor winding is short-circuited and connected to the "-" potential. Only motors with end position switches may be connected. This means that the switch-off in the end position must take place independently by means of the connected motor or drive.

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Contact opening of relays	µContact

Galvanic isolation

Internal bus / mains	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
DC shutter voltage/mains	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Internal bus / DC shutter voltage	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse

Protective conductor resistance

Approx. 1.8 mΩ (mains input to mains output, conductor path + plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 1407 fit (at 40 °C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free, light gray upper piece, black lower piece

Fire resistance (housing)

UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load

Approx. 1.7 kWh

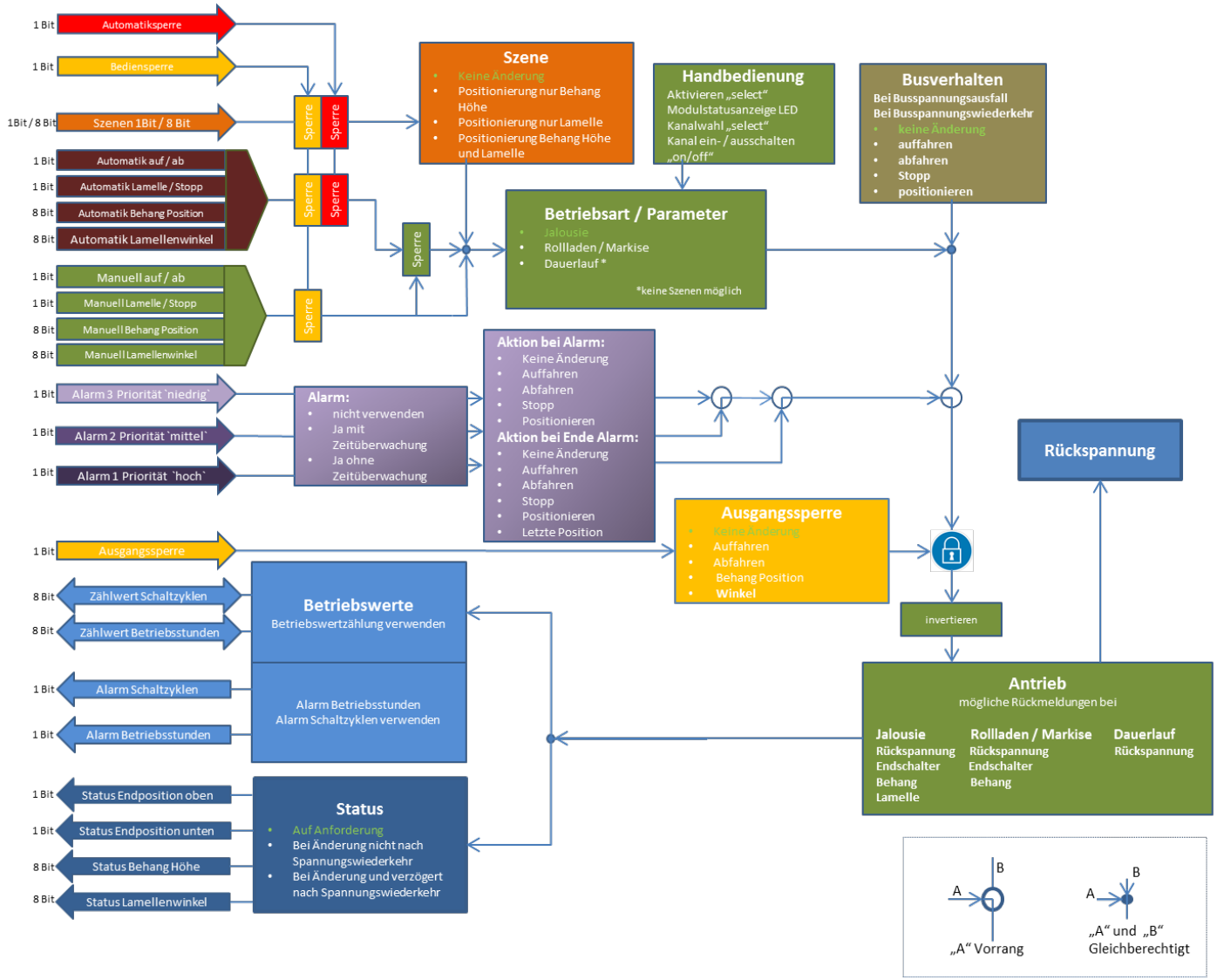
Weight	Approx. 270 g	
Dimensions	Width:	114 mm in the direction of the DIN rails, 95 mm installed in rows in the group:
	Length:	149 mm at right angles to DIN rail
	Height:	44 mm without and about 47 mm with TH 35-7.5 DIN rail
CE marking	In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive	

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.7.5 Application description for sunblind outputs

Flowchart



Communication objects

Info

- The operating modes are set via parameters.
- The object numbers indicated in the tables stand for the first module in the system in each case. Object numbers for modules 1, 2, 3, 4, 5, and 6 are specified as follows: Object No. extension module 1 (EM 1) = Obj. No. table (see table) Obj. No. EM 2 = Obj. No.$_{Table}$ + 100 Object No. EM 3 = Object No.$_{Table}$ + 200 Object No. EM 4 = Object No.$_{Table}$ + 300 Object No. EM 5 = Object No.$_{Table}$ + 400 Object No. EM 6 = Object No.$_{Table}$ + 500 example: Object number 2 on extension module 1 (EM1) correspondence to object number 202 at extension module 3 (EM3).

Module 1 **Channel 1 + 2** **Obj. No.**		**Function**	**D**ata **P**oint **T**ype **DPT**	**Object**	**Length**	**Flags**				
						K	**L**	**S**	**Ü**	**A**
46*		venetian blind roller blind/Awning	18.001	Retrieve/save scenes 8 bit	1 byte	K	–	S	Ü	–
47*			1.022	Call scenes A/B	1bit	K	–	S	Ü	–
48*			1.022	Call scenes C/D	1bit	K	–	S	Ü	–
49*			1.022	Save scenes A/B	1bit	K	–	S	Ü	–
50*			1.022	Save scenes C/D	1bit	K	–	S	Ü	–

Note: These objects apply to the respective EM and its channels. For the continuous operation function, these objects are not configurable.

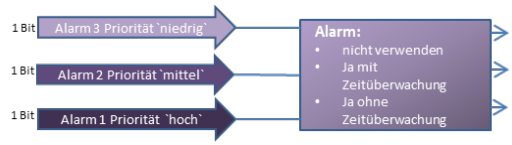
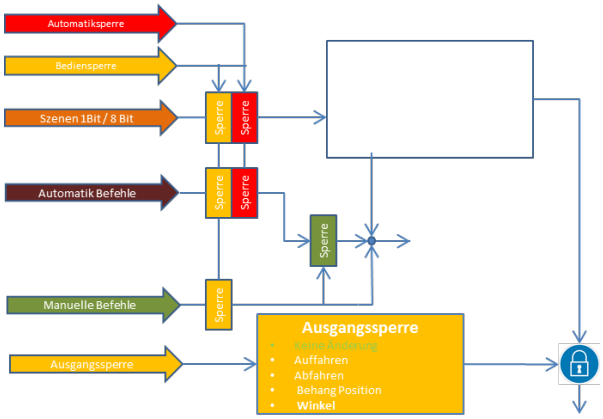
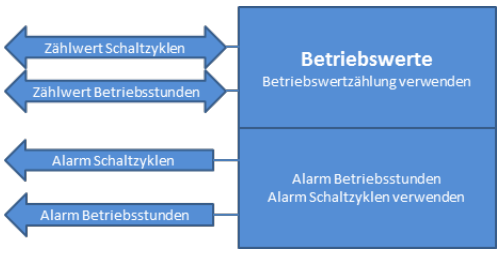
Module 1 **Channel 1** **Channel 2**		**Function**	**DPT**	**Object**	**Length**	**Flags**				
Obj. No.	**Obj. No.**					**K**	**L**	**S**	**Ü**	**A**
2	24	Shutter/Roller blind/Awning, Continuous operation	1.002	operating lock	1bit	K		S		
3	25		1.008	up/down	1bit	K	–	S	–	–
4	26	venetian blind roller blind/Awning Continuous operation	1.007	louver/stop Stop	1bit	K	–	S	–	–
5	27	Shutter/Roller blind/Awning	5.001	shutter/blind height	1 byte	K	–	S	–	–
6	28	venetian blind	5.001	louver angle	1 byte	K	–	S	–	–
7	29	shutter / Roller blind / awning, continuous operation	1.002	automatic lock	1bit	K	–	S	–	–
8	30		1.008	automatic up/down	1bit	K	–	S	–	–
9	31	venetian blind Roller blind/Awning, Continuous operation	1.007	automatic louver/stop Automatic stop	1bit	K	–	S	–	–
10	32	Shutter/Roller blind/Awning	5.001	Automatic position height	1 byte	K	–	S	–	–
11	33	venetian blind	5.001	automatic louver position	1 byte	K	–	S	–	–
12	34	shutter / Roller blind / awning, continuous operation	1.005	Alarm 1	1bit	K	–	S	–	–
13	35		1.005	Alarm 2	1bit	K	–	S	–	–
14	36		1.005	Alarm 3	1bit	K	–	S	–	–
15	37	shutter / Roller blind / awning, continuous operation	1.002	Output lock	1bit	K	–	S	–	–
16	38	Shutter/Roller blind/Awning	5.001	State position height	1 byte	K	L	–	Ü	–
17	39	venetian blind	5.001	state louver angle	1 byte	K	L	–	Ü	–
18	40	Shutter/Roller blind/Awning	1.002	Top end position	1bit	K	L	–	Ü	–
19	41		1.002	Lower end position	1bit	K	L	–	Ü	–
20	42	shutter / Roller blind / awning, continuous operation	7.001	switch cycles count value	2 byte	K	L	–	–	–
21	43		1.005	alarm switch cycles	1bit	K	L	–	Ü	–
22	44		7.007	operating hours count value	2 byte	K	L	–	–	–
23	45		1.005	alarm operating hours	1bit	K	L	–	Ü	–

Parameter description

Overview

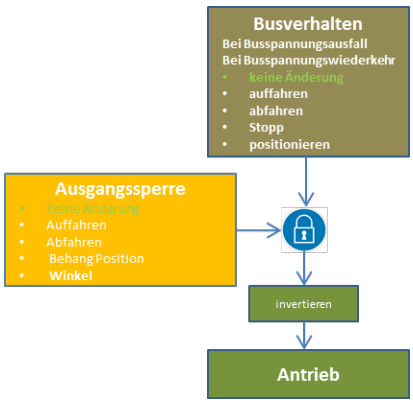
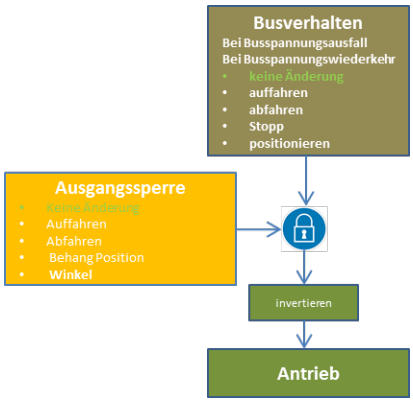
Basic settings (channel 1 to 2) 143
Shutter mode 144
Venetian blind 144
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Basic settings (channel 1 to 2)

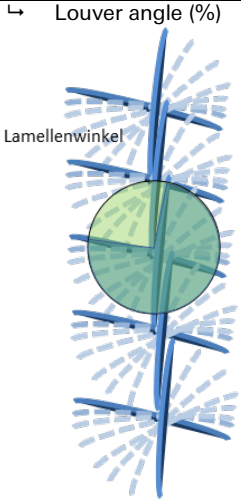
Parameter	Description
Mode	• **venetian blind** • **Roller blind/Awning** • **Continuous operation** This parameter is used to set an operating mode according to the drive connected at the output. This can involve shutters/blinds with or without limit switches, ventilation flaps, or other motorized drives.
Use Alarms 	Default: ☐(no) This shutter actuator enables up to 3 different alarms to be parameterized with different priorities. Thus, it is possible to prioritize wind, rain, or sun alarms and evaluate them accordingly. If the operator wishes to use alarms accordingly, they must be activated here.
Use Automatic 	Default: ☐(no) If this function is activated, parameters for automatic control of shutters/blinds will appear. All functions such as move/stop commands and positioning can be configured.
Use Locks 	Default: ☐(no) The Use locks function activates 3 possible lock functions, which are adjustable as output/control/and automatic lock selectively for each channel. An additionally adjustable option is the locking of automatic commands by a manual command. This makes it possible to decouple individual rooms from the automatic control.
Use operating values counting 	Default: ☐(no) If the Use operating values counting function is selected in basic functions, additional parameters will be shown to enable the evaluation of operating hours and switching cycles. It is also possible to generate and send alarms to the bus according to the settings.
Use State 	Default: ☐(no) When this function is activated, the current state of the position of the shutters/blinds can be read according to the parameterization. The way in which the state will be indicated can be configured.

Shutter mode

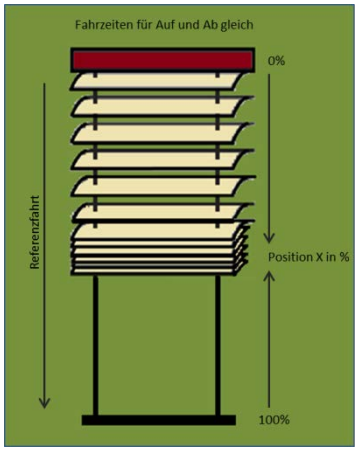
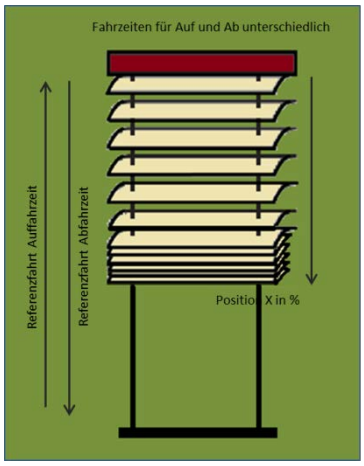
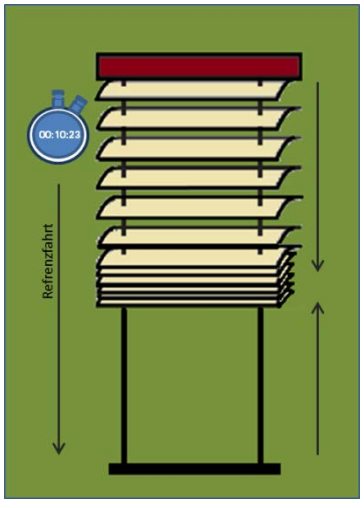
Venetian blind

Parameter	Description
Behaviour on bus voltage failure 	• **No Change** With this setting, behavior on bus voltage failure is defined. "No change" is set by default. In the event of bus voltage failure, the last command will be processed. If the shutter output is positioned, the shutters/blinds will remain in their current position. • **Drive up** If a bus voltage failure is detected, the shutters/blinds will move to the upper end position. • **Drive down** If a bus voltage failure is detected, the shutters/blinds will move to the lower end position. • **Stop** If a bus voltage failure is detected, the current travel movement will be immediately canceled. The shutters/blinds will remain in their current position. • **Positioning** In the event of bus voltage recovery, this function makes it possible to move to a definable shutter height or, for shutters, to move to a configurable louver angle. **Please note!** A set output lock will suppress these functions.
↳ Position height (%)	Default: **0** The position entered here for shutter height is used for positioning in the event of bus voltage failure. The default setting moves the shutters to the upper end position
↳ Louver angle (%)	Default: **0** The position entered here for louver setting is used for positioning in the event of bus voltage failure. The louver opening angle depends on the type and is only configurable in shutter mode.
Behaviour on bus voltage recovery 	• **No Change** With this setting, behavior on bus voltage recovery is defined. "No change" is set by default. With bus voltage recovery, the shutters/blinds will initially remain in their current position until there is a corresponding command received at the control for the shutters. • **Drive up** If bus voltage recovery is detected, the shutters/blinds will move to the upper end position. • **Drive down** If bus voltage recovery is detected, the shutters/blinds will move to the lower end position. • **Stop** If bus voltage recovery is detected, a pending travel movement is stopped immediately. The shutters/blinds will remain in their current position. • **Positioning** In the event of bus voltage recovery, this function makes it possible to move to a definable shutter height or, for shutters, to move to a configurable louver angle. **Please note!** A set output lock will suppress these functions.
↳ Shutter/blind height (%) 	Default: **0** The position entered here for shutter height is used for positioning in the event of bus voltage recovery. In the default setting, the shutters move to the upper end position

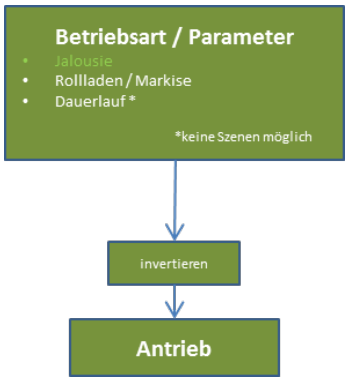
Venetian blind

Parameter	Description
↳ Louver angle (%)  	Default: **0** The position entered here for louver setting is used for positioning in the event of bus voltage recovery. The louver opening angle for shutters depends on the type and is only configurable in shutter mode.

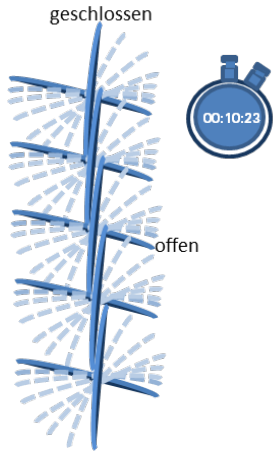
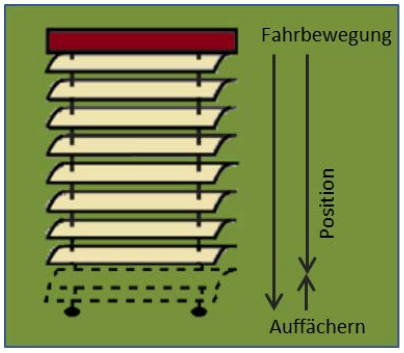
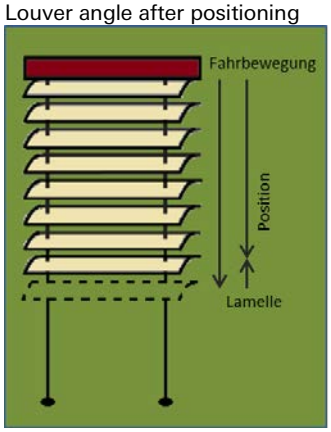
Venetian blind

Parameter	Description
Drive time determination    	• **Automatically (limit switch), driving time up and down equal** With DC drives or drives without reverse voltage, this parameter is not applicable. Limit switch detection and drive time determination are not possible in this case. The result will be an error function. Typical error pattern: With a DC drive or a drive without reverse voltage, the drive will switch back off about 2 s after the move command due to missing reverse voltage. • **Automatically (limit switch), driving time up and down different** With DC drives or drives without reverse voltage, this parameter is not applicable. Limit switch detection and drive time determination are not possible in this case. The result will be an error function. Typical error pattern: If this parameter was still configured with a DC drive or a drive without reverse voltage, the drive will switch off about 2 s after the move command due to missing reverse voltage. • **By stopwatch, up and down time equal** The drive time can also be determined by stopwatch and thus entered as a value in the ETS and transferred to the unit when the parameters are downloaded. With on-site operation at the unit, it is easy to move the previously installed shutters from one end position to the other so as to then determine the required drive time with a stopwatch. In order to ensure that the end positions can still be reached even after years of service despite mechanical aging, a corrective factor for the move-up and move-down time can be added to the values and be programmed via parameters. The time does not have to be re-determined when the shutter modules are replaced. The parameter transfer by the base module (long pressing > 3 s of the "Config" button) also transfers the previously configured times. • **By stopwatch, up and down time different** Contrary to the previously described "by stopwatch, up and down time equal" function, this function makes it possible to configure 2 different drive times. This function is useful for drives having a drive time for drive up that deviates greatly from the drive time for drive down. The procedure for determining the drive times should be done for each direction separately in the same manner as previously described and stored accordingly as a parameter value in the ETS.

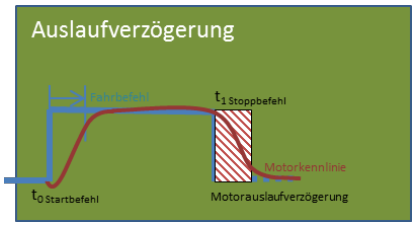
Venetian blind

Parameter	Description
↳ Maximum drive time 	Default: **00:06:00** hh:mm:ss This parameterization is particularly for th Shutter, Roller blind/Awning modes and the "Automatic drive time determination" function. The runtime for the entire travel path of the shutters is entered. In the event of an error, this setting means that if the limit switch is not reached, the drive will be stopped after the maximum drive time is reached. The maximum drive time must be set such that it will not result in any conflict with the runtimes determined in normal operation. The maximum drive time should be somewhat greater than the determined drive time in order to ensure that the corresponding end positions are reached in normal operation. This entry is not possible for the "Continuous operation" operating mode.
↳ Drive time 	Default**:** **00:05:00** hh:mm:ss This parameterization is particularly for the Shutter, Roller blind/Awning modes and the "Determine drive time by stopwatch" function. The drive time is the time that the shutters require in order to travel the complete travel path in one direction, from all the way open to all the way closed. This time is determined by stopwatch and the corresponding value is stored in the ETS in the format hh:mm:ss.
↳ Drive time down [top -> bottom] 	Default: **00:05:00** hh:mm:ss With various drives, it is possible for the drive time to be dependent on the direction of rotation. In this case, the time for drive down can be configured with this parameter. This time is determined by stopwatch and the corresponding value is stored in the ETS in the format hh:mm:ss.
↳ Drive time up [bottom -> top] 	Default: **00:05:30** hh:mm:ss With various drives, it is possible for the drive time to be dependent on the direction of rotation. In this case, the time for drive up can be configured with this parameter. This time is determined by stopwatch and the corresponding value is stored in the ETS in the format hh:mm:ss.
↳ Down drive time extend (%) 	Default: **0%** A change in the drive times (move-downtime) is possible due to environmental influences and due to aging of the drives on shutters, roller blinds and awnings. In order to counteract these influences, it is possible to extend the times determined by stopwatch as a percent. The information provided by the shutter or drive manufacturer must be noted however.
↳ Up drive time extend (%) 	Default: **10%** A change in the drive times (move-downtime) is possible due to environmental influences and due to aging of the drives on shutters, roller blinds and awnings. In order to counteract these influences, it is possible to extend the times determined by stopwatch as a percent. The information provided by the shutter or drive manufacturer must be noted however.
Invert direction 	Default: ☐ **(no)** This parameter makes it possible to reverse the rotational direction of a drive via the software. The assignment for up and down movements at the output is reversed. The designations of the symbols for up and down movement at the unit will thus no longer correspond to the actual behavior of the shutters. The activation of this setting is only recommended if a change in the wiring is not possible.

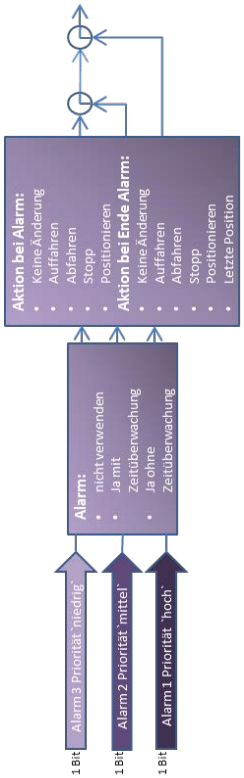
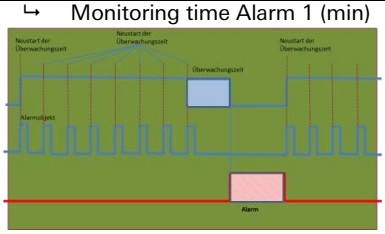
Venetian blind

Parameter	Description
No. of louver steps from opened to closed	Default: **8** This parameter makes it possible to subdivide the total adjustment time of the louver movement from open to closed into individual louver increments in shutter operating mode. The steps can be entered in a value range from 1 to 50. The total adjustment time is subdivided according to the number of steps.
Louver adjustment time from opened to closed (ms) 	Default: **1000** In order to achieve the most exact louver control, the total adjustment time of the louvers is determined via stopwatch. The value determined thusly is to be entered in a value range from 0 to 60,000 ms (60 seconds) as a value for the parameter. This time is divided into equal units of time according to the louver steps. If all of the louver steps are activated, the louver has completed the complete path from open to closed or from closed to open.
Unfold time in lower end position (ms) 	Default: **0** With the comfort setting "Unfold louvers bottom", the typically closed louvers are opened by a definable short move-up movement and unfolded according to a move command or a positioning to 100%. Exception: After a lock and for alarms with the parameterization drive down or positioning 100 %, the louvers are no longer unfolded after the travel movement to 100 % is complete.
Louver angle after positioning 	• **Only stop** Upon reaching the position through the specification of a position run, the travel movement is stopped without additional travel movement in order to position the louvers. The position of the louvers is specified by the construction of the shutters. Depending on the construction of the shutters, the position and the rotational angle of the louvers will also change in most cases when a shutter moves. • **Previous angle** Depending on the construction of a blind, the rotational angle also changes in most cases when a shutter moves. This function ensure that the louver angle again assumes the previous angle after a position command.

Venetian blind

Parameter	Description
Pause on reverse (ms)	Default: **900** In order to protect the drives and the switch elements, there must be a pause on reverse with each change in the rotational direction. The pause on reverse can be set for a time between 0 and 60,000 ms. **Caution!** A pause on reverse that is set too short can cause damage to the drive or to actuator. When configuring the pause on reverse for the drive, the manufacturer's specifications must always be complied with.
Start-up delay (ms) 	Default: **0** With the input of a correction time for the startup delay caused by the drive, shutters/blinds can be positioned with even greater accuracy. **Caution!** An input for the startup delay also has an effect on the louver adjustment time. The louver adjustment time must always be greater than the startup delay. Normally, the basic settings of these parameters are quite sufficient for proper operation. The information provided by the drive manufacturer must be noted however. Incorrect setting of the startup delay can lead to comfort losses.
Run-out delay 	Default: **0** With the input of a correction time for the run-out (post-run) delay caused by the drive, shutters/blinds can be positioned with even greater accuracy. **Caution!** An input for the run-out delay also has an effect on the louver adjustment time. Normally, the basic settings of these parameters are quite sufficient for proper operation. The information provided by the drive manufacturer must be noted however. Incorrect setting of the run-out delay can lead to comfort losses.

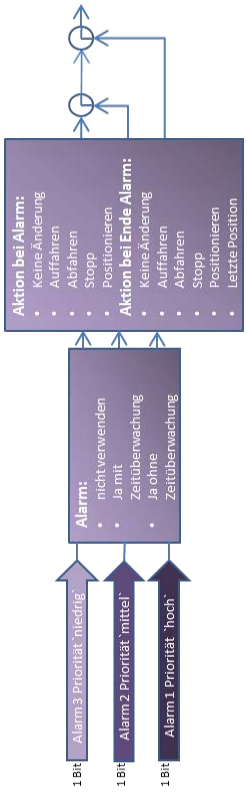
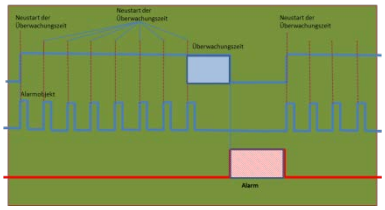
Shutter alarms

Parameter	Description
Use Alarm 1 (highest priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with highest priority is not used for this channel. • **Yes, without time monitoring** The alarm 1 object is connected to a sensor that provides static information. In this case, alarm 1 is parameterized without time monitoring. If the alarm object receives a "1" for alarm 1, this alarm becomes active. The shutters/blinds will be moved according to their parameterization. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 1. Otherwise, the next priority and alarm stage are activated. • **Yes, with time monitoring** If a sensor is connected to the alarm 1 object that sends a cyclical signal, it is important to configure "Alarm 1 with time monitoring." It is important that the time for monitoring be greater than the repeat frequency from the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited.
↳ Monitoring time Alarm 1 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Please note!** In order to ensure error free function of alarm monitoring, it is important that the time set for this is longer than the cyclic transmit time of the alarm generator. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.
↳ Action at Alarm 1	• **No change** Each alarm causes a defined action. With "No change," a previously occurring move command is executed to completion or a previously approached position is retained. The alarm has no effect on the output of the shutters. • **Drive up** If alarm 1 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the upper end position according to the parameterization. • **Drive down** If alarm 1 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the lower end position according to the parameterization. Unfolding for the configured end position does not take place. • **Stop** If the "Alarm 1 stop" parameter is activated during a shutter movement, the currently running function will be stopped immediately. The current position is retained for the duration of the alarm. • **Positioning** With this parameterization, the shutters/blinds are moved to a position configured for this event. For Shutters, the height of the shutters/blinds and the position of the louvers can be determined.
↳ Position height (%)	Default: **0** With this parameterization, the shutters are moved to a defined shutter height by the actuator when "Position Alarm 1" is activated.

Shutter alarms

Parameter	Description
↳ Louver angle (%)	Default: **0** With this parameterization, the actuator adjusts to a defined louver angle for the particular shutters when "Position Alarm 1" is activated.
↳ Action at end of Alarm 1	• **No change** If a previously set Alarm 1" (highest priority) is rescinded, no further action is executed. The shutters/blinds will dwell in the current position until a new travel or position comment is set for the corresponding channel. **Exception**: If another alarm has already been set at this time, the action at the start of the corresponding alarm will be executed according to the hierarchy. • **Drive up** If a previously set "Alarm 1" is finished and no additional alarm is set, the shutters/blinds will be moved to the upper end position. If another alarm has already been set, the function for the occurrence of the next-lower priority will be executed. • **Drive down** If a previously set "Alarm 1" is finished and no additional alarm is set, the shutters/blinds will be moved to the lower end position. If, however, another alarm has been set, the function for the occurrence of the next-lower priority will be executed. • **Stop** If "Alarm 1" is finished and the shutters/blinds are still in a travel movement, it will be stopped immediately. This requires that no additional alarm be set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. • **Position** A definable position of the louvers and of the shutters/blinds is approached, even with the cancellation of the alarm, if no further alarm is set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. • **Go to last position** This function is used to go to the last position set before the alarm when alarm 1 is rescinded. If an additional alarm is set, the behavior with alarm from the next-lower alarm (priority medium or low) is executed, but depending on the priority.
↳ Position height (%)	Default: **0** With this parameter, the position of the shutter/blind height is set with the exiting of alarm 1. With the minimum value of 0%, the shutters/blinds will move to the upper end position, while with the maximum value of 100% they will move to the lower end position.
↳ Louver angle (%)	Default: **0** With this parameter, the position of the louvers is set with the exiting of alarm 1. The positioning of the louvers depends on the respective shutter types. Depending on the type, rotation can go from completely open to completely closed in a range from 0° to 90° or by 180°. The data must be obtained from the shutter manufacturer.

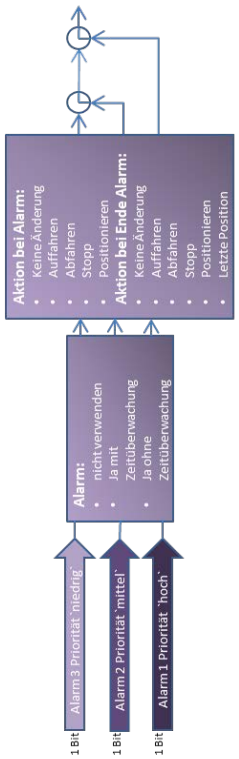
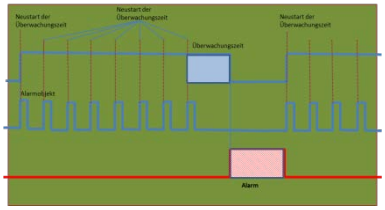
Shutter alarms

Parameter	Description
Use Alarm 2 (medium priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with medium priority will not be used for this shutter output. • **Yes, without time monitoring** The alarm 2 object is connected to a sensor that provides static information. In this case, alarm 2 is parameterized without time monitoring. If the alarm object receives a "1" for alarm 2, this alarm becomes active. If an alarm with a higher priority is set, no change is executed. If no alarm with higher priority is set, the shutters/blinds move according to their parameterization. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 2. Otherwise, the next-lower priority and alarm stage are activated. Exception: A higher priority was set during entrance and exit of alarm 2. In this case, no change would be defined on the shutters/blinds even though alarm 2 was set. • **Yes, with time monitoring** If a sensor is connected to the alarm 2 object that sends a cyclical signal, it is important to configure "Alarm 2 with time monitoring." It is important that the time for monitoring be greater than the repeat frequency from the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited. Exception: A higher priority was set during entrance and exit of alarm 2. In this case, no change would be defined on the shutters/blinds even though alarm 2 was set.
↳ Monitoring time Alarm 2 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Attention!** In order to ensure error-free function of alarm monitoring, it is important that the time set for this be greater than the cyclical transmit time of the sensor. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.
↳ Action at Alarm 2	• **No change** Each alarm causes a defined action. With "No change," a previously occurring move command is executed to completion or a previously approached position is retained. The alarm effects no change in the chronological sequences or change in position at the output of the shutters. • **Drive up** If alarm 2 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the upper end position according to the parameterization, if no alarm with higher priority is set. • **Drive down** If alarm 2 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the lower end position according to the parameterization, if no alarm with higher priority is set. Unfolding for the configured end position does not take place. • **Stop** If the "Alarm 2 stop" parameter is activated during a shutter movement and no alarm with higher priority is set, the currently running function will be stopped immediately. The current position is retained for the duration of the alarm. • **Positioning** With this parameterization, the shutters/blinds are moved to a position configured for this event, if no alarm with higher priority is set. For Shutters, the height of the shutters/blinds and the position of the louvers can be determined.

Shutter alarms

Parameter	Description
↳ Position height (%)	Default: **0** With this parameterization, the shutters are moved to a defined shutter height by the actuator when "Position Alarm 2" is activated.
↳ Louver angle (%)	Default: **0** With this parameterization, the actuator adjusts to a defined louver angle for the particular shutters when "Position Alarm 2" is activated.
↳ Action at end of Alarm 2	• **No change** If a previously set Alarm 2" (medium priority) is rescinded, no further action is executed. The shutters/blinds will dwell in the current position until a new travel or position comment is set for the corresponding channel. **Exception**: If "Alarm 3" has already been set at this time, its function is executed according to the action at the start of the alarm according to the hierarchy. • **Drive up** If a previously set "Alarm 2" is finished and no additional alarm is set, the shutters/blinds will be moved to the upper end position. If another alarm has been set, the function will be executed for the occurrence of the next-lower priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters. • **Drive down** If a previously set "Alarm 2" is finished and no additional alarm is set, the shutters/blinds will be moved to the lower end position. If, however, another alarm has been set, the function for the occurrence of the next-lower priority will be executed. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters. • **Stop** If "Alarm 2" is finished and the shutters/blinds are still in a travel movement, it will be stopped immediately. This requires that no additional alarm be set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters. • **Position** This parameter is used to approach a definable position of the louvers and of the shutters/blinds with the cancellation of the alarm, if no further alarm is set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters. • **Go to last position** This function is used to go to the last position set before the alarm when alarm 2 is rescinded. If an additional alarm is set, the behavior with alarm from the next-lower alarm (priority low) is executed, but depending on the priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters.
↳ Position height (%)	Default: **0** With this parameter, the position of the shutter/blind height is set with the exiting of alarm 2. With the minimum value of 0%, the shutters/blinds will move to the upper end position, while with the maximum value of 100% they will move to the lower end position.
↳ Louver angle (%)	Default: **0** With this parameter, the position of the louvers is set with the exiting of alarm 2. The positioning of the louvers depends on the respective shutter types. Depending on the type, rotation can go from completely open to completely closed in a range from 0° to 90° or by 180°. The data must be obtained from the shutter manufacturer.

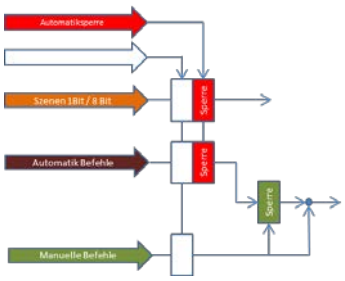
Shutter alarms

Parameter	Description
Use Alarm 3 (lowest priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with lowest priority is not used for this shutter output in this case. • **Yes, without time monitoring** If the "Alarm 3" object is connected to a sensor that provides static information, alarm 3 is parameterized accordingly without time monitoring. If the alarm object receives a "1" for alarm 3, it becomes active. If an alarm with a higher priority is set, no change is initially executed. If no alarm with higher priority is set, the shutters/blinds move according to their parameterization for alarm 3. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 3. Exception: A higher priority was set during entrance and exit of alarm 3. In this case, no change would be defined at the output or shutters/blinds. • **Yes, with time monitoring** If a sensor is connected to the alarm 3 object that sends a cyclical signal, it is important to configure "Alarm 3 with time monitoring." It is important that the time for monitoring be greater than the time in which a signal is transmitted by the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited. Exception: A higher priority was set during entrance and exit of alarm 3. In this case, no change would be defined on the shutters/blinds even though alarm 3 was set.
↳ Monitoring time Alarm 3 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Caution!** In order to ensure error-free function of alarm monitoring, it is important that the time set for this be greater than the cyclical transmit time of the sensor. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.
↳ Action at Alarm 3	• **No change** Each alarm causes a definable action. With "No change," a previously occurring move command is executed to completion or a previously approached position is retained. The alarm effects no change in the chronological sequences or change in position at the output of the shutters. • **Drive up** If alarm 3 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the upper end position according to the parameterization, if no alarm with higher priority is set. • **Drive down** If alarm 3 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the lower end position according to the parameterization, if no alarm with higher priority is set. Unfolding for the configured end position does not take place however. • **Stop** If the "Alarm 3 stop" parameter is activated during a shutter movement and no alarm with higher priority is set, the currently running function will be stopped immediately. The current position is retained for the duration of the alarm. If an alarm with higher priority is active, movement is made according to its parameterization. • **Positioning** With this parameterization, the shutters/blinds are moved to a position configured for this event, if no alarm with higher priority is set. For shutters, not only the height of the shutters/blinds but also the position of the louvers can be determined.

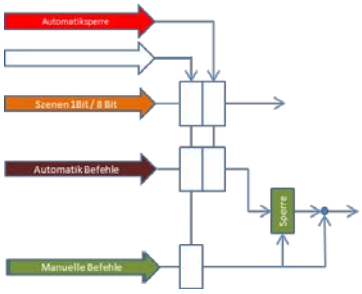
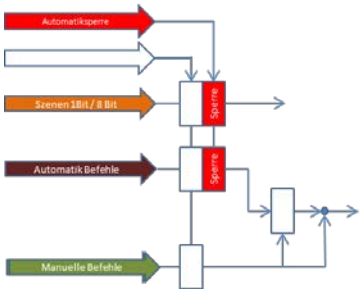
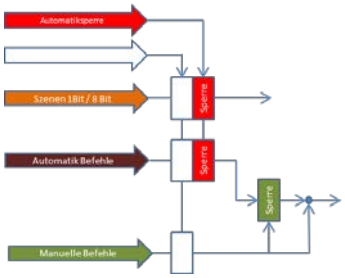
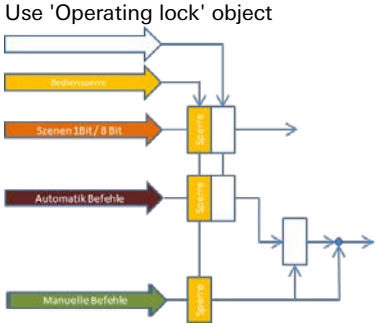
Shutter alarms

Parameter	Description
↳ Position height (%)	Default: **0** With this parameterization, the shutters are moved to a defined shutter height by the actuator when "Position Alarm 3" is activated.
↳ Louver angle (%)	Default: **0** With this parameterization, the actuator adjusts to a defined louver angle for the particular shutters when "Position Alarm 3" is activated.
↳ Action at end of Alarm 3	• **No change** If a previously set Alarm 3" (lowest priority) is rescinded, no further action is executed. The shutters/blinds will dwell in the current position until a new travel or position comment is set for the corresponding channel. • **Drive up** If a previously set "Alarm 3" is finished and no additional alarm is set, the shutters/blinds will be moved to the upper end position. If an additional alarm is set, the ending of alarm 3 will have no effect on the output of the shutters. • **Drive down** If a previously set "Alarm 3" is finished and no additional alarm is set, the shutters/blinds will be moved to the lower end position. If, however, an additional alarm is set, the ending of alarm 3 will have no effect on the output of the shutters. • **Stop** If "Alarm 3" is finished and the shutters/blinds are still in a travel movement, it will be stopped immediately. This requires that no additional alarm be set. If an additional alarm is set, the ending of alarm 3 will have no effect on the output of the shutters. • **Position** This parameter is used to approach a definable position of the louvers and of the shutters/blinds with the cancellation of the alarm, if no further alarm is set. If an additional alarm is set, the ending of alarm 3 will have no effect on the output of the shutters. • **Go to last position** This function is used to go to the last position set before the alarm when alarm 2 is rescinded. If an additional alarm is set, the ending of alarm 3 will have no effect on the output of the shutters.
↳ Position height (%)	Default: **0** With this parameter, the position of the shutter/blind height is set with the exiting of alarm 3. With the minimum value of 0%, the shutters/blinds will move to the upper end position, while with the maximum value of 100% they will move to the lower end position.
↳ Louver angle (%)	Default: **0** With this parameter, the position of the louvers is set with the exiting of alarm 3. The positioning of the louvers depends on the respective shutter types. Depending on the type, rotation can go from completely open to completely closed in a range from 0° to 90° or by 180°. The data must be obtained from the shutter manufacturer.

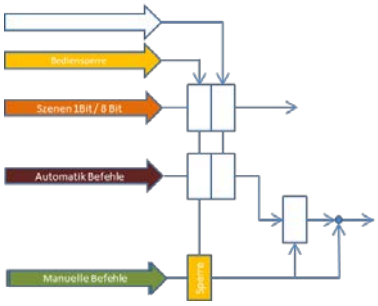
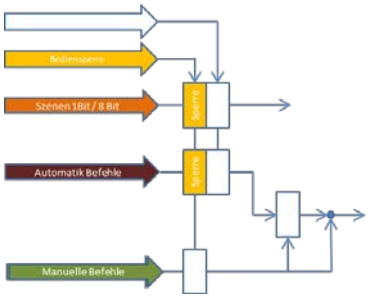
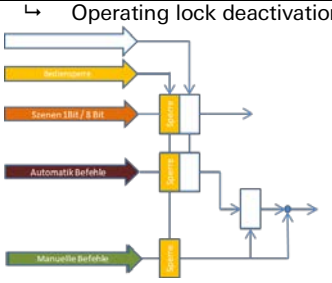
Lock shutters (channel 1 to 2)

Parameter	Description
Use 'Output lock' object 	Default: ☐ (no) The output lock acts directly on the relay output. The on-site operation or the parameterization for bus failure and bus restore as well as all manual control options such as "Manual up/down", "Manual louver/stop", "Manual shutter/blind position height" and "Manual louver angle position", or all automatic commands such as "Automatic up/down", "Automatic louver/stop", "Automatic shutter/blind position height", and "Automatic louver position" but also scenes and alarm have no effect on the locked output. A change at the output cannot be executed until after the output lock has been canceled.
↳ Output lock behaviour	• **No change** With activation of the output lock, the switch state active at this time is frozen for the duration of the output lock. If the output lock is set, the state of the output cannot be executed through manual or automatic control or through an alarm. The output is locked for any type of operation. • **Drive up** If the output lock is set, the current process is canceled and the shutters are moved to the upper end position, regardless of the current operation. After the end position is reached and for the duration of the output lock, this channel cannot be influenced by manual or automatic control or by an alarm. • **Drive down** If the output lock is set, the current process is canceled and the shutters are moved to the lower end position, regardless of the current operation. After the end position is reached and for the duration of the output lock, this channel cannot be influenced by manual or automatic control or by an alarm. • **Stop** A function pending at the time of the activated output lock will be canceled immediately and the current position retained. Such type of configured channel cannot be influenced by manual or by automatic control or an alarm for the duration for the output lock. • **Position** A function present at the time of the activated output lock will be canceled immediately and the freely configurable positions approached for shutter/blind height and louver and retained for the duration of the output lock. Such type of configured channel cannot be influenced by manual or by automatic control or an alarm for the duration for the output lock.
↳ Position height (%)	Default: 0 With this parameterization, the shutters are moved to a defined shutter height by the actuator when the "Position output lock" function is activated.
↳ Louver angle (%)	Default: 0 With this parameterization, the actuator adjusts to a defined louver position for the particular shutters when "Position output lock" function activated.
Use 'Automatic lock' object 	Default: ☐ (no) The activation of this function makes it possible to individually lock all or individually selectable automatic objects for the corresponding shutter output.

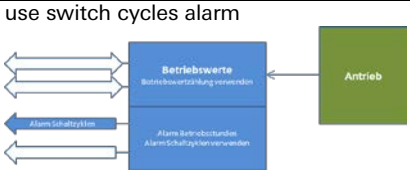
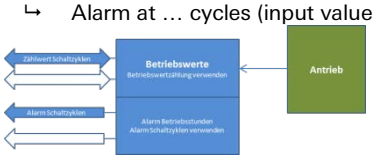
Lock shutters (channel 1 to 2)

Parameter	Description
↳ Automatic lock by manual commands 	Default: ☐ (no) With the activation of this function, the configured automatic mode is locked with a manual actuation of the shutters/blinds. This makes it possible to adjust the individual requirements according to the shutters/blinds. This lock can be deactivated via the automatic lock object or after an adjustable time.
↳ Automatic lock acts on Automatic commands 	Default: ☑ (yes) This function makes it possible to lock automatically running and configured functions. The automatic lock also acts on scenes.
↳ Automatic lock deactivation 	• **Via object "Automatic lock"** The automatic lock can be deactivated via the object of the same name by the receipt of a "0". • **Via object "Automatic lock" and time** The automatic lock can also be deactivated via the object of the same name by the receipt of a "0" and additionally a time that can be configured in a range of 0 seconds to a maximum of 18 hours. • **Via time** If this setting is selected, a set automatic lock is deactivated after a configured time has elapsed.
↳ Release time	Default: **01:00:00** hh:mm:ss The release time is the timeframe, adjustable between 0 seconds and 18 hours, after which a set automatic lock again deactivates.
Use 'Operating lock' object 	Default: ☐ (no) The operating lock can be parameterized such that it acts upon all manual control objects and the automatic objects and the scenes. Only the alarm and output lock input objects cannot be influenced via the operating lock.

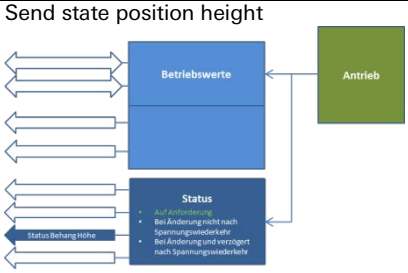
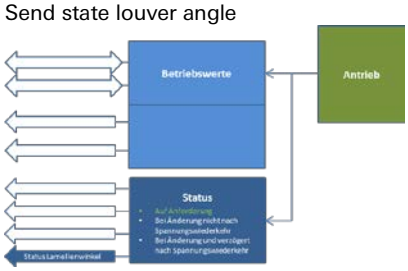
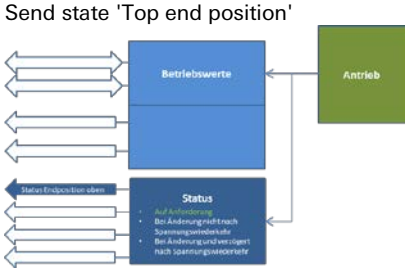
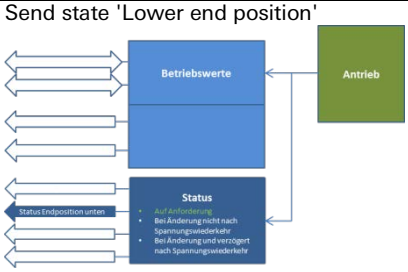
Lock shutters (channel 1 to 2)

Parameter	Description
↳ Operating lock acts on manual commands 	Default: ☑ **(yes)** If this function is activated, an activated operating lock acts upon all manual commands such as "Up/Down", "Louver/Stop", "Shutter height position", and "Louver angle position".
↳ Operating lock acts on Automatic commands 	Default: ☐ **(no)** If this function is activated, an activated operating lock acts upon all manual commands such as "Up/Down", "Louver/Stop", "Shutter height position", "Louver angle position", and scenes.
↳ Operating lock deactivation 	• **Via object "Operating lock"** The operating lock can be deactivated via the object of the same name by the receipt of a "0". • **Via object "Operating lock" and time** The operating lock can also be deactivated via the object of the same name by the receipt of a "0" and additionally a time that can be configured in a range from 0 seconds to a maximum of 18 hours. • **Via time** If this setting is selected, a set operating lock is deactivated after a configured time has elapsed.
↳ Release time	Default: **01:00:00** hh:mm:ss The release time is the timeframe, adjustable between 0 seconds and 18 hours, after which a set operating lock again deactivates.

Shutter operating value alarms

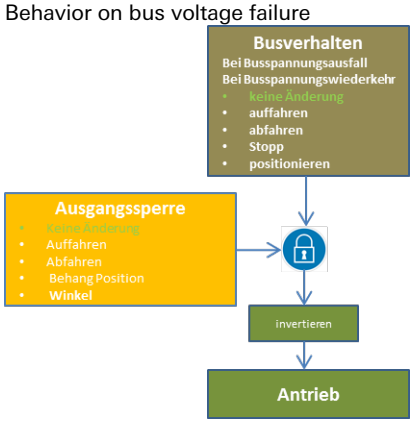
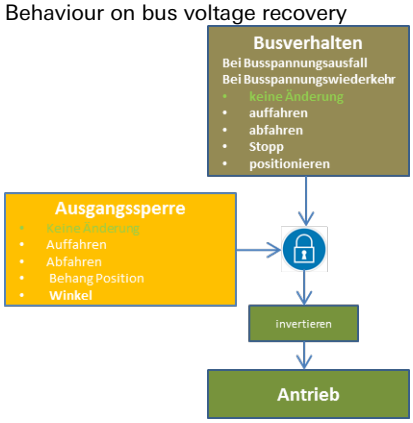
Parameter	Description
use switch cycles alarm 	Default: ☐ (no) If this function is activated, an alarm is sent after a configurable value for "Alarm upon n cycles" when the configured number of switch cycles is reached.
↳ Alarm at … cycles (input value × 10) 	Default: **1000** The value for the alarm upon switch cycles corresponds to the input value multiplied by 10. Thus, the default is set at 10,000 switch cycles. If the number of switch cycles is reached due to switch events, value "1" is sent to the "Alarm switch cycles" object. Inputs in a value range from 0 to 65535 are possible. For service purposes, it is possible to reset the value or to transmit any value via value transfer to this object.
Use operating hours alarm 	Default: ☐ (no) If this function is activated, an alarm is sent to the "Alarm operating hours" object after a configurable value for operating hours when the configured hours are reached.
↳ Alarm at … hours 	Default: **1000** The operating hours to be monitored can be set with this parameter. Inputs in a value range from 0 to 65535 are possible. After the operating hours are reached, a "1" is sent to the "Alarm operating hours" object. For service purposes, it is possible to reset the value or to transmit any value via value transfer to this object.

Shutter state

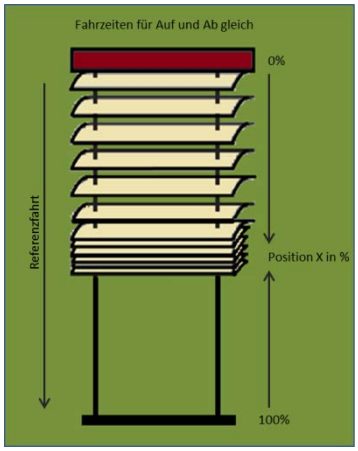
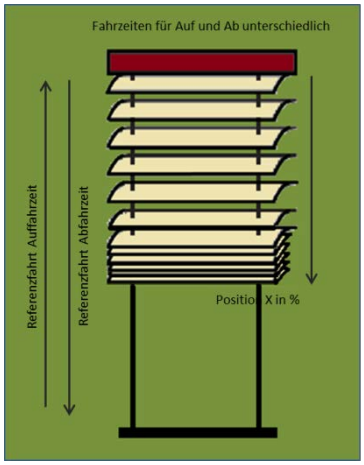
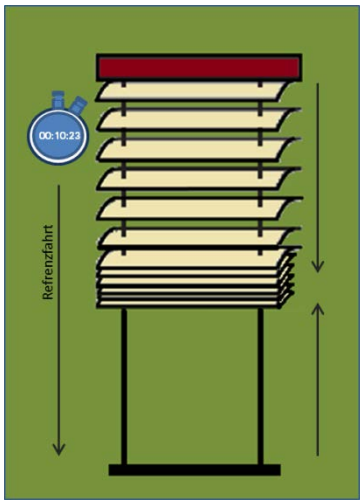
Parameter	Description
Send state position height 	• **On request** The "State position height" object must be read in this setting, on request. • **On change, not on bus voltage recovery** After every change in shutter/blind height, the current state of the shutter/blind height is subsequently sent to the KNX bus. • **On change, and delayed on bus voltage recovery** After every change in shutter/blind height or after bus voltage recovery, the current state of the shutter/blind height is subsequently sent to the KNX bus.
Send state louver angle 	• **On request** The "State louver angle" object must be read in this setting, on request. • **On change, not on bus voltage recovery** After every louver movement, the current state of the louver position is subsequently sent to the KNX bus. • **On change, and delayed on bus voltage recovery** After every change in louver position or after bus voltage recovery, the current state of the louver position is subsequently sent to the KNX bus.
Send state 'Top end position' 	• **On request** The "State top end position" object must be read in this setting or requested. The value "1" stands for end setting top reached. The value "0" indicates that the end position has not been reached. • **On change, not on bus voltage recovery** With each state change of the state with the end position, a telegram is sent to the KNX bus. • **On change and delayed on bus voltage recovery** Upon any state change or bus voltage recovery, the "Upper end position" state is sent to the KNX bus.
Send state 'Lower end position' 	• **On request** The "State lower end position" object must be read in this setting or requested. The value "1" stands for end setting top reached. The value "0" indicates that the end position has not been reached. • **On change, not on bus voltage recovery** With each state change of the state with the end position, a telegram is sent to the KNX bus. • **On change and delayed on bus voltage recovery** Upon any state change or bus voltage recovery, the "Lower end position" state is sent to the KNX bus.

Roller blind/Awning operating mode

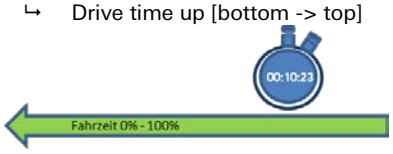
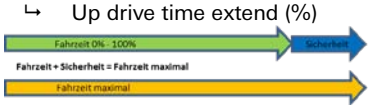
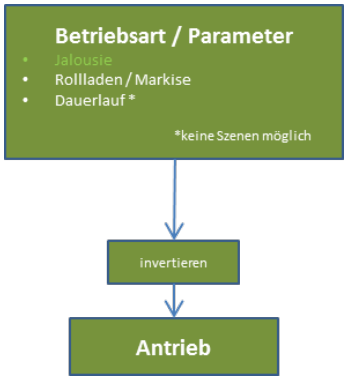
Roller blind/Awning bus behavior

Parameter	Description
Behavior on bus voltage failure 	• **No Change** With this setting, behavior on bus voltage failure is defined. "No change" is set by default. In the event of a bus voltage failure, the shutters/blinds remain in their current position. Any previously started move command is executed to completion. • **Drive up** In the event of bus voltage failure, the shutters/blinds will move to the upper end position. • **Drive down** In the event of bus voltage failure, the shutters/blinds will move to the lower end position. • **Stop** In the event of bus voltage failure, a pending travel movement is stopped immediately. The shutters/blinds will remain in their current position. • **Position** This function makes is possible to approach a definable shutter/blind height in the event of bus voltage failure.
↳ Position height (%)	Default: **0**
Behaviour on bus voltage recovery 	• **No Change** With this setting, behavior on bus voltage recovery is defined. "No change" is set by default. With bus voltage recovery, the shutters/blinds will initially remain in their current position until there is a corresponding command received at the control. • **Drive up** If bus voltage recovery is detected, the shutters/blinds will move to the upper end position. • **Drive down** If bus voltage recovery is detected, the shutters/blinds will move to the lower end position. • **Stop** If bus voltage recovery is detected, a pending travel movement is stopped immediately. The shutters/blinds will remain in their current position. • **Position** This function makes is possible to approach a definable shutter/blind height if bus voltage recovery is detected.
↳ Position height (%) 	Default: **0** With this adjustment option, the shutters/blinds are specified and defined in the event of positioning with bus voltage failure.

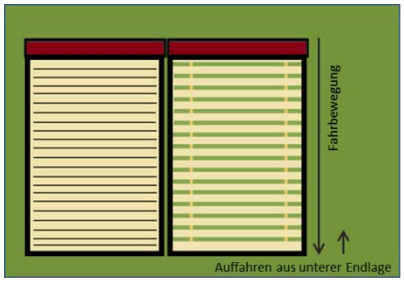
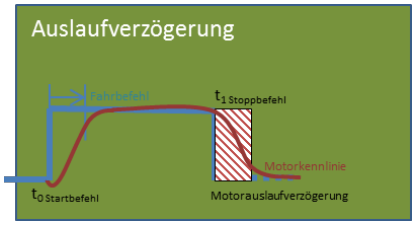
Roller blind/Awning settings

Parameter	Description
Drive time determination   	• **Automatically, driving time up and down equal** For DC drives or drives without reverse voltage, the parameter is automatic limit switch detection and drive time determination without function. Typical error pattern: If this parameter was still configured with a DC drive or a drive without reverse voltage, the drive will switch off about 2 s after the move command due to missing reverse voltage. • **Automatically, driving time up and down different** For DC drives or drives without reverse voltage, the parameter is automatic limit switch detection and drive time determination without function. Typical error pattern: If this parameter was still configured with a DC drive or a drive without reverse voltage, the drive will switch off about 2 s after the move command due to missing reverse voltage. • **By stopwatch, up and down time equal** The drive time can also be determined by stopwatch and thus entered as a value in the ETS and transferred to the unit when the parameters are downloaded. With on-site operation at the unit, it is easy to move the previously installed shutters from one end position to the other so as to then determine the required drive time with a stopwatch. In order to ensure that the end positions can still be reached even after years of service despite mechanical aging, a corrective factor for the move-up and move-down time can be added to the values and be programmed via parameters. The time does not have to be re-determined when the shutter modules are replaced. The parameter transfer by the base module (long pressing > 3 s of the "Config" button) also transfers the previously configured times. • **By stopwatch, up and down time different** Contrary to the previously described "by stopwatch, up and down time equal" function, this function makes it possible to configure 2 different drive times. This function is useful for drives having a drive time for drive up that deviates greatly from the drive time for drive down. The procedure for determining the drive times should be done for each direction separately in the same manner as previously described and stored accordingly as a parameter value in the ETS.

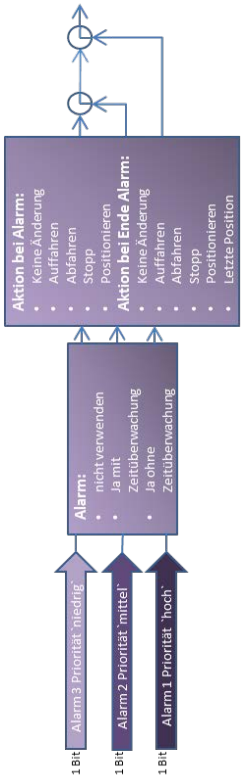
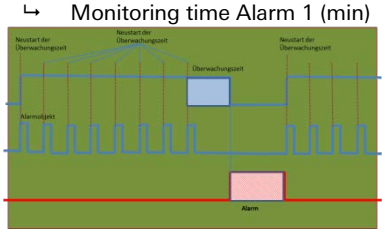
Roller blind/Awning settings

Parameter	Description
↳ Maximum drive time 	Default: **00:06:00** hh:mm:ss This parameterization is particularly for th Shutter, Roller blind/Awning modes and the "Automatic drive time determination" function. The runtime for the entire travel path of the shutters is entered. In the event of an error, this setting means that if the limit switch is not reached, the drive will be stopped after the maximum drive time is reached. The maximum drive time must be set such that it will not result in any conflict with the run-times automatically determined in normal operation. No entry is possible for the "Continuous operation" operating mode.
↳ Drive time 	Default: **00:05:00** hh:mm:ss This parameterization is particularly for the Shutter, Roller blind/Awning modes and the "Determine drive time by stopwatch" function. The drive time is the time that the shutters require in order to travel the complete travel path in one direction, from all the way open to all the way closed. This time is determined by stopwatch and the corresponding value is stored in the ETS in the format hh:mm:ss.
↳ Drive time down [top -> bottom] 	Default: **00:05:00** hh:mm:ss With various drives, it is possible for the drive time to be dependent on the direction of rotation. In this case, the time for drive down can be configured with this parameter. This time is determined by stopwatch and the corresponding value is stored in the ETS in the format hh:mm:ss.
↳ Drive time up [bottom -> top] 	Default: **00:05:30** hh:mm:ss With various drives, it is possible for the drive time to be dependent on the direction of rotation. In this case, the time for drive up can be configured with this parameter. This time is determined by stopwatch and the corresponding value is stored in the ETS in the format hh:mm:ss.
↳ Down drive time extend (%) 	Default: **0 %** A change in the drive times (move-downtime) is possible due to environmental influences and due to aging of the drives on roller blinds and awnings. In order to counteract these influences, it is possible to extend the times determined by stopwatch as a percent. The information provided by the shutter or drive manufacturer must be noted however.
↳ Up drive time extend (%) 	Default: **10 %** A change in the drive times (move-down-time) is possible due to environmental influences and due to aging of the drives on roller blinds and awnings. In order to counteract these influences, it is possible to extend the times determined by stopwatch as a percent. The information provided by the shutter or drive manufacturer must be noted however.
Invert direction 	Default: ☐ **(no)** This parameter makes it possible to reverse the rotational direction of a drive via the software. The assignment for up and down movements at the output is reversed. The designations of the symbols for up and down movement at the unit will thus no longer correspond to the actual behavior of the shutters. The activation of this setting is only recommended if a change in the wiring is not possible.

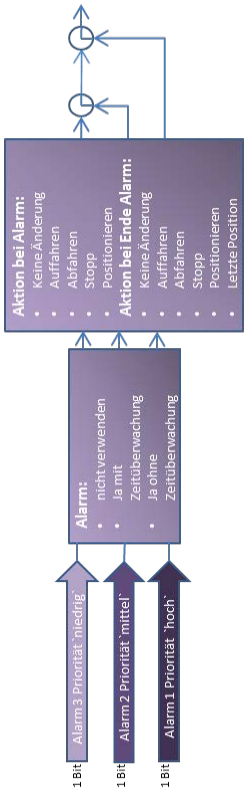
Roller blind/Awning settings

Parameter	Description
Move upwards in lower end position (ms) 	Default: **0** **With the comfort setting "Unfold in lower end position",** the typically closed roller shutters are opened by a definably short drive up movement and thus unfolded according to a move command or a positioning to 100%. **Exception:** After a lock and with alarms with the parameterization drive down or position 100%, this function is not executed.
Pause on reverse (ms)	Default: **900** In order to protect the drives and the switch elements, there must be a pause on reverse with each change in the rotational direction. The pause on reverse can be set for a time between 0 and 60,000 ms. **Caution!** A pause on reverse that is set too short can cause damage to the drive or to actuator. When configuring the pause on reverse, the manufacturer's specifications must absolutely be noted.
Start-up delay (ms) 	Default: **0** With the input of a correction time for the startup delay caused by the drive, shutters/blinds can be positioned with even greater accuracy. **Please note!** An input for the startup delay also has an effect on the louver adjustment time. The louver adjustment time per step must always be greater than the startup delay. Normally, the basic settings of these parameters are quite sufficient for proper operation. The information provided by the drive manufacturer must be noted however. Incorrect setting of the startup delay can lead to comfort losses.
Run-out delay 	Default: **0** With the input of a correction time for the run-out (post-run) delay caused by the drive, shutters/blinds can be positioned with even greater accuracy. **Please note!** An input for the run-out delay also has an effect on the louver adjustment time. Normally, the basic settings of these parameters are quite sufficient for proper operation. The information provided by the drive manufacturer must be noted however. Incorrect setting of the run-out delay can lead to comfort losses.

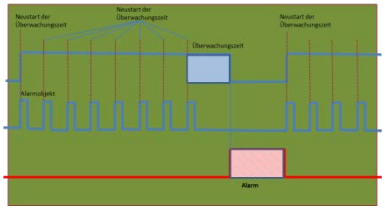
Roller blind/Awning alarms

Parameter	Description
Use Alarm 1 (highest priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with highest priority is not used for this channel. • **Yes, without time monitoring** The alarm 1 object is connected to a sensor that provides static information. In this case, alarm 1 is parameterized without time monitoring. If the alarm object receives a "1" for alarm 1, this alarm becomes active. The shutters/blinds will be moved according to their parameterization. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 1. Otherwise, the next priority and alarm stage are activated. • **Yes, with time monitoring** If a sensor is connected to the alarm 1 object that sends a cyclical signal, it is important to configure "Alarm 1 with time monitoring." It is important that the time for monitoring be greater than the repeat frequency from the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited.
↳ Monitoring time Alarm 1 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Caution!** In order to ensure error free function of alarm monitoring, it is important that the time set for this is longer than the cyclic transmit time of the sensor. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.
↳ Action at Alarm 1	• **No change** Each alarm causes a defined action. With "No change," a previously occurring move command is executed to completion or a previously approached position is retained. The alarm has no effect on the output. • **Drive up** If alarm 1 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the upper end position according to the parameterization. • **Drive down** If alarm 1 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the lower end position according to the parameterization. Unfolding for the configured end position does not take place. • **Stop** If the "Alarm 1 stop" parameter is activated during a shutter movement, the currently running function will be stopped immediately. The current position is retained for the duration of the alarm. • **Positioning** With this parameterization, the shutters/blinds are moved to a position configured for this event.
↳ Position height (%)	Default: **0** With this parameterization, the shutters are moved to a defined shutter height by the actuator when "Position Alarm 1" is activated.

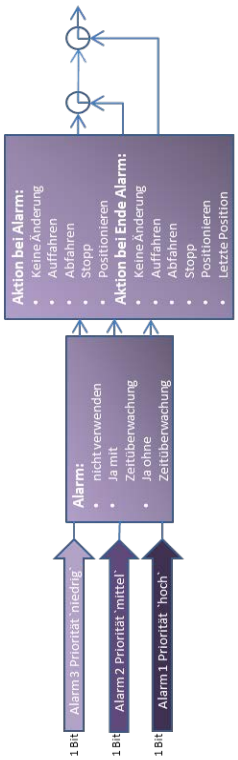
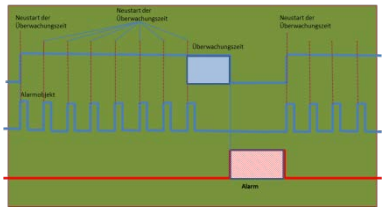
Roller blind/Awning alarms

Parameter	Description
↳ Action at end of Alarm 1	• **No change** If a previously set Alarm 1" (highest priority) is rescinded, no further action is executed. The shutters/blinds will dwell in the current position until a new travel or position comment is set for the corresponding channel. Exception: If another alarm has already been set at this time, the action at the start of the corresponding alarm will be executed according to the hierarchy. • **Drive up** If a previously set "Alarm 1" is finished and no additional alarm is set, the shutters/blinds will be moved to the upper end position. If another alarm has already been set, the function for the occurrence of the next-lower priority will be executed. • **Drive down** If a previously set "Alarm 1" is finished and no additional alarm is set, the shutters/blinds will be moved to the lower end position. If, however, another alarm has been set, the function for the occurrence of the next-lower priority will be executed. • **Stop** If "Alarm 1" is finished and the shutters/blinds are still in a travel movement, it will be stopped immediately. This requires that no additional alarm be set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. • **Position** A definable position of the shutters/blinds is approached, even with the cancellation of the alarm, if no further alarm is set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. • **Go to last position** This function is used to go to the last position set before the alarm when alarm 1 is rescinded. If an additional alarm is set, the behavior with alarm from the next-lower alarm (priority medium or low) is executed, but depending on the priority.
↳ Position height (%)	Default: **0** With this parameter, the position of the shutter/blind height is set with the exiting of alarm 1. With the minimum value of 0%, the shutters/blinds will move to the upper end position, while with the maximum value of 100% they will move to the lower end position.
Use Alarm 2 (medium priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with medium priority will not be used for the corresponding output. • **Yes, without time monitoring** The alarm 2 object is connected to a sensor that provides static information. In this case, alarm 2 is parameterized without time monitoring. If the alarm object receives a "1" for alarm 2, this alarm becomes active. If an alarm with a higher priority is set, no change is executed. If no alarm with higher priority is set, the shutters/blinds move according to their parameterization. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 2. Otherwise, the next-lower priority and alarm stage are activated. **Exception:** A higher priority was set during entrance and exit of alarm 2. In this case, no change would be defined on the shutters/blinds even though alarm 2 was set. • **Yes, with time monitoring** If a sensor is connected to the alarm 2 object that sends a cyclical signal, it is important to configure "Alarm 2 with time monitoring." Furthermore, it is important that the time for monitoring be greater than the repeat time from the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited. Exception: A higher priority was set during entrance and exit of alarm 2. In this case, no change would be defined on the shutters/blinds even though alarm 2 was set.

Roller blind/Awning alarms

Parameter	Description
↳ Monitoring time Alarm 2 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Caution!** In order to ensure error-free function of alarm monitoring, it is important that the time set for this be greater than the cyclical transmit time of the sensor. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.
↳ Action at Alarm 2	• **No change** Each alarm causes a defined action. With "No change," a previously occurring move command is executed to completion or a previously approached position is retained. The alarm has no effect on the output. • **Drive up** If alarm 1 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the upper end position according to the parameterization. • **Drive down** If alarm 1 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the lower end position according to the parameterization. Unfolding for the configured end position does not take place. • **Stop** If the "Alarm 1 stop" parameter is activated during a shutter movement, the currently running function will be stopped immediately. The current position is retained for the duration of the alarm. • **Positioning** With this parameterization, the shutters/blinds are moved to a position configured for this event.
↳ Position height (%)	Default:**0** With this parameterization, the shutters are moved to a defined shutter height by the actuator when "Position Alarm 2" is activated.
↳ Action at end of Alarm 2	• **No change** If a previously set Alarm 2" (medium priority) is rescinded, no further action is executed. The shutters/blinds will dwell in the current position until a new travel or position comment is set for the corresponding channel. Exception: If "Alarm 3" has already been set at this time, its function is executed according to the action at the start of the alarm according to the hierarchy. • **Drive up** If a previously set "Alarm 2" is finished and no additional alarm is set, the shutters/blinds will be moved to the upper end position. If another alarm has been set, the function will be executed for the occurrence of the next-lower priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters. • **Drive down** If a previously set "Alarm 2" is finished and no additional alarm is set, the shutters/blinds will be moved to the lower end position. If, however, another alarm has been set, the function for the occurrence of the next-lower priority will be executed. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters. • **Stop** If "Alarm 2" is finished and the shutters/blinds are still in a travel movement, it will be stopped immediately. This requires that no additional alarm be set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters. • **Position** This parameter is used to approach a definable position of the louvers and of the shutters/blinds with the cancellation of the alarm, if no further alarm is set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters. • **Go to last position** This function is used to go to the last position set before the alarm when alarm 2 is rescinded. If an additional alarm is set, the behavior with alarm from the next-lower alarm (priority low) is executed, but depending on the priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output of the shutters.

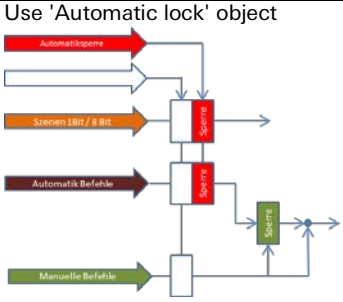
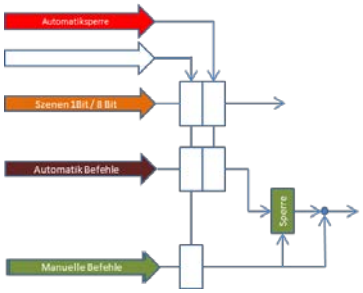
Roller blind/Awning alarms

Parameter	Description
↳ Position height (%)	Default: **0** With this parameter, the position of the shutter/blind height is set with the exiting of alarm 2. With the minimum value of 0%, the shutters/blinds will move to the upper end position, while with the maximum value of 100% they will move to the lower end position.
Use Alarm 3 (lowest priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with lowest priority is not used for this shutter output in this case. • **Yes, without time monitoring** If the "Alarm 3" object is connected to a sensor that provides static information, alarm 3 is parameterized accordingly without time monitoring. If the alarm object receives a "1" for alarm 3, it becomes active. If an alarm with a higher priority is set, no change is initially executed. If no alarm with higher priority is set, the shutters/blinds move according to their parameterization for alarm 3. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 3. Exception: A higher priority was set during entrance and exit of alarm 3. In this case, no change would be defined at the output or shutters/blinds. • **Yes, with time monitoring** If a sensor is connected to the alarm 3 object that sends a cyclical signal, it is important to configure "Alarm 3 with time monitoring." It is important that the time for monitoring be greater than the time in which a signal is transmitted by the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited. Exception: A higher priority was set during entrance and exit of alarm 3. In this case, no change would be defined on the shutters/blinds even though alarm 3 was set.
↳ Monitoring time Alarm 3 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Caution!** In order to ensure error-free function of alarm monitoring, it is important that the time set for this be greater than the cyclical transmit time of the sensor. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.

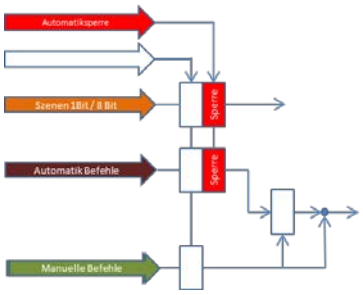
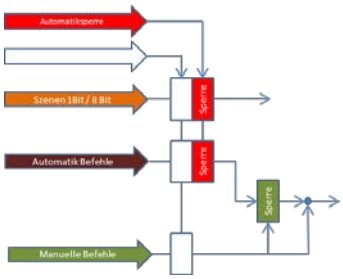
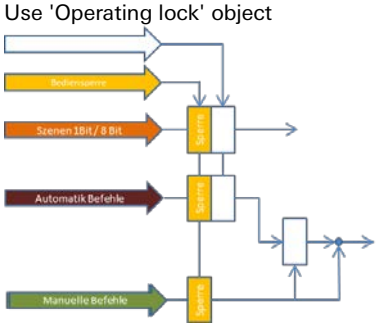
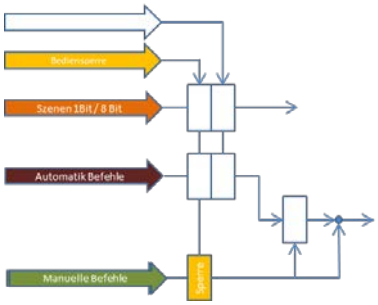
Roller blind/Awning alarms

Parameter	Description
↳ Action at Alarm 3	• **No change** Each alarm causes a definable action. With "No change," a previously occurring move command is executed to completion or a previously approached position is retained. The alarm effects no change in the chronological sequences or change in position at the output of the shutters. • **Drive up** If alarm 3 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the upper end position according to the parameterization, if no alarm with higher priority is set. • **Drive down** If alarm 3 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the lower end position according to the parameterization, if no alarm with higher priority is set. Unfolding for the configured end position does not take place however. • **Stop** If the "Alarm 3 stop" parameter is activated during a shutter movement and no alarm with higher priority is set, the currently running function will be stopped immediately. The current position is retained for the duration of the alarm. If an alarm with higher priority is active, movement is made according to its parameterization. • **Positioning** With this parameterization, the shutters/blinds are moved to a position configured for this event, if no alarm with higher priority is set. For shutters, not only the height of the shutters/blinds but also the position of the louvers can be determined.
↳ Position height (%)	Default:**0** With this parameterization, the shutters are moved to a defined shutter height by the actuator when "Position Alarm 3" is activated.
↳ Action at end of Alarm 3	• **No change** If a previously set Alarm 3" (lowest priority) is rescinded, no further action is executed. The shutters/blinds will dwell in the current position until a new travel or position comment is set for the corresponding channel. • **Drive up** If a previously set "Alarm 3" is finished and no additional alarm is set, the shutters/blinds will be moved to the upper end position. If an additional alarm is set, the ending of alarm 3 will have no effect on the output. • **Drive down** If a previously set "Alarm 3" is finished and no additional alarm is set, the shutters/blinds will be moved to the lower end position. If, however, an additional alarm is set, the ending of alarm 3 will have no effects on the output. • **Stop** If "Alarm 3" is finished and the shutters/blinds are still in a travel movement, it will be stopped immediately. This requires that no additional alarm be set. If an additional alarm is set, the ending of alarm 3 will have no effect on the output. • **Position** This parameter is used to approach a definable position of the louvers and of the shutters/blinds with the cancellation of the alarm, if no further alarm is set. If an additional alarm is set, the ending of alarm 3 will have no effect on the output. • **Go to last position** This function is used to go to the last position set before the alarm when alarm 2 is rescinded. If an additional alarm is set, the ending of alarm 3 will have no effect on the output.
↳ Position height (%)	Default: **0** With this parameter, the position of the shutter/blind height is set with the exiting of alarm 3. With the minimum value of 0%, the shutters/blinds will move to the upper end position, while with the maximum value of 100% they will move to the lower end position.

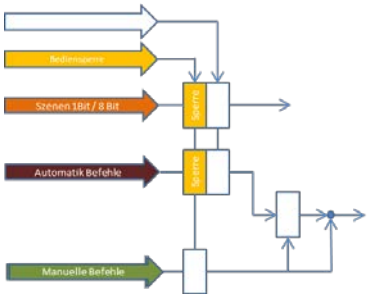
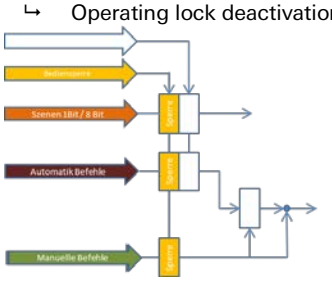
Roller blind/Awning locks

Parameter	Description
Use 'Output lock' object 	Default: ☐ **(no)** The output lock acts directly on the relay output. The on-site operation or the parameterization for bus failure and bus restore as well as all manual control options such as "Manual up/down", "Manual louver/stop", "Manual shutter/blind position height" and "Manual louver angle position", or all automatic commands such as "Automatic up/down", "Automatic louver/stop", "Automatic shutter/blind position height", and "Automatic louver position" but also scenes and alarm have no effect on the locked output. A change at the output cannot be executed until after the output lock has been canceled.
↳ Output lock behaviour	• **No change** With activation of the output lock, the switch state active at this time is frozen for the duration of the output lock. If the output lock is set, the state of the output cannot be executed through manual or automatic control or through an alarm. The output is locked for any type of operation. • **Drive up** If the output lock is set, the current process is canceled and the shutters are moved to the upper end position, regardless of the current operation. After the end position is reached and for the duration of the output lock, this channel cannot be influenced by manual or automatic control or by an alarm. • **Drive down** If the output lock is set, the current process is canceled and the shutters are moved to the lower end position, regardless of the current operation. After the end position is reached and for the duration of the output lock, this channel cannot be influenced by manual or automatic control or by an alarm. • **Stop** A function pending at the time of the activated output lock will be canceled immediately and the current position retained. Such type of configured channel cannot be influenced by manual or by automatic control or an alarm for the duration for the output lock. • **Position** A function present at the time of the activated output lock will be canceled immediately and the freely configurable positions approached for shutter/blind height and louver and retained for the duration of the output lock. Such type of configured channel cannot be influenced by manual or by automatic control or an alarm for the duration for the output lock.
↳ Position height (%)	Default: **0** With this parameterization, the shutters are moved to a defined shutter height by the actuator when the "Position output lock" function is activated.
Use 'Automatic lock' object 	Default: ☐**(no)** The activation of this function makes it possible to individually lock all or individually selectable automatic objects for the corresponding output.
↳ Automatic lock by manual commands 	Default: ☐**(no)** With the activation of this function, the configured automatic mode is locked with a manual control function of the shutters. This makes it possible to adjust the individual requirements according to the shutters/blinds. This lock can be deactivated via the automatic lock object or after an adjustable time.

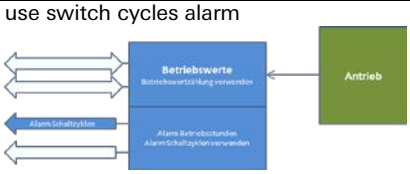
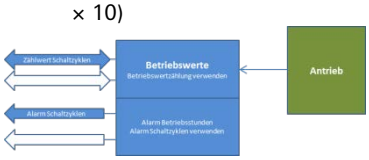
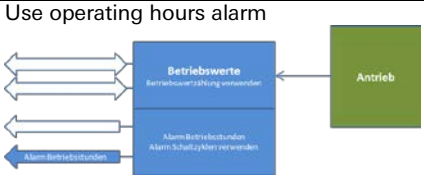
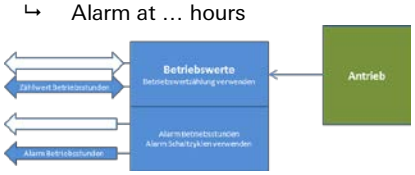
Roller blind/Awning locks

Parameter	Description
↳ Automatic lock acts on Automatic commands 	Default: ☑ **(yes)** This function makes it possible to lock automatically running and configured functions. The automatic lock also acts on scenes.
↳ Automatic lock deactivation 	• **Via object "Automatic lock"** The automatic lock can be deactivated via the object of the same name by the receipt of a "0". • **Via object "Automatic lock" and time** The automatic lock can also be deactivated via the object of the same name by the receipt of a "0" and additionally after expiration of a time that can be configured in a range from 0 seconds to a maximum of 18 hours. • **Via time** If this setting is selected, a set automatic lock is deactivated after a configured time has elapsed.
↳ Release time	Default: **1:00:00** hh:mm:ss The release time is the time period for deactivating the automatic lock, adjustable between 0 seconds and 18 hours, after which a set automatic lock again deactivates.
Use 'Operating lock' object 	Default: ☐ **(no)** The operating lock can be parameterized such that it acts upon all manual control objects and the automatic objects and the scenes. Only the alarm and output lock input objects cannot be influenced via the operating lock.
↳ Operating lock acts on manual commands 	Default: ☑ **(yes)** If this function is activated, an activated operating lock acts upon all manual commands such as "Up/Down", "Louver/Stop", "Shutter height position", and "Louver angle position".

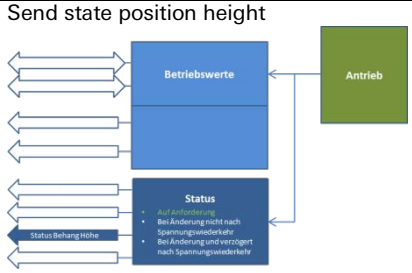
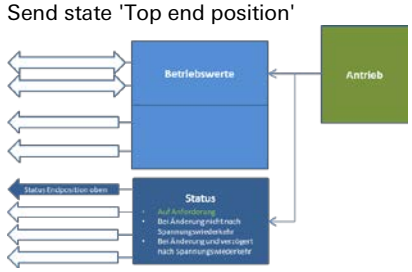
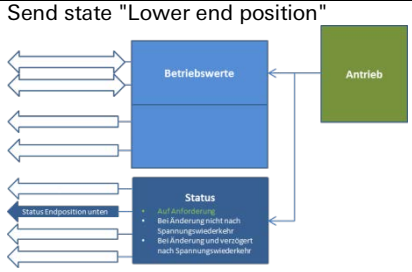
Roller blind/Awning locks

Parameter	Description
↳ Operating lock acts on Automatic commands 	Default: ☐ **(no)** If this function is activated, an activated operating lock acts upon all manual commands such as "Up/Down", "Louver/Stop", "Shutter height position", "Louver angle position", and scenes.
↳ Operating lock deactivation 	• **Via object "Operating lock"** The operating lock can be deactivated via the object of the same name by the receipt of a "0". • **Via object "Operating lock" and time** The operating lock can also be deactivated via the object of the same name by the receipt of a "0" and additionally a time that can be configured in a range from 0 seconds to a maximum of 18 hours. • **Via time** If this setting is selected, a set operating lock is deactivated after a configured time has elapsed.
↳ Release time	Default: **01:00:00** hh:mm:ss The release time is the time specification, adjustable between 0 seconds and 18 hours, after which a set operating lock should again deactivate.

Roller blind/Awning Operating values alarms

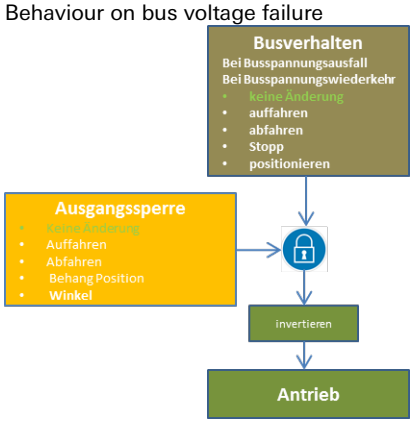
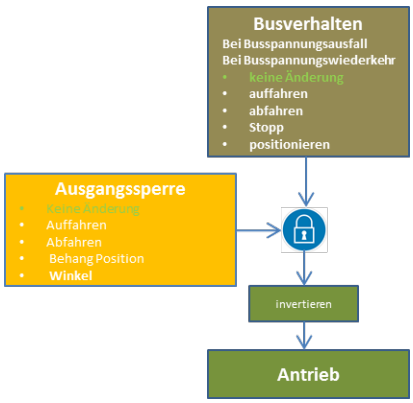
Parameter	Description
use switch cycles alarm 	Default: ☐ (no) If this function is activated, an alarm is sent after a configurable value for "Alarm at … cycles" when the configured number of switch cycles is reached.
↳ Alarm at … cycles (input value × 10) 	Default: **1000** The value for the alarm upon switch cycles corresponds to the input value multiplied by a factor of 10. Thus, the default is set at 10,000 switch cycles. If the number of switch cycles is reached due to switch events, value "1" is sent to the "Alarm switch cycles" object. Inputs in a value range from 0 to 65535 are possible.
Use operating hours alarm 	Default: ☐ (no) If this function is activated, an alarm is sent to the "Alarm operating hours" object after a configurable value for operating hours when the configured hours are reached.
↳ Alarm at … hours 	Default: **1000** The operating hours to be monitored can be set with this parameter. Inputs in a value range from 0 to 65535 are possible. After the operating hours are reached, a "1" is sent to the "Alarm operating hours" object.

Roller blind/Awning state

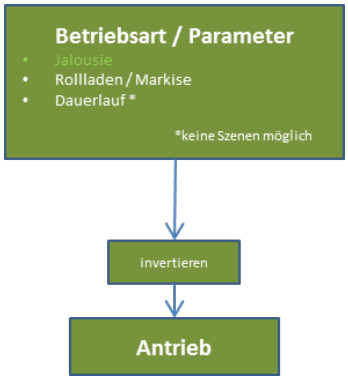
Parameter	Description
Send state position height 	• **On request** The "State position height" object must be read in this setting, on request. • **On change, not on bus voltage recovery** After every change in shutter/blind height, the current state of the shutter/blind height is subsequently sent to the KNX bus. • **On change, and delayed on bus voltage recovery** After every change in shutter/blind height or after bus voltage recovery, the current state of the shutter/blind height is subsequently sent to the KNX bus.
Send state 'Top end position' 	• **On request** The "State top end position" object must be read in this setting or requested. The value "1" stands for end setting top reached. The value "0" indicates that the end position has not been reached. • **On change, not on bus voltage recovery** With each state change of the state with the end position, a telegram is sent to the KNX bus. • **On change and delayed on bus voltage recovery** Upon any state change or bus voltage recovery, the "Upper end position" state is sent to the KNX bus.
Send state "Lower end position" 	• **On request** The "State lower end position" object must be read in this setting or requested. The value "1" stands for end setting top reached. The value "0" indicates that the end position has not been reached. • **On change, not on bus voltage recovery** With each state change of the state with the end position, a telegram is sent to the KNX bus. • **On change and delayed on bus voltage recovery** Upon any state change or bus voltage recovery, the "Lower end position" state is sent to the KNX bus.

Continuous operation Operating mode

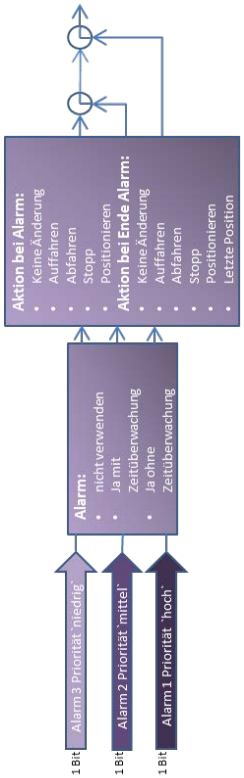
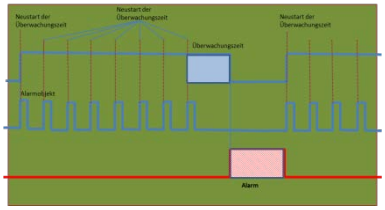
Bus behavior Continuous operation

Parameter	Description
Behaviour on bus voltage failure 	• **No Change** With this setting, behavior on bus voltage failure is defined. "No change" is set by default. In the event of bus voltage failure, the current operating mode is retained. • **Drive up** In the event of bus voltage failure, the connected drive will begin to rotate in the rotational direction configured for this event. This continues until a stop command or a command to change the rotational direction interrupts this. • **Drive down** In the event of bus voltage failure, the connected drive will begin to rotate in the rotational direction configured for this event. This continues until a stop command or a command to change the rotational direction interrupts this. • **Stop** In the event of bus voltage failure, any action taking place at this time will be canceled and the connected drive will stop.
Behaviour on bus voltage recovery 	• **No Change** With this setting, behavior on bus voltage recovery is defined. "No change" is set by default. In the event of bus voltage recovery, the current operating mode is retained. • **Drive up** In the event of bus voltage recovery, the connected drive will begin to rotate in the rotational direction configured for this event. This continues until a stop command or a command to change the rotational direction interrupts this. • **Drive down** In the event of bus voltage recovery, the connected drive will begin to rotate in the rotational direction configured for this event. This continues until a stop command or a command to change the rotational direction interrupts this. • **Stop** In the event of bus voltage recovery, any action taking place at this time will be canceled and the connected drive will stop.

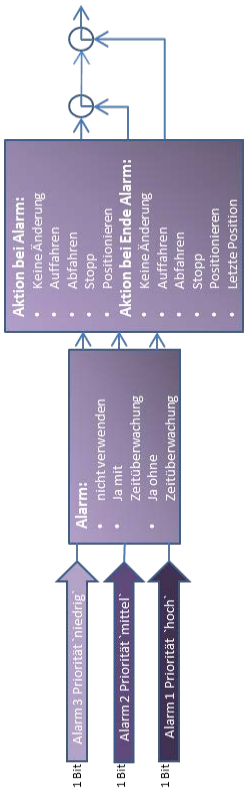
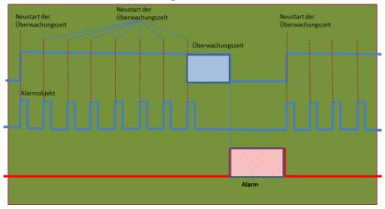
Continuous operation settings (channel 1 to 2)

Parameter	Description
Invert direction 	Default: ☐(no) This parameter makes it possible to reverse the rotational direction of a drive via the software. The assignment for left/right (up/down) movements at the output is reversed. The designations of the symbols for up and down movement at the unit will thus no longer correspond to the actual behavior at the output. The activation of this setting is only recommended if a change in the wiring on the drive is not possible.
Pause on reverse (ms)	Default: **900** In order to protect the drives and the switch elements, there must be a pause on reverse with each change in the rotational direction. The pause on reverse can be set for a time between 0 and 60,000 ms. **Caution!** A pause on reverse that is set too short can cause damage to the drive or to the unit. When configuring the pause on reverse, the manufacturer's specifications regarding the drive must always be complied with.

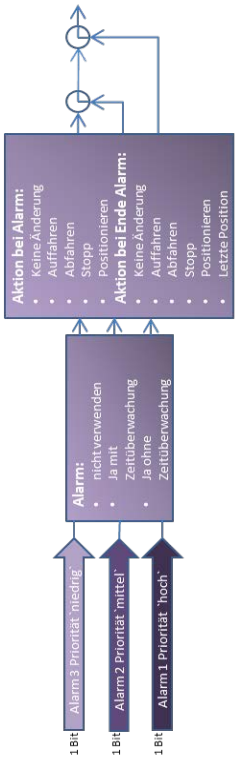
Alarm continuous operation

Parameter	Description
Use Alarm 1 (highest priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with highest priority is not used for this channel. • **Yes, without time monitoring** The alarm 1 object is connected to a sensor that provides static information. In this case, alarm 1 is parameterized without time monitoring. If the alarm object receives a "1" for alarm 1, this alarm becomes active. The shutters/blinds will be moved according to their parameterization. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 1. Otherwise, the next priority and alarm stage are activated. • **Yes, with time monitoring** If a sensor is connected to the alarm 1 object that sends a cyclical signal, it is important to configure "Alarm 1 with time monitoring." It is important that the time for monitoring be greater than the repeat frequency from the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited.
↳ Monitoring time Alarm 1 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Caution!** In order to ensure error free function of alarm monitoring, it is important that the time set for this is longer than the cyclic transmit time of the sensor. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.
↳ Action at Alarm 1	• **No change** Each alarm causes a defined action. In the event of "No change", an action already taking place will be continued. The alarm has no effect on the output. • **Drive up** With the occurrence of alarm 1, an action already taking place will be ended and the action carried out according to the "Move up" command. The action remains in effect until alarm 1 is deactivated. Subsequently, the actions follow the priorities or the following commands according to the parameterization. • **Drive down** With the occurrence of alarm 1, an action already taking place will be ended and the action carried out according to the "Drive down" command. The action remains in effect until alarm 1 is deactivated. Subsequently, the actions follow the priorities or the following commands according to the parameterization. • **Stop** With the occurrence of alarm 1, an action already taking place will be ended. The action remains in effect until alarm 1 is deactivated. Subsequently, the actions follow the priorities or the following commands according to the parameterization.

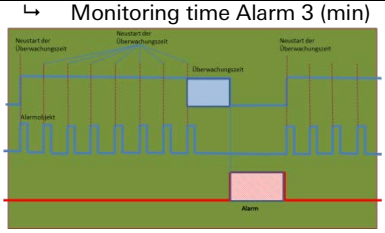
Alarm continuous operation

Parameter	Description
↳ Action at end of Alarm 1	• **No change** If a previously set Alarm 1" (highest priority) is rescinded, no further action is executed. The drive will dwell in its current function until a new command is set for the corresponding channel. Exception: If another alarm has already been set at this time, the action at the start of the corresponding following alarm will be executed according to the hierarchy. • **Drive up** If a previously set "Alarm 1" is finished and no additional alarm is set, the drive will be started with the rotational direction for move up. If another alarm has already been set, the function for the next-lower priority will be executed. • **Drive down** If a previously set "Alarm 1" is finished and no additional alarm is set, the drive will be started with the rotational direction for drive down. If, however, another alarm has been set, the function for the occurrence of the next-lower alarm (priority) will be executed. • **Stop** If "Alarm 1" is finished and the drive is still in a travel movement, it will be stopped immediately. This requires that no additional alarm be set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority.
Use Alarm 2 (medium priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with medium priority will not be used for the corresponding output. • **Yes, without time monitoring** The alarm 2 object is connected to a sensor that provides static information. In this case, alarm 2 is parameterized without time monitoring. If the alarm object receives a "1" for alarm 2, this alarm becomes active. If an alarm with a higher priority is set, no change is executed. If no alarm with higher priority is set, the drive moves according to its parameterization. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 2. Otherwise, the next-lower priority and alarm stage are activated. Exception: A higher priority was set during entrance and exit of alarm 2. In this case, no change would be defined even though alarm 2 was set. • **Yes, with time monitoring** If a sensor is connected to the alarm 2 object that sends a cyclical signal, it is important to configure "Alarm 2 with time monitoring." It is important that the time for monitoring be greater than the repeat frequency from the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited. **Exception**: A higher priority was set during entrance and exit of alarm 2. In this case, no change would be defined on the output even though alarm 2 was set.
↳ Monitoring time Alarm 2 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Caution!** In order to ensure error-free function of alarm monitoring, it is important that the time set for this be greater than the cyclical transmit time of the sensor. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.

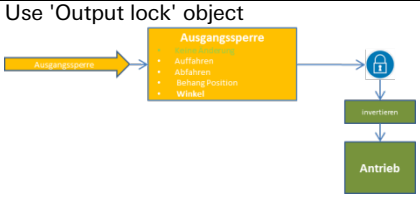
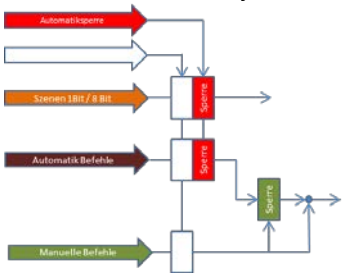
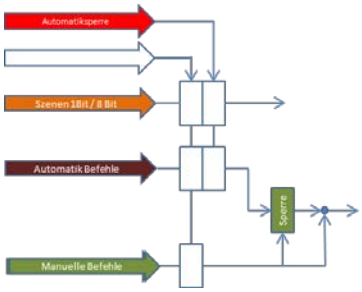
Alarm continuous operation

Parameter	Description
↳ Action at Alarm 2	• **No change** Each alarm causes a defined action. In the event of "No change", an action already taking place will be continued. The alarm effects no change in the chronological sequences or change in position. • **Drive up** If alarm 2 occurs, a currently occurring action is canceled and the actuator executes the desired function according to the "Drive up" parameterization, if no alarm with higher priority is set. • **Drive down** If alarm 2 occurs, a currently occurring action is canceled and the actuator executes the desired function according to the "Drive down" parameterization, if no alarm with higher priority is set. • **Stop** If alarm 2 occurs, a currently occurring action is canceled and the actuator executes the desired function according to the "Stop" parameterization, if no alarm with higher priority is set.
↳ Action at end of Alarm 2	• **No change** If a previously set Alarm 2" (medium priority) is rescinded, no further action is executed. The drive will dwell in the current function until a new command is set for the corresponding channel. Exception: If "Alarm 3" has already been set at this time, its function is executed according to the action at the start of the alarm according to the hierarchy. • **Drive up** If a previously set "Alarm 2" is finished and no additional alarm is set, the drive will be started with the corresponding rotational direction for move up. If another alarm has been set, the function will be executed for the occurrence of the next-lower priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output. • **Drive down** If a previously set "Alarm 2" is finished and no additional alarm is set, the drive will be started with the corresponding rotational direction for drive up. If, however, another alarm has been set, the function for the occurrence of the next-lower priority will be executed. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output. • **Stop** If "Alarm 2" is finished and the drive is still carrying out an action, it will be stopped immediately. This requires that no additional alarm be set. If another alarm has been set, its function will be executed for the occurrence of the next-lower priority. If Alarm 1 is still set at the time of "Alarm 2 end," the ending of alarm 2 will have no effect on the output.
Use Alarm 3 (lowest priority) 	Alarms are used for detecting and further processing of sensor information such as wind, rain, frost, sun, temperature, as well as other things. The following parameters can be set for each individual shutter output. • **Do not use** The alarm with lowest priority is not used for this output in this case. • **Yes, without time monitoring** If the "Alarm 3" object is connected to a sensor that provides static information, alarm 3 is parameterized accordingly without time monitoring. If the alarm object receives a "1" for alarm 3, it becomes active. If an alarm with a higher priority is set, no change is initially executed. If no alarm with higher priority is set, the output is controlled according to its parameterization for alarm 3. A "0" on this object will cancel the alarm. If no further alarm is set, travel will continue according to Action at end of Alarm 3. Exception: A higher priority was set during entrance and exit of alarm 3. In this case, no change would be defined at the output. • **Yes, with time monitoring** If a sensor is connected to the alarm 3 object that sends a cyclical signal, it is important to configure "Alarm 3 with time monitoring." It is important that the time for monitoring be greater than the time in which a signal is transmitted by the signal sensor. This is the only way to ensure that the sensor will also be correctly detected. If the sensor does not send any cyclical signal, the alarm is set according to its parameterization. After the end of the alarm, movement is made according to the priorities and configured action when the alarm is exited. **Exception**: A higher priority was set during entrance and exit of alarm 3. In this case, no change would be defined on the shutters/blinds even though alarm 3 was set.

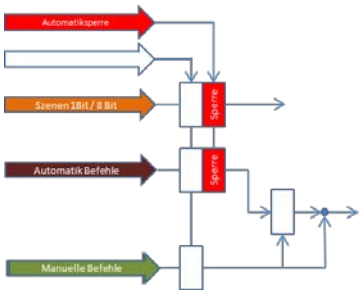
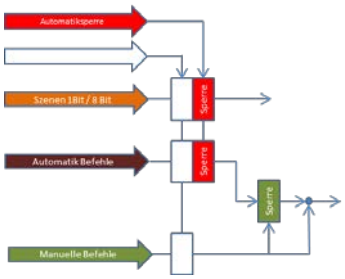
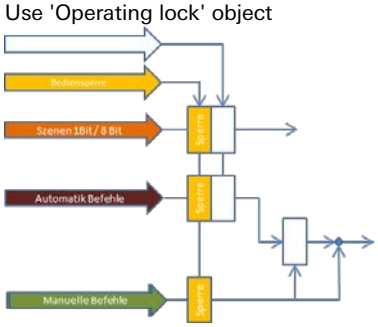
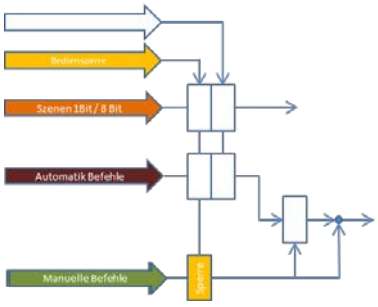
Alarm continuous operation

Parameter	Description
↳ Monitoring time Alarm 3 (min) 	Default: **10** This parameter is used to determine the cyclical monitoring time of the alarm object. A time between 1 min and 255 min can be configured. **Caution!** In order to ensure error-free function of alarm monitoring, it is important that the time set for this be greater than the cyclical transmit time of the sensor. This is the only way to ensure that sensor information can be evaluated accordingly during each monitoring period.
↳ Action at Alarm 3	• **No change** Each alarm causes a definable action. With "No change," a previously occurring move command is executed to completion or a previously approached position is retained. The alarm effects no change in the chronological sequences or change in position at the output of the shutters. • **Drive up** If alarm 3 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the upper end position according to the parameterization, if no alarm with higher priority is set. • **Drive down** If alarm 3 occurs, a positioning or a currently occurring move command is rescinded and the actuator moves the shutters/blinds to the lower end position according to the parameterization, if no alarm with higher priority is set. Unfolding for the configured end position does not take place however. • **Stop** If the "Alarm 3 stop" parameter is activated during a shutter movement and no alarm with higher priority is set, the currently running function will be stopped immediately. The current position is retained for the duration of the alarm. If an alarm with higher priority is active, movement is made according to its parameterization. • **Positioning** With this parameterization, the shutters/blinds are moved to a position configured for this event, if no alarm with higher priority is set. For shutters, not only the height of the shutters/blinds but also the position of the louvers can be determined.
↳ Position height (%)	Default:**0** With this parameterization, the shutters are moved to a defined shutter height by the actuator when "Position Alarm 3" is activated.
↳ Action at end of Alarm 3	• **No change** If a previously set Alarm 3" (lowest priority) is rescinded, no further action is executed. The shutters/blinds will dwell in the current position until a new travel or position comment is set for the corresponding channel. • **Drive up** If a previously set "Alarm 3" is finished and no additional alarm is set, the shutters/blinds will be moved to the upper end position. If an additional alarm is set, the ending of alarm 3 will have no effect on the output. • **Drive down** If a previously set "Alarm 3" is finished and no additional alarm is set, the shutters/blinds will be moved to the lower end position. If, however, an additional alarm is set, the ending of alarm 3 will have no effects on the output. • **Stop** If "Alarm 3" is finished and the shutters/blinds are still in a travel movement, it will be stopped immediately. This requires that no additional alarm be set. If an additional alarm is set, the ending of alarm 3 will have no effect on the output. • **Position** This parameter is used to approach a definable position of the louvers and of the shutters/blinds with the cancellation of the alarm, if no further alarm is set. If an additional alarm is set, the ending of alarm 3 will have no effect on the output. • **Go to last position** This function is used to go to the last position set before the alarm when alarm 2 is rescinded. If an additional alarm is set, the ending of alarm 3 will have no effect on the output.

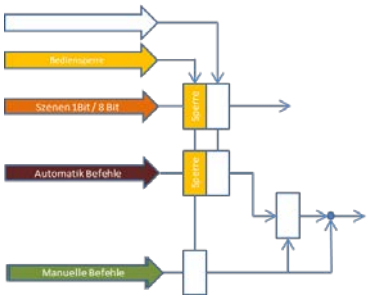
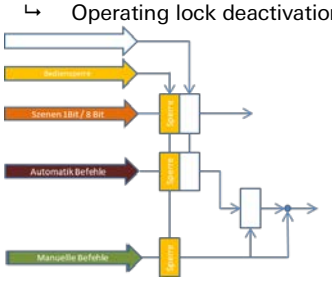
Continuous operation lock (channel 1 to 2)

Parameter	Description
Use 'Output lock' object 	Default: ☐(no) The output lock acts directly on the relay output. The on-site operation or the parameterization for bus failure and bus restore as well as all manual control options such as "Manual up/down", "Manual louver/stop", "Manual shutter/blind position height" and "Manual louver angle position", or all automatic commands such as "Automatic up/down", "Automatic louver/stop", "Automatic shutter/blind position height", and "Automatic louver position" but also scenes and alarm have no effect on the locked output. A change at the output cannot be executed until after the output lock has been canceled.
↳ Output lock behaviour	• **No change** With activation of the output lock, the switch state active at this time is frozen for the duration of the output lock. If the output lock is set, the state of the output cannot be executed through manual or automatic control or through an alarm. The output is locked for any type of operation. • **Drive up** If the output lock is set, the current process is canceled and the drive starts in the function of the rotational direction for drive up, regardless of the current operation. This function remains for the duration of the output lock. The corresponding channel cannot be influenced by manual or automatic operation or an alarm. • **Drive down** If the output lock is set, the current process is canceled and the drive starts in the function of the rotational direction for drive down, regardless of the current operation. This function remains for the duration of the output lock. The corresponding channel cannot be influenced by manual or automatic operation or an alarm. • **Stop** A function pending at the time of the activated output lock will be canceled immediately and the current position retained. Such type of configured channel cannot be influenced by manual or by automatic control or an alarm for the duration for the output lock.
Use 'Automatic lock' object 	Default: ☐(no) The activation of this function makes it possible to individually lock all or individually selectable automatic objects for the corresponding output.
↳ Automatic lock by manual commands 	Default: ☐(no) With the activation of this function, the configured automatic mode is locked with a manual control function of the drive. This makes it possible to adjust the individual requirements according to the drive. This lock can be deactivated via the automatic lock object or after an adjustable time.

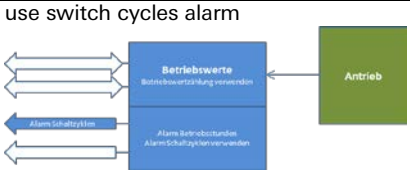
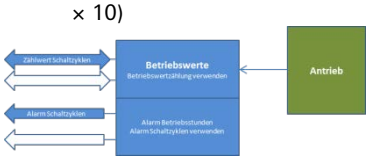
Continuous operation lock (channel 1 to 2)

Parameter	Description
↳ Automatic lock acts on Automatic commands 	Default: ☑(yes) This function makes it possible to lock automatically running and configured functions. The automatic lock also acts on scenes.
↳ Automatic lock deactivation 	• **Via object "Automatic lock"** The automatic lock can be deactivated via the object of the same name by the receipt of a "0". • **Via object "Automatic lock" and time** The automatic lock can also be deactivated via the object of the same name by the receipt of a "0" and additionally after expiration of a time that can be configured in a range from 0 seconds to a maximum of 18 hours. • **Via time** If this setting is selected, a set automatic lock is deactivated after a configured time has elapsed.
↳ Release time	Default: **01:00:00** hh:mm:ss The release time is the time period for deactivating the automatic lock, adjustable between 0 seconds and 18 hours, after which a set automatic lock again deactivates.
Use 'Operating lock' object 	Default: ☐(no) The operating lock can be parameterized such that it acts upon all manual control objects and the automatic objects and the scenes. Only the alarm and output lock input objects cannot be influenced via the operating lock.
↳ Operating lock acts on manual commands 	Default: ☑(yes) If this function is activated, an activated operating lock acts upon all manual commands such as "Automatic Up/Down".

Continuous operation lock (channel 1 to 2)

Parameter	Description
↳ Operating lock acts on Automatic commands 	Default: ☐(no) If this function is activated, an activated operating lock acts upon all automatic commands such as "Automatic Up/Down" and scenes.
↳ Operating lock deactivation 	• **Via object "Operating lock"** The operating lock can be deactivated via the object of the same name by the receipt of a "0". • **Via object "Operating lock" and time** The operating lock can also be deactivated via the object of the same name by the receipt of a "0" and additionally a time that can be configured in a range from 0 seconds to a maximum of 18 hours. • **Via time** If this setting is selected, a set operating lock is deactivated after a configured time has elapsed.
↳ Release time	Default: **01:00:00** hh:mm:ss The release time is the time specification, adjustable between 0 seconds and 18 hours, after which a set operating lock should again deactivate.

Continuous operation Operating values alarms (channel 1 to 2)

Parameter	Description
use switch cycles alarm 	Default: ☐(no) If this function is activated, an alarm is sent after a configurable value for "Alarm at ….. cycles" when the configured number of switch cycles is reached.
↳ Alarm at … cycles (input value × 10) 	Default: **1000** The value for the alarm upon switch cycles corresponds to the input value multiplied by a factor of 10. Thus, the default is set at 10,000 switch cycles. If the number of switch cycles is reached due to switch events, value "1" is sent to the "Alarm switch cycles" object. Inputs in a value range from 0 to 65535 are possible.
Use operating hours alarm	Default: ☐(no) If this function is activated, an alarm is sent to the "Alarm operating hours" object after a configurable value for operating hours when the configured hours are reached.
↳ Alarm at … hours 	Default: **1000** The operating hours to be monitored can be set with this parameter. Inputs in a value range from 0 to 65535 are possible. After the operating hours are reached, a "1" is sent to the "Alarm operating hours" object.

3.8 Semiconductor outputs Switching outputs

3.8.1 Semiconductor outputs Switching outputs 4x Standard *gesis* FLEX-0/4HL AC





General description

Product: Functional module

AC 230 V / 16 A binary switching outputs

Type / Item No.:	*gesis* FLEX-0/4HL AC	83.020.0631.0 without connector set
	gesis FLEX-0/4HL AC Z	83.020.0631.1 (plug set included)

Please note:

It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The 4x 230 VAC / 0.5 A shutter output in the flat surface-mounted housing, which can be mounted on DIN rails for decentralized installation, is managed by the basic module. It receives its mains and bus supply from the upstream module. The extensive parameter set enables various automation functions. The manual mode level enables function tests without prior system integration. The electrical connections, which can be connected in accordance with IEC 61535, separate automation and installation.

With the variant with a connector set, all the necessary connectors are provided.

Comment:

The semiconductor switching output can be operated with both the software described in this chapter and with the software of the relay outputs described in Chapter 3.5.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	Brief press: Selects an output. Long pressing (> 3 sec): Will end the state display and manual operation.
"On/Off" button	Short pressing changes the switching state from the selected output.

Status indicator function

LED 'status'	Green: Red flashing:	Module state OK, no errors Model state errors (configuration errors, communication errors)
LED 'error' 1…4	green	This function is only available if the semiconductor output is operated with the application software described in this chapter. Flashing of the LED as an error display. An error at the output is only detected in the switched-on state. Possible errors are: No 24 V power supply, Output Fuse
LED "1" to "4"	green Flashing or superimposed flashing	'ON' channel status display output Indicates the selected output.

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec) or if no button was pressed for 10 minutes (timeout).

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The bus is routed, through the module, to the *gesis* FLEX extension or feed modules placed in a row. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 11 mA eff. (LEDs OFF) / approx. 65 mA eff. (All LEDs On)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX basic or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The mains is routed, through the module, to the additionally connected *gesis* FLEX extension or feed modules. Within the module, the individual phase conductors of the mains are used as switching voltage for the 4 outputs.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A

Output

Number	4 switching outputs (TRIAC switches)
Switch element	Triac, zero voltage switches, potential-bound outputs
Rated voltage	230 VAC
Rated current	0,5 A (ohmic load)
Phase conductor assignment	Output 1 switches phase conductor L1 Output 2 switches phase conductor L2 Output 3 and 4 switch phase conductor L3
Connection type	GST18i3 female connector, 3-pole, black, (N / PE / L)
Max. number of connectable electrothermal drives per channel:	e.g. 3 × F.0.000.0032.3 (Wieland Electric GmbH)
Conductor and short circuit protection	no
Minimum load	1W
Leakage current (max.)	250µA
Typical voltage drop on the TRIAC	0.9 V

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Galvanic isolation (Internal bus / mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 2 mΩ (mains input to mains output, conductor path + 1 plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70°C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 910 fit (at 40°C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free, light gray upper section, black lower section

Fire resistance

Housing UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load

Approx. 2 kWh

Weight

Approx. 315 g

Dimensions

Width:	149 mm in the direction of the DIN rail Installed in rows in the group 130 mm Installed in rows in the group with right end plate 140 mm
Length:	149 mm at right angles to DIN rail
Height:	44 mm without and about 47 mm with TH 35-7.5 DIN rail

CE marking

In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.8.2 230 V 4x binary switching output secured *gesis* FLEX-0/4HL AC F



General description

Product: Functional module

Description: Relay AC 230 V / 500 mA binary switching outputs secured

Type / Item No.:	*gesis* FLEX-0/2W DC	83.020.0632.0 (with fuse without connector set)
	gesis FLEX-0/4HL AC F Z	83.020.0630.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The protected semiconductor output 4x 230 VAC/0.5 A in the flat surface-mounted housing, mountable on a mounting rail, for decentral installation is managed by the base module. Each output is protected with 0.5 AT miniature fuses.
It receives its mainssupply and bus supply from the upstream module. The extensive parameter set enables differentautomation functions. The manual operation level allows function tests without prior systemintegration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation. For 83.020.0623.1: all necessary plugs are enclosed.

Comment:
The semiconductor switching output can be operated with both the software described in this chapter and with the software of the relay outputs described in Chapter 3.5.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Operation and display elements

The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation

Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	Brief press:	Selects an output.
	Long pressing (> 3 sec):	Will end the state display and manual operation. manual control
"On/Off" button	Short pressing changes the switching state from the selected output.	

Status indicator function

LED 'status'	Green:	Module state OK, no errors
	Red flashing:	Model state errors (configuration errors, communication errors)
LED 'error' 1…4	green	This function is only available if the semiconductor output is operated with the application software described in this chapter. Flashing of the LED as an error display. An error at the output is only detected in the switched-on state. Possible errors are: No 230 VAC power supply, Output Fuse
LED "1" to "4"	green	'ON' channel status display output
	Flashing or superimposed flashing	Indicates the selected output.

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec) or if no button was pressed for 10 minutes (timeout).

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The bus is routed, through the module, to the *gesis* FLEX extension or feed modules placed in a row. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 11 mA eff. (LEDs OFF) / approx. 65 mA eff. (All LEDs On)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX basic or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The mains is routed, through the module, to the additionally connected *gesis* FLEX extension or feed modules. Within the module, the individual phase conductors of the mains are used as switching voltage for the 4 outputs.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A

Output

Number	4 switching outputs (TRIAC switches)
Switch element	Triac, zero voltage switches, potential-bound outputs
Rated voltage	230 VAC
Rated current	0,5 A (ohmic load)
Phase conductor assignment	Output 1 switches phase conductor L1 Output 2 switches phase conductor L2 Output 3 and 4 switch phase conductor L3
Connection type	GST18i3 female connector, 3-pole, black, (N / PE / L)
Max. number of connectable electrothermal drives per channel:	e.g. 3 × F.0.000.0032.3 (Wieland Electric GmbH)
Conductor and short circuit protection	yes, with miniature fuse 5x20mm 500 mA time lag Switch-off capacity 1500 A
Minimum load	1W
Leakage current (max.)	250µA
Typical voltage drop on the TRIAC	0.9 V

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Galvanic isolation (Internal bus / mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 3 mΩ (mains input to mains output, conductor path + plug connection)

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.8.3 *gesis* FLEX-0/4HL DC 4x binary switching output



General description

Product: Functional module

Description: relayDC 24 V / 500 mA binary switching outputs
Type / Item No.: *gesis* FLEX-0/4HL DC 83.020.0633.0 (without plugs)
gesis FLEX-0/4HL DC Z 83.020.0633.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

The 4-fold semiconductor output 24 VDC/0,5 A, with flat surface mounted housing which can be fitted on in DIN rail for decentralized installation, is managed by the base module. Every output is electronically protected. It receives mains and bus supply from the upstream module. The parameter set enables different automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.

Comment:
The semiconductor switching output can be operated with both the software described in this chapter and with the software of the relay outputs described in Chapter 3.5.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Operation and display elements
The control and display elements can be used for manual operation and state displays. The precise function depends on the firmware and parameterization. Typically, the state display is always available. Manual operation can be locked by a parameter.

Activating the state display and manual operation
Pressing any button on the extension module activates the state display and manual operation, if it has been released by parameterization, with all of the extension modules. Any module state error (red flashing) will be displayed without activation.

Function of manual operation

"Select" button	Brief press: Selects an output. Long pressing (> 3 sec): Will end the state display and manual operation.
"On/Off" button	Short pressing changes the switching state from the selected output.

Status indicator function

LED 'status'	Green: Red flashing:	Module state OK, no errors Model state errors (configuration errors, communication errors)
LED 'error' 1…4	green	This function is only available if the semiconductor output is operated with the application software described in this chapter. Flashing of the LED as an error display. An error at the output is only detected in the switched-on state. Possible errors are: No 24 VDC power supply, Output Fuse
LED "1" to "4"	green Flashing or superimposed flashing	'ON' channel status display output Indicates the selected output.

Ending the state display and manual operation

By a long pressing of the "Select" button (> 3 sec) or if no button was pressed for 10 minutes (timeout).

Internal module bus

The supply takes place at the input of the internal bus or by connecting to a *gesis* FLEX basic module or to an expansion or feed module, which is already being supplied by a basic module. The bus is routed, through the module, to the *gesis* FLEX extension or feed modules placed in a row. Within the module, the bus is used to supply internal switching parts and for the exchange of data with the basic module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue (internal bus/GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue (internal bus/GND/+12 V)
Module supply voltage	12 VDC (+/-5%)
Current consumption in standby	Approx. 11 mA eff. (LEDs OFF) / approx. 65 mA eff. (All LEDs On)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX base or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply is connected 1-phase or 3-phase, depending on the feed of the basic or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX expansion or feed modules can be connected. The mains voltage is not used within the module.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A

Connection for semiconductor outputs

External DC low voltage must be connected to supply the two shutter outputs.
become

Connection type: DC feed	GST15i2 male connector, 2-pole, light blue, (1 = + / 2 = -)
Rated voltage	24VDC (-10% / +20%)
Rated current	6 A
Reverse polarity protection	yes

Output

Number	4 switching outputs (TRIAC switches)
Switch element	MOSFET, Smart High-Side Power Switch, Ron typ. 0.2 Ohm
Rated voltage	24 VDC (from DE input for the semiconductor outputs)
Rated current	0,5 A (ohmic load)
Connection type	GST15i2 female connector, 2-pole, pastel blue (D1=+/D2 =-)
Max. number of connectable electrothermal drives per channel:	z.B. 3 × F.0.000.0032.6 (Wieland Electric GmbH)
Conductor and short circuit protection	yes
Leakage current (max.)	3.5 µA (typical in the Off state)
Ron	Type 0.5 Nm

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Galvanic isolation (Internal bus / mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 2 m Ω (mains input to mains output, conductor path + plug connection)

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70°C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Create the mounting area as discussed or apply the instructions from other chapters.

Mounting

Mounting method	Mounting on TH 35-7.5 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability

Failure rate 725 fit (at 40°C)

EMC requirements

Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3

Housing material

Plastic, halogen-free, light gray upper section, black lower section

Fire resistance

Housing UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load

Approx. 2 kWh

Weight

Approx. 150 g

Dimensions

Width:	115 mm in the direction of the DIN rail Installed in rows in the group 130 mm Installed in rows in the group with right end plate 140 mm
Length:	149 mm at right angles to DIN rail
Height:	44 mm without and about 47 mm with TH 35-7.5 DIN rail

CE marking

In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive

Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

3.8.4 Application description for semiconductors

The semiconductor outputs can be operated with two applications for extension modules.

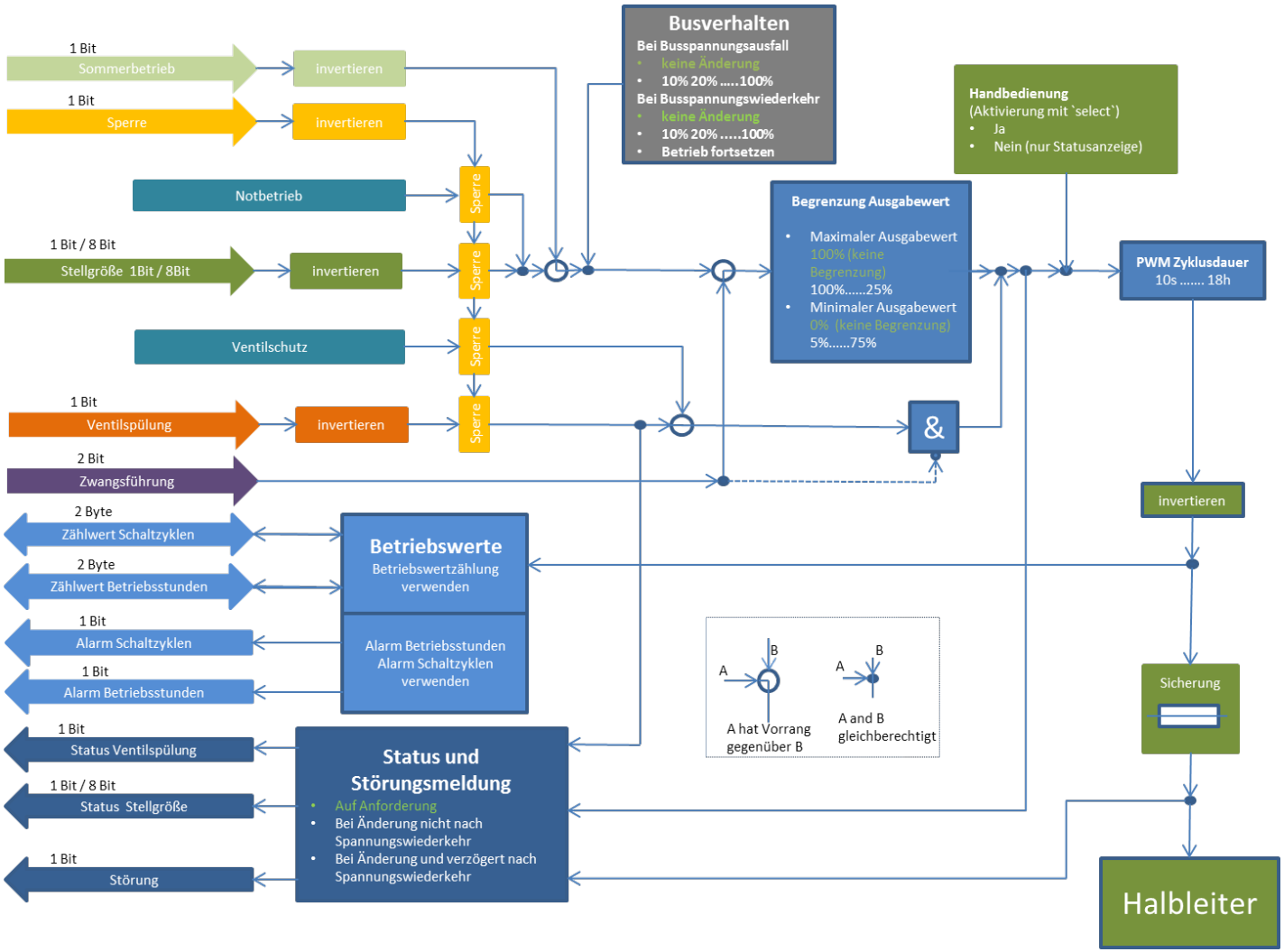
Activation of electrothermal valves:

The description on the following pages was specially developed for the activation of electrothermal actuating drives, as used on radiators or cooling ceilings, for example.

Activation in the standard relay function – Loading of the application as with the relay switching outputs

The semiconductor outputs can also be loaded with the standard relay software and then function in the manner described in Chapter 3.5. Thus, functions as such a timer, staircase circuit, toggle operation etc. can be used. This variant is used when the semiconductor output is used, for example, for LED applications (for 230 V in the protection class II range) and light or switching-specific functions are requested.
When the switching application is loaded, the functions of the operating and observation elements can also be found in Chapter 3.5. It should be noted that only the overall module, i.e. all four semiconductor outputs together, can be operated in the alternative mode of the switching outputs.

Flowchart


Busverhalten
Bei Busspannungsausfall
keine Änderung
10% 20% 100%
Bei Busspannungswiederkehr
keine Änderung
10% 20% 100%
Betrieb fortsetzen
Handbedienung
(Aktivierung mit `select`)
Ja
Nein (nur Statusanzeige)
1 Bit
Sommerbetrieb
invertieren
1 Bit
Sperre
invertieren
Notbetrieb
Sperre
1 Bit / 8 Bit
Stellgröße 1Bit / 8Bit
invertieren
Sperre
Begrenzung Ausgabewert
Maximaler Ausgabewert
100% (keine Begrenzung)
100%.....25%
Minimaler Ausgabewert
0% (keine Begrenzung)
5%.....75%
PWM Zyklusdauer
10s 18h
Ventilschutz
Sperre
1 Bit
Ventilspülung
invertieren
Sperre
&
2 Bit
Zwangsführung
invertieren
2 Byte
Zählwert Schaltzyklen
2 Byte
Zählwert Betriebsstunden
Betriebswerte
Betriebswertzählung verwenden
1 Bit
Alarm Schaltzyklen
1 Bit
Alarm Betriebsstunden
Alarm Betriebsstunden
Alarm Schaltzyklen
verwenden
A
B
A hat Vorrang gegenüber B
A
B
A and B gleichberechtigt
Sicherung
1 Bit
Status Ventilspülung
Status und Störungsmeldung
Auf Anforderung
Bei Änderung nicht nach Spannungswiederkehr
Bei Änderung und verzögert nach Spannungswiederkehr
1 Bit / 8 Bit
Status Stellgröße
1 Bit
Störung
Halbleiter

Communication objects

The operating modes are set via parameters.
The object numbers indicated in the tables stand for the first module in the system in each case. The object numbers for module locations 2 to 6 are derived as follows: Obj. No. EM 2 = Obj. No.$_{Table}$ + 100 Obj. No. EM 3 = Obj. No.$_{Table}$ + 200 Obj. No. EM 4 = Obj. No.$_{Table}$ + 300 Obj. No. EM 5 = Obj. No.$_{Table}$ + 400 Obj. No. EM 6 = Obj. No.$_{Table}$ + 500

Module 1 Obj. No. of outputs				**Function**	**D**ata **P**oint **T**ype **DPT**	**Object**	**Length**	**Flags**				
1	**2**	**3**	**4**					K	L	S	Ü	A
2	14	26	38	lock	1.002	lock	1bit	K	–	S	–	–
3	15	27	39	Input, switching	1.001	Input, switching	1bit	*K*	–	S	–	–
				Correcting variable consistent	5.001	Correcting variable consistent	8bit					
4	16	28	40	Summer mode	1.001	Summer mode	1bit	K	–	S	–	–
5	17	29	41	Valve flush	1.010	Valve flush	1bit	K	–	S	–	–
6	18	30	42	Priority control	2.001	Priority control	2 bit	K	–	S	–	–
7	19	31	43	Channel status (high)	1.001	State input, switching	1bit	K	L	–	U	–
				Channel status (high)	5.001	State input, continuous	8bit					
8	20	32	44	State valve flush	1.001	State valve flush	1bit	K	L	–	U	–
9	21	33	45	Malfunction	1.005	Malfunction	1bit	K	L	–	U	–
10	22	34	46	switch cycles count value Can be read and written	7.001	switch cycles count value	2 byte	K	L	–	–	–
11	23	35	47	Alarm switch cycles Object will be set with "1" when alarm value is reached	1.005	alarm switch cycles	1bit	K	L	–	U	–
12	24	36	48	operating hours count value Can be read and written	7.007	operating hours count value	2 byte	K	L	–	–	–
13	25	37	49	alarm operating hours Object will be set with "1" when alarm value is reached	1.005	Alarm operating hours value	1bit	K	L	–	Ü	–

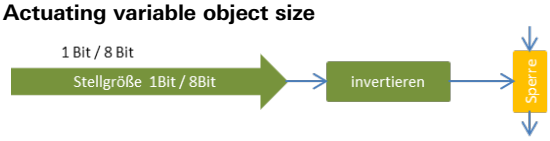
Parameter description

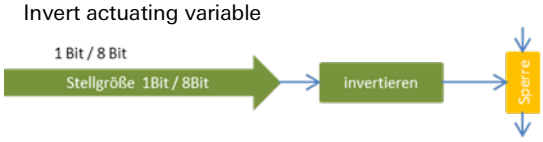
Overview

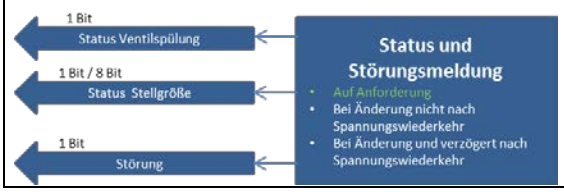
Basic settings – channel 1 to 4 200
Bus behaviour 202
PWM settings 202
Protection settings - channel 1 203
Lock and priority control - channel 1 205
Operating values alarms 207
State and malfunction - channel 3 207

Basic settings – channel 1 to 4

(**Note:** The basic settings are in bold font)

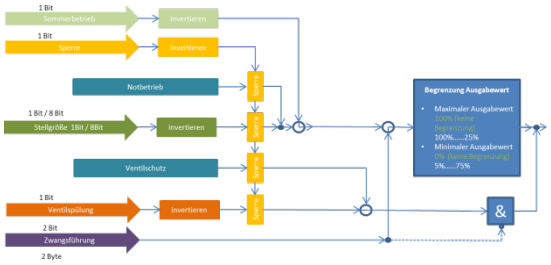
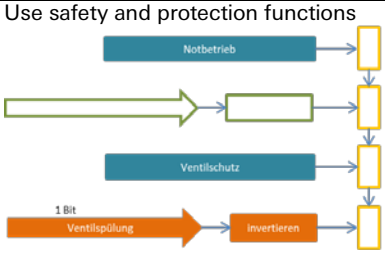
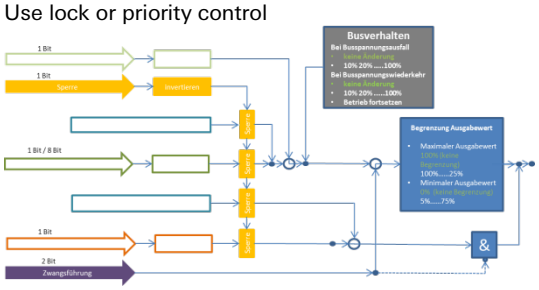
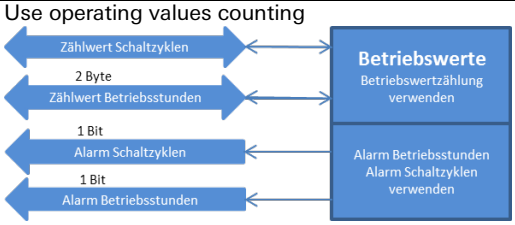
<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Actuating variable object size
 
</td><td>◉ 8-bit consistent ○ 1-bit switching

Here, it is possible to specify, in the case of correcting variables for the valve, whether 1-bit or 2-point control is used or 8-bit and continuous control. In the case of operation with a 1-bit object, the appropriately parameterized output can be switched on or off for the length of the set switch-on value, according to the parameterized cycle time. With an 8-bit object, PWM (Pulse Width Modulation) is output according to the 8-bit value 1…255 (0%-100%), depending on the parameterized cycle time.
Correcting variables:
<table>
<tr><td>1bit</td><td>8bit</td><td>Percentage output value PWM of the cycle time</td></tr>
<tr><td>0</td><td>0</td><td>0% (off)</td></tr>
<tr><td></td><td>1…255</td><td>1…255 / 255 *100%</td></tr>
<tr><td>1</td><td></td><td>Parameterized duty cycle (1-bit)</td></tr>
</table>
Z = Cycle duration (PWM)</td></tr>
<tr><td>Invert actuating variable
 
</td><td>There is the option of inverting the logic for the 1-bit object. In this case, a ‘1’ renders the object at the output inactive and a ‘0’ on the object starts PWM with the parameterized switch-on value.</td></tr>
<tr><td>Switch-on value (1-bit object)
 
</td><td>• 10 %
• 20 %
• 30 %
• 40 %
• 50 %
• 60 %
• 70 %
• 80 %
• 90 %
• 100 %

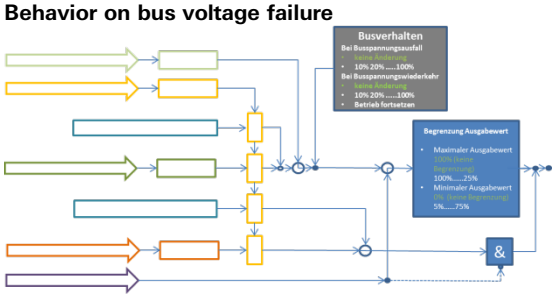
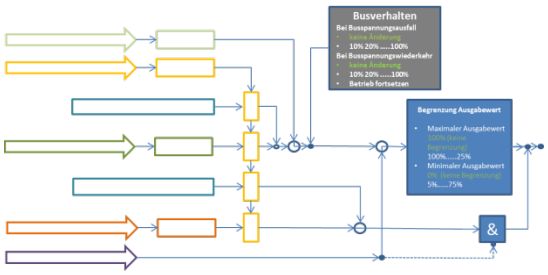
If the 1-bit object correcting variable transmits a ‘1’ switch-on command, then, in the case of 1-bit object control, the switch-on value is used to set the ratio of the duty cycle to the cycle time and the PWM started. This value is fixed for the 1-bit object control on account of the parameterization. A ‘0’ on the 1-bit object interrupts a previously started PWM. Switchover takes place according to the phase situation.
Note:
A set limitation of the output value also limits the switch-on value at the output. If ‘Invert correcting variable’ is parameterized, then the described behavior at the output is inverted accordingly.</td></tr>
<tr><td>Actuator model</td><td>◉ Closed when deenergized ○ Open when deenergized This sets the function of the connected valve.
This setting is used to configure the output in such a way that, in the appropriate switching states of the output, the correct voltage states are forwarded to the valve. Here, it is possible to work with different valve types. Appropriate information on the connected valve can be found in the technical data of the valve manufacturer.</td></tr>
<tr><td>Use state and malfunction
 
</td><td>Default: ☐
If this function is set, it is possible during its parameterization to evaluate operating states, such as the status of the correcting variable or of the valve flush and faults such as defective fuse or no valve voltage.</td></tr>
</table>

Basic settings – channel 1 to 4

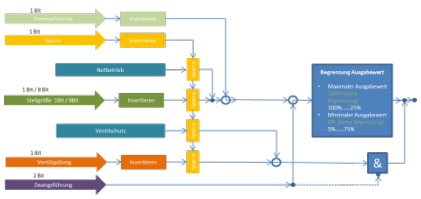
(**Note:** The basic settings are in bold font)

Use summer mode 	Default: ☐ If summer mode is activated, then correcting commands are disabled via the correcting variable object along with emergency operation for the duration of summer mode. However, valve protection or valve flush as well as priority control remain possible.
Invert 'Summer mode' object 	There is the option of inverting the logic for the 1-bit summer mode object. In the case of an inversion, a '1' renders the summer mode object and a '0' on the object starts summer mode.
Output value at summer mode 	• **0 %** • 10 % • 20 % • 30 % • 40 % • 50 % • 60 % • 70 % • 80 % • 90 % • 100 % The standard setting for the output value in summer mode is 0%. Depending on the valve type, the connected valve at the output moves to the end position as deenergized closed or deenergized open. However, it is also possible to set PWM values for summer mode here. This means that it is possible to implement heating and cooling operation.
Use safety and protection functions 	Default: ☐ Activating this function makes it possible to use and parameterize the safety and protection functions, such as emergency operation, valve protection and valve flush, for the appropriate output.
Use lock or priority control 	Default: ☐ Activation allows the use of locks and so-called priority control. Priority control is the object with the highest priority.
Use operating values counting 	Default: ☐ If you wish to evaluate the operating hours or switching cycles and obtain the appropriate information, then these functions must be selected and activated here.

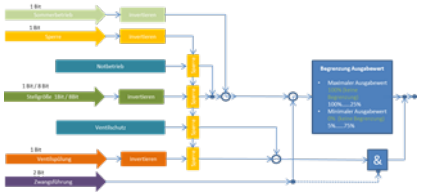
Bus behaviour

Parameter	Description
Behavior on bus voltage failure 	• **no change** • 0 % • 10 % • 20 % • 30 % • 40 % • 50 % • 60 % • 70 % • 80 % • 90 % • 100 % This parameter determines the behavior of the output in the case of a bus voltage failure. The appropriately set values are output.
Behaviour on bus voltage recovery 	• no change • 0 % • 10 % • 20 % • 30 % • 40 % • 50 % • 60 % • 70 % • 80 % • 90 % • 100 % • **Continue operation** This parameter determines the behavior of the output on bus voltage recovery. The appropriately set values are output. Functions such as valve flush are only continued on bus voltage recovery if 'Continue operation' was parameterized. In the other case, a function is canceled. Note: A lock or priority control set at the time of the bus voltage failure will also remain active after the bus voltage recovery.

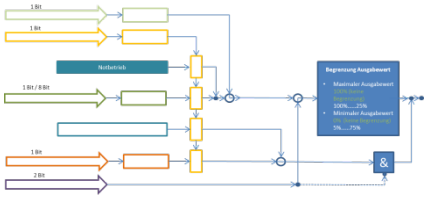
PWM settings

Parameter	Description
PWM cycle	**00:05:00** hh:mm:ss
Maximum output value 	• **100% (no limit)** • 95% • 90% • 85% • 80% • 75% • 70% • 65% • 60% • 55% • 50% • 45% • 40% • 35% • 30% • 25% This setting allows the optimum adaptation of the control dynamics of the PWM to the system and the connected valve. Here, it is possible to optimize the flow rate in the cooling/heating circuit in an energy-related manner and adapt it to the individual circuits and their line system. In the ideal setting, this allows a reduction of the energy costs.

PWM settings

Parameter	Description
Maximum output value 	• **0% (no limit)** • 5% • 10% • 15% • 20% • 25% • 30% • 35% • 40% • 45% • 50% • 55% • 60% • 65% • 70% • 75% This setting allows the optimum adaptation of the control dynamics of the PWM to the system and the connected valve. Here, it is possible to optimize the flow rate in the cooling/heating circuit in an energy-related manner and adapt it to the individual circuits and their line system. In the ideal setting, this allows a reduction of the energy costs.

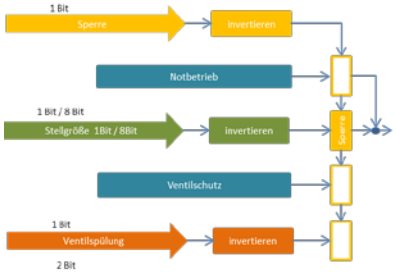
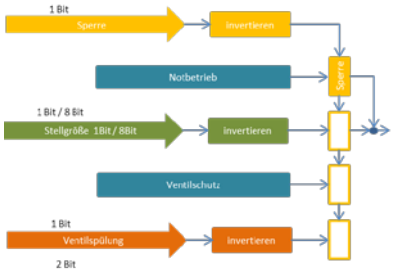
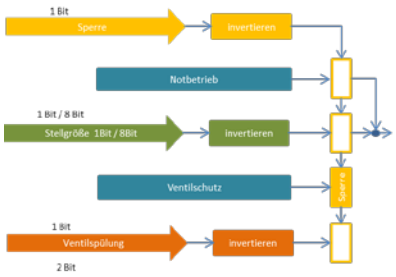
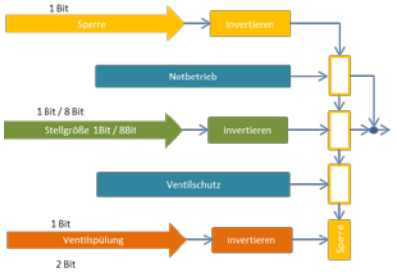
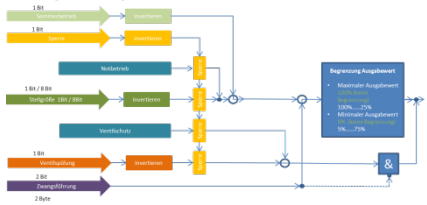
Protection settings - channel 1

Parameter	Description
Activate emergency mode 	Default: ☐ Emergency operation means that, if the correcting variable (KNX bus, controller, sensor) fails, the valves move to a safe, definable position. If no correcting value is received during a specified time, then the actuator switches to so-called emergency operation. The valves assume the parameterized position (PWM). Reception of a correcting variable or manual operation as well as bus initialization end the emergency operation function. The timer for emergency operation restarts. Note: Emergency operation is suppressed for the length of an active summer mode.
Emergency mode monitoring time	**01:00:00** hh:mm:ss If no correcting variable is received during the monitoring time set here, then the parameterized output switches to the defined emergency operation. Note: If summer mode is set, emergency operation is suppressed.
Output value at emergency mode	• **no change** • 0 % • 10 % • 20 % • 30 % • 40 % • 50 % • 60 % • 70 % • 80 % • 90 % • 100 % The output value for emergency operation specifies with which percentage value of the PWM cycle time the valve at the output is activated. If there is no change, the most recently received value is maintained.
Activate valve protection	Default: ☐ Valve protection is intended to prevent valves from getting stuck in the heating system. If a valve is positioned in one position for a longer period of time, then it is possible that deposits or corrosion in the pipe system are blocking the valve. To prevent this, this module possesses a valve protection function. This function ensures that, within the set valve protection monitoring time, the valve is moved to both end positions and thus travels through the entire valve stroke. Special feature: If, during the running valve protection function, a lock, priority control or valve flush is activated, then the valve protection function is completed first. Then, the required lock, priority control or valve flush function is executed.

Protection settings - channel 1

Parameter	Description
Valve protection monitoring time [hrs]	1 … **6** … 255 The valve protection monitoring time [d] sets the monitoring time as a number of days after which the activated valve should have reached both end positions once. If this was not the case after the end of the monitoring time, or if only one of the end positions was approached, valve protection will take effect. The valve then travels through the complete valve stroke for the set valve protection move time, thus reaching both end positions. Then, the output information (PWM) current after this operation is output.
Valve protection move time	• 3 min • **6 min** • 10 min • 15 min The move time for valve protection should be selected in such a way that both end positions for completely open and completely closed can be reached within the parameterized time. The drive time for a complete stroke of a valve is manufacturer-dependent and thus can vary greatly. We recommend consulting the data sheets for appropriate times. Note: If, at the time of active valve protection, a lock or priority control is set, then the valve will remain at the last current valve for the length of the lock. Only when the lock has been removed is the valve protection completed with the remaining move time.
Use valve flush	Default: ☐ The valve flush function was integrated to avoid deposits in the pipe system, particularly in the valve connection area. A '1' starts valve flush with a PWM of 100%. The settable limitation of the output valve is not taken into account here. A '0' stops the operation again and the valve switches to the currently pending actuating value.
Invert 'Valve flush' object	Default: ☐ The logic for the valve flush object can be inverted with this function.
Automatically reset valve flush (1 h)	Default: ☑ This setting should prevent valve flush for being active for longer than 1 h. When started, valve flush is thus ended automatically after 1 hour has elapsed. Then, normal system operation commences again.
Use 'State valve flush' object	Default: ☐ The status valve flush '1' object can be used to inform the connected heating and cooling system that valve flush is activated. Accordingly, it is then possible to control the pumps of the system, in order to flush the pipe system and thus the valves. The status '0' recommences normal operation.
State valve flush transmit condition	• **On request** The valve flush status must be read explicitly. • **On change, not on bus voltage recovery** The object is actively transmitted to the bus when there is a change. • **On change, and delayed on bus voltage recovery** After every change in shutter/blind height or after bus voltage recovery, the current state of the shutter/blind height is subsequently sent to the KNX bus.

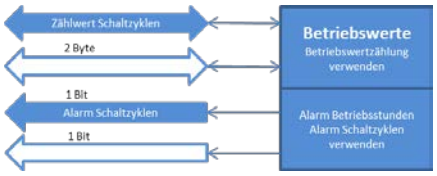
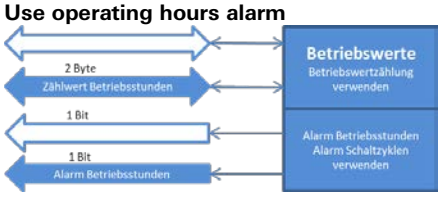
Lock and priority control - channel 1

Parameter	Description
Use 'Lock' object	Default: ☐ When the lock is used, it is possible to lock and release the correcting variable and valve flush objects selectively, along with the emergency operation and valve protection functions.
Invert lock object	Default: ☐ This parameter can be used to invert the logic of the locking object.
Lock acts on actuating variable 	Default: ☑ If, at the time of an active lock, a telegram for a correcting variable is received, then this is not executed on account of the active lock. Only when the lock has been reset to '0' is it possible to accept a new value for the correcting variable and to process it accordingly. Note: Despite the lock, a running time for emergency operation is reset and restarted when a correcting variable is received. However, the value for the correcting variable is not evaluated due to the lock.
Lock acts on emergency mode 	Default: ☐ If the lock for emergency operation is activated, then a '1' on the lock object prevents execution of the emergency operation function. If there is a '0' on the lock object, emergency operation is possible. Note: A started timer for emergency operation continues to run during the time of a lock. If this time has elapsed during the lock and no new correcting variable is received, then the pending emergency operation is executed.
Lock acts on valve protection 	Default: ☐ If the lock for valve protection is activated, then a '1' on the lock object prevents execution of the valve protection function. If there is a '0' on the lock object, the valve protection function is possible. A started timer for valve protection continues to run during the time of a lock. If the monitoring time for valve protection has expired during an active lock, then the pending valve protection is executed after the lock.
Lock acts on valve flush 	Default: ☐ Setting the lock prevents the execution of the valve flush function.
Use priority control 	Default: ☐ Priority control is a 2-bit object. It is possible to parameterize the priority control individually for each of the four semiconductor outputs. Thus, different events, such as an opened window or dew point monitoring on cooling ceilings, can be integrated in the control and appropriate parameterization carried out. The correcting variable, summer mode, valve protection, valve flush and emergency operation objects are suppressed for the period of priority control.

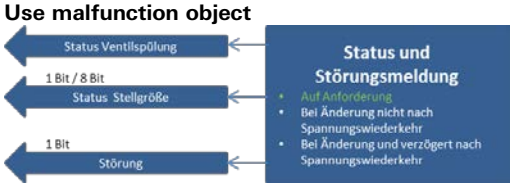
Lock and priority control - channel 1

Parameter	Description
Priority control On, value 1 ('1 1')	• no change • 0 % • 10 % • 20 % • 30 % • 40 % • 50 % • 60 % • 70 % • 80 % • 90 % • **100 %** If the 2-bit value '1/1' is received at the priority control object, the value set here becomes active for the appropriate output. If there is no change, the most recently received value is retained for the priority control period. Note: If the output value is limited via the appropriate parameters, the priority control value is also limited. If, for example, 80% is set for the upper limit, then only 80% is output as the maximum during priority control.
Priority control On, value 0 ('1 0')	**0 %** If the 2-bit value '1/0' is received at the priority control object, the value 0% remains active for the appropriate output.
Value at end of priority control	• no change • 0 % • 10 % • 20 % • 30 % • 40 % • 50 % • 60 % • 70 % • 80 % • 90 % • 100 % • **Continue operation** This setting determines the behavior of the output on exiting priority control. The set output value limit is also active here. Note: In the **Continue operation** setting, after priority control, valve flush started before or during priority control is continued. If the timer is activated, it continues during priority control. If the timer has elapsed during priority control, valve flush is not restarted. The next correcting variable is executed. The timer for emergency operation also elapses during priority control. If this has elapsed during priority control, emergency operation is started immediately after priority control.

Operating values alarms

Parameter	Description
use switch cycles alarm 	Default: ☐ This object can be read and written to. If this function is selected, the 'Alarm on…cycles' object (input value × 10) is shown. 10 cycle units are counted. If there is a voltage failure, 10 cycles can thus be lost. **Note:** The "Alarm switch cycles" is only activated when the operating values count has been switched on for the respective channel. By writing to the object, the switching cycles' counter can be set to 0 or any other value. The counter is incremental.
Alarm at … cycles (input value × 10)	Default: **1000** The number of switch cycles can be entered in a value range from 1 to 65535. This value multiplied by 10 results in the actual value for the alarm value. With an input value of 1000, the alarm will thus be triggered after reaching 10,000 switch cycles.The change of the object value is transmitted to the bus.
Use operating hours alarm 	Default: ☐ Can be read and written If this function is selected, the "Alarm operating hours" object will be displayed. This object is set to "1" when the counter has reached the configured number of operating hours, i.e. the alarm value. Note: The "Alarm operating hours" is only activated when the operating values count has been switched on for the respective channel. In order to reset the alarm, the "S" flag must be activated on the "Operating hours count value" object and the object must be overwritten with a value less than the configured alarm value.
Alarm at … hours	Default: **1000** The alarm value for the operating hours alarm can be entered in a value range from 1 to 65535. If the value for the operating hours is reached, the "Alarm operating hours" object is set to "1".

State and malfunction - channel 3

Parameter	Description
Use State	Default: ☐ If this parameter is active, the correcting value of the output is output via the status object. It is possible to read out this status as an 8-bit value or 1-bit value, according to the parameterization.
State object size	◉ 8-bit (continuous) ○ 1-bit (switching)
State transmit condition	• **On request** The status object must be read out explicitly on demand • On change, not on bus voltage recovery If the status changes, this is output automatically to the bus. However, this is not the case after a bus voltage recovery. • **On change and delayed on bus voltage recovery** After every change in shutter/blind height, the current state of the shutter/blind height is subsequently sent to the KNX bus. After bus voltage recovery, the current state of the shutter/blind height is sent to the KNX bus with a delay.
Use malfunction object 	Default: ☐ The fault object provides information on the operation of each individual output. Thus, the 1-bit object can be used to signal an error of the appropriate output on the bus. Errors could be a defective fuse, no valve voltage or a defective semiconductor output. Note: A fault at the output is only detected in the active state. In addition, after elimination, an error is only retracted in the following active output state. It is therefore wise, after eliminating an error, to check it through manual operation on the device. Otherwise, force a switch-on of the output via the bus.

Malfunction transmit condition	• **On request** The fault message object must be read out explicitly. • On change, not on bus voltage recovery If the status of the fault message object changes, this is output automatically to the bus, although not after a bus voltage recovery. • On change and delayed on bus voltage recovery If the status of the fault message object changes, this is output automatically to the bus after a delay after a bus voltage recovery.

4 Devices in the *gesis* FLEX standalone family

4.1 System description

Decentralized room automation is the measure of all things in terms of flexibility, safety, and efficiency in building services engineering. Our customers are ideally prepared for the future with the extremely flexible *gesis* FLEX modular systems.
A fully functional, modular *gesis* FLEX system consists of one basic module and at least 1 or up to a maximum of 6 functional modules as well as any additionally required extension modules.
The functional modules are all managed by the basic module and supplied necessary information and operating voltage for the electronics via an internal interface.
Extension modules enable, among other things, selective fuse protection of the individual circuits or the provision of a DC power supply for powering DC shutters. These modules are actually modular, but they are not programmable and are not managed by the basic module. The number of extension modules is essentially not limited.
This development of decentralized building automation by Wieland Electric GmbH to control lighting, shutters, ventilation, and heating systems means that all necessary functions are covered. The system enables quick, efficient, and simple project planning of projects. Even if there are some uncertainties during planning, changes in functions and requirements can be accommodated quickly and easily. High levels of flexibility and the modularity of the system make it possible to react to changing usage requirements at any time. The necessary measures can be implemented quickly by hardware and software modifications. Modules can be replaced, expanded, and added without the need for tools. The extensive parameter set leaves nothing to be desired.

4.2 KNX ENOCEAN Gateway *gesis* KNX ENO32



General description

Products: Standalone module

- Designation: KNX ENOCEAN Gateway
- Type / Item No.: *gesis* KNX ENO32 83.020.0628.0 (plug set not included)
  gesis KNX ENO32 Z 83.020.0628.1 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

This gateway for 32 bidirectional channels is an independent KNX unit in a flat surface-mounted housing, which can be mounted on DIN rails for decentralized installation. This is based on the Enocean Equipment Profiles (EEP). In addition to the software for commissioning, there is comfortable manual operation available via a display. The ETS application also has an extensive logic/control range. The KNX connection is executed to be pluggable.

Accessories: Commissioning software: KNX ENO tool 63x
The KNX ENO tool 63x makes it possible to edit links that were created between various Enocean sensors and the KNX/EIB-Enocean gateway *gesis* FLEX ENO32. The unit can therefore be completely operated via remote-control. The existing configuration of a gateway can be read, changed on the PC, archived, and transferred back to the same or a different gateway. In addition, the software contains a bus monitor for displaying Enocean telegrams via the KNX bus.
The software and corresponding documentation can be obtained free of charge in the download area of Wieland Electric GmbH.

Technical data

Construction type

Housing	*gesis* FLEX 95 mm with end caps on both sides

Mounting	Foot for mounting on mounting rail
Connection type	Connector

Function description

This standalone function module from the *gesis* FLEX module series is used bidirectionally as a gateway between Enocean radio devices and the KNX bus system. This device can be used to transmit commands and measured values from Enocean devices and sensors to the KNX bus in order control KNX actuators or likewise control Enocean actuators through commands at the KNX bus. The Enocean/KNX gateway provides logic and control functions; the repeater function is used to receive and send radio telegrams. This means that an increased range and thus data transmission security is achieved. The unit is based on Enocean devices according to the so-called Enocean Equipment Profiles (EEP). The respective unit profile is normally indicated in the manufacturer datasheets. The *gesis* KNX ENO32 gateway makes it possible to manage up to 32 channels. The individual channels can be assigned the following functions.

Linking of Enocean sensors to KNX

Includes switch functions, dim functions, shutter functions, scenes, window handles, window contacts, access card switches, pressure switches, temperature sensor, humidity sensor, light sensors, presence sensors, gas sensors, room control units, automated counter read units, environment sensors, digital inputs, etc.

Linking of KNX to Enocean

The unit includes switch, dim, and shutter actuators, actuator drives for heating, air-conditioning, ventilation, etc.

Control and logic functions

Such as switch-on delay, post-run switching, two-point and continuous control, heat requirement request, light control, logic gates for links, value transmitters, triggers, and monitoring.
Configuration of the individual channels is done with the ETS software via the KNX bus. The radio components are taught with the aid of function buttons and the display on the gateway.

Note:

Upon delivery, this gateway has the individual address 15.15.255 and there are no group addresses or connections to sensors.

Operation and display elements

The control and display elements are used for the status display and commissioning. In the main menu, the display shows the unit names, operating mode, and the physical KNX address.

Function of manual operation

'KNX' button	When this button is pressed, the programming LED will start to flash. The unit activated for programming the KNX application and the physical address.	
"Exit/Delete" button	Long pressing > 2 s:	The device stored on the currently displayed channel will be deleted.
	Brief press:	Channel or teaching mode will be exited.
"Activate/Add" button	Long pressing > 2 s:	Starts the teaching mode.
	Brief press:	Activation and channel selection of channels 1 to 32

Function of the state display on the LCD display

The display is used for commissioning and system diagnostics. In the main menu, the display shows the unit names, operating mode, and the KNX address. The signal strength of telegrams received is displayed on the lower edge of the display in bars. When a channel is selected, the channel number and the text set in the ETS will be displayed. In the second line, the type (sensor/actuator) and the EEP are displayed.

The number of channel links used and also available is displayed as well. If a telegram has been assigned to one or more channels, this is shown in a matrix. During channel selection, the channel number and the designation set in the ETS, e.g. rocker, will be shown in the display. The channel type, such as sensor or actuator, and the corresponding EEP (Enocean Equipment Profile) are shown in a second line. The number of channel links used and still available is shown in yet another, third line. The signal strength is likewise indicated on this page.
To this end, the integrated LCD backlight is automatically activated and deactivated.

Assignment of the individual unit addresses (KNX)

In order to program the individual unit addresses via the ETS (EIB software tool), the KNX button must be pressed on the unit. If programming or teaching mode is active, the red LED next to the KNX button will be lit. This LED will go out when the unit has successfully received the individual addresses and the download is complete. The group addresses and parameter settings are likewise programmed via the ETS.

Linking with Enocean units

Before linking with Enocean units, the functions of the individual channels must be programmed with the assistance of the ETS. Normally only one Enocean unit can be taught per channel but multiple links can be taught. For touch sensors, window handles, and window contacts, up to 4 links can be created per channel. When linking KNC to Enocean actuators, multiple devices can be assigned to one channel.

Teaching radio sensors via the control elements on the gateway

Radio sensors are taught using the "Activate/Add" button. If the unit is in normal operating mode, the unit can be placed into channel mode with a short button press of the "Activate/Add" button; any additional button press effects a change to the next respective channel. The display in this case shows the current channel number and the number of units connected. The text entered in the ETS is also displayed for each channel. Long pressing of the "Activate/Add" button will activate teaching mode on the desired channel. A radio sensor can then be connected to the channel. To this end, the function set in the ETS must match. The sensor is taught be pressing the teach button on the sensor. Sensors without a teach button must be activated for teaching so that they can be detected. To keep other transmitting units from being taught during the teach-in process, it is possible, via parameterization, to teach a unit after 3-times sending, within 10 seconds. To do this, "Teach switch/handles (RPS) after 3 tel" must be selected in general parameters. Teach mode is ended by briefly pressing the "Exit/Delete" button or automatically after 5 min without operation.



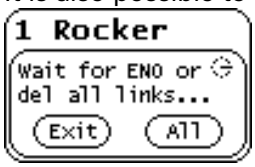
Brief instructions: Teaching radio sensors

1.	"Activate/Add" button	Short button press	Select channel
2.	"Activate/Add" button	Long button press	Activate teach mode (Wait for ENO)
3.			Activate teach mode on radio sensor
4.			Sensor is now taught
5.	"Exit/Delete" button	Short button press	Exit teach mode

Deleting radio sensor via the control elements on the gateway

Taught sensors can be deleted in different ways. The teach mode is activated for the current value by a long press of the "Exit/Delete" button. If the sensor teach button is then pressed, it will be deleted from the *gesis* KNX FLEX ENO32 gateway.

It is also possible to delete all of the taught sensors for the selected channel by pressing the



"Activate/Add" ("All") button with an activated teach mode. To this end, the sensors do not have to be confirmed individually. An additional option for deleting all of the taught sensors is by programming the application program via the ETS when the " Delete all links after download" function has been activated in general parameters. If the function of the channel was changed, the programming of the parameter likewise deletes the links of the changed channel via the ETS. Teach mode is ended by briefly pressing the "Exit/Delete" button or automatically after 5 min without operation.

Brief instructions: Teaching radio sensors

1.	"Activate/Add" button	Short button press	Select channel
2.	"Exit/Delete" button	Long button press	Activate delete mode (Wait for ENO)
3.			Activate teach mode on radio sensor
4.			Sensor will be deleted
5.	"Exit/Delete" button	Short button press	Exit delete mode

Teaching radio actuators

The operation of the gateway during teaching of actuators takes place similar to the process for teaching sensors. Teach mode must be activated on the radio actuator as a first step. The channel to be linked is selected by short pressing of the "Activate/Add" button on the gateway. Teach mode is then activated



through a subsequent long pressing of the "Activate/Add" button on the gateway. The "Select button" will then appear on the display. The pressure point of a switch rocker, top/bottom, and thus its telegram can be selected with the "Activate/Add" button. With some actuators, both pressure points have to be taught separately. The "Activate/Add" button is then long-pressed in order to send a teach telegram to the actuator currently in teach mode ("RF" appears briefly on the display). Once this occurs, teach mode for the actuator can be ended and the actuator is taught.

Teach mode is ended by briefly pressing the "Exit/Delete" button or automatically after 5 min without operation.

The activation of teaching mode on the actuator can be found on the datasheet for the unit.

Brief instructions: Teaching radio actuators

1.	"Activate/Add" button	Short button press	Select channel
2.			Activate teach mode on actuator
3.	"Activate/Add" button	Long button press	Activate teach mode on gateway
4.	"Activate/Add" button	Short button press	Select telegram pressure point
5.	"Activate/Add" button	Long button press	Gateway sends teach telegram to actuator
6.	"Exit/Delete" button	Short button press	Exit mode

Deleting radio actuators

The links to radio actuators are stored in the respective actuators. They can be deleted directly on the unit with many types without activating the gateway. With some actuators, it is also possible to delete individual links with the assistance of teach telegrams. In this case, the deleting of actuators functions the same as for the teaching process. To do this, the actuator must be set in delete mode. Each taught link must be deleted on the gateway via teach mode. Details can be found in the datasheet for the respective actuator.

Functional method of linked radio sensors

If a telegram of an Enocean unit is received in normal operation, each channel checks whether this unit is assigned to it. If so, the channel in a matrix is briefly displayed on the LCD and one or more of the telegrams corresponding to the function are sent to the bus. The transmit frequency on the bus is determined by the Enocean sensor. The gateway only sends a telegram to the KNX bus if a corresponding Enocean telegram was received.
If a received Enocean telegram has not been assigned to a channel, only the signal strength is shown on the display in bars.

Functional method of linked radio actuators

If a gateway receives a telegram from the KNX bus that is linked to an actuator, one or more radio telegrams will be sent for this channel.

Internal links

For some applications, it is necessary to link KNX data points (communication objects) of various channels with one another. In this manner, measured values of sensor channels can be connected to inputs of control channels. However, radio sensors can also be linked to radio actuators.
Data points can be linked in the ETS by assigning the same group address to an output and an input object. In doing so, the transferred values are also sent to the bus.
Contrary to this, internal links are provided for linking communication objects directly without sending telegrams to the KNX bus. To this end, no group addresses have to be assigned in the ETS. Internal links can be created in the ETS parameter dialog. The communication object number of the desired output channel must be selected in the receiver channel. The value of the desired object is then copied internally into the receiver object and implements the corresponding function.

Repeater function

The repeater function is used to bridge large distances between sensors and actuators. The *gesis* KNX FLEX ENO32 gateway contains a level-1 radio repeater. This means that only telegrams that originate directly from a transmitter are repeated. Telegrams from other repeaters, however, are not repeated. This prevents the telegrams from being constantly repeated in a sort of endless loop. The repeater function is activated via the general parameters in the ETS. If the function is active, this is displayed in the main menu of the display.

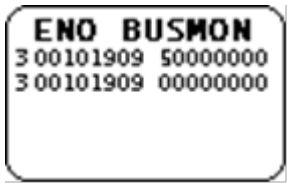


Bus monitor function

The integrated bus monitor function is used for system diagnostics directly on the unit. The unit can display Enocean telegrams as well as KNX telegrams. A brief pressing of the "Exit/Delete" button in the main menu will activate the combined Enocean and KNX bus monitor (E+K BUSMON). This is where the last 5 received and sent telegrams are displayed. A long pressing of the "Activate/Delete" button makes it possible to switch between the Enocean bus monitor (ENO BUSMON), the KNX bus monitor (KNX-BUSMON), and the combined E+K bus monitor. In order to go back to the main menu of the gateway, the "Exit/Delete" button must be pressed briefly. After 5 min. of inactivity, the bus monitor will also be automatically ended.

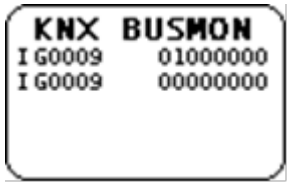
Enocean bus monitor

If a telegram is received by an Enocean unit, the signal strength (RSSI value) is shown on the first space of the line. The RSSI value (Received Signal Strength Indication) of 1-4 is shown (1=min.; 4=very good). The first block of 8 digits indicates the hexadecimally coded ID from the transmitting unit. The transmitted data is also displayed, in a form that is hexadecimally coded, in a second block of digits. If a telegram is sent by the gateway, an "S" is shown in the first space of line. In addition, the ID and the transmitted data are displayed.



KNX bus monitor

The KNX bus monitor indicates the telegrams at the object level. Thus, only those group telegrams that the gateway is addressing or are being sent by it are visible. If a telegram is received by the KNX bus, the KNX bus monitor indicates this with an "I". After this, the decimally coded number of the group object and the data package are shown with up to 4 hexadecimally coded bytes. If a KNX group address is connected to multiple objects in the gateway, a line is generated for each assignment. When a telegram is sent to the KNX bus, a "O" displayed along with the decimally coded object number and the hexadecimally coded data package.



Connectors

KNX input	For connecting a BST14i2 female connector (93.421.0553.1)
KNX output	For connecting a BST14i2 male connector (93.422.0553.1)

Power supply

	Carried out via the KNX bus connection. No additional supplies necessary.
Current consumption	Approx. 12 mA

Radio interface

	Enocean, ISM band 868.2 MHz. ASK supports the Enocean EEP profile, version 2.1
Distance	10 m to 30 m in the building. Depending on the structural conditions. Also see www.enocean.com

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor

Galvanic isolation

	(internal basic insulation, doubled externally or reinforced insulation)
Electronics/Mains	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse

Environmental conditions	
Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)
Mounting	
Mounting method	Mounting on TH 35 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required
Reliability	Failure rate 700 fit (at 40 °C)
EMC requirements	Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3
Radio standard	ETSI EN 300220-1 and ETSI EN 300220-2
Housing material	Plastic, halogen-free, light gray upper piece, black lower piece
Fire resistance (housing)	UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)
Fire load	Approx. 1.4 kWh
Weight	Approx. 340 g
Licensing and certification	KNX-certified
CE marking	In accordance with EMC Guideline (for residential and non-residential buildings)

Accessories: Commissioning software: KNX ENO tool 63x

The KNX ENO tool 63x makes it possible to edit links that were created between various Enocean sensors and the KNX/EIB-Enocean gateway *gesis* FLEX ENO32. The unit can therefore be completely operated via remote-control. The existing configuration of a gateway can be read, changed on the PC, archived, and transferred back to the same or a different gateway. In addition, the software contains a bus monitor for displaying Enocean telegrams via the KNX bus.
The software and corresponding documentation can be obtained free of charge in the download area of Wieland Electric GmbH.

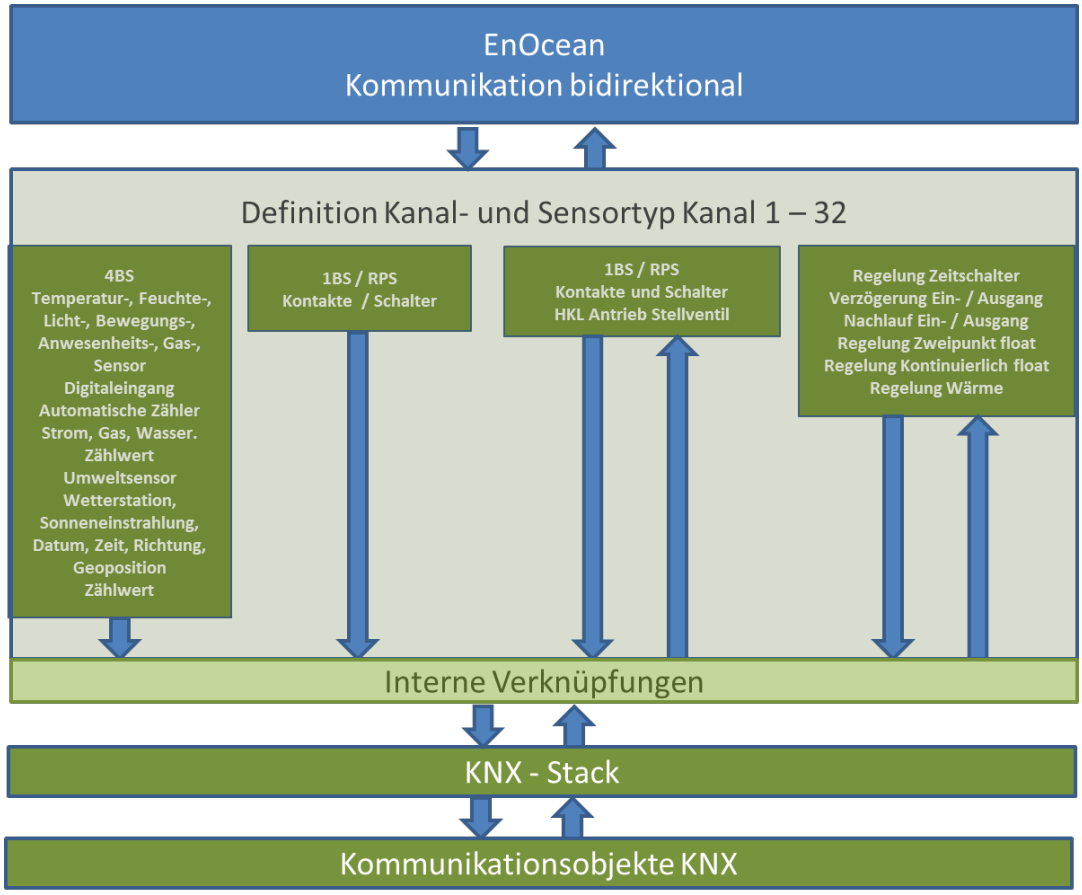
Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

Application description

Flowchart and gateway functions

One of the following functions can be selected for each of the 32 channels:



The operating modes are set via parameters. The object numbers indicated in the tables stand for the first channel from the gateway in each case. One channel contains a maximum of 8 communication objects with this unit.

The object numbers for individual channels 2 to 32 can be derived from the object numbers of channel 1 as follows:
Obj. No. $_{\text{Channel X}}$ = Obj. No.$_{\text{Channel 1}}$ + (X - 1)*8 X = Channel number (1 - 32)

Communication objects and parameter KNX

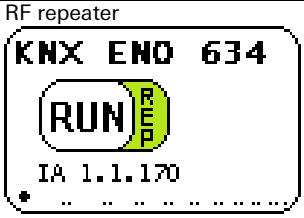
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General parameters for channel 1 to channel 32

General

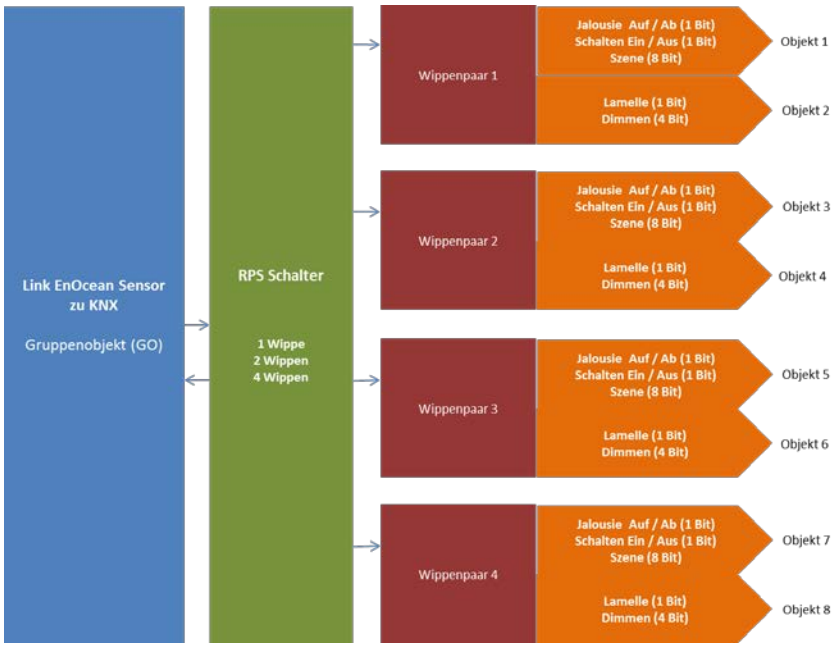
Parameter	Description
Delete all links after download	• **No** • **Yes** The setting "Yes" will delete all of the previously existing links. Previously programmed links will be lost.
Teach switch/handle (RPS) after 3 tel.	• **No** • **Yes** In order to prevent other transmitting units from being saved by accidental activation during the teaching process, a unit can only be taught after a three-time actuation within 10 seconds. To do this, "Teach switch/handles (RPS) after 3 tel" must be selected with "Yes" in general parameters.
RF repeater 	• **Off** • **On** The repeater function is used to bridge large distances between sensors and actuators. The *gesis* KNX FLEX ENO32 gateway is a level-1 radio repeater. Only telegrams that originate directly from a transmitter are repeated. Telegrams from other repeaters, however, are not repeated. The repeater function is activated with the setting "On". If the function is active, this is displayed in the main menu of the display with REP.

Communication objects and parameter KNX per channel

Channel 1 to 32

Parameter	Description
Channel type	• **Not used** The channel is not being used. • **Link between Enocean sensor and KNX** If this function is activated, the following sensor functions are available for selection with the parameters: RPS switches and contacts, temperature sensors, humidity sensors, light sensors, presence sensors, gas sensors, room control units, automatic counters, universal counters, and digital inputs. • **Link between KNX and Enocean actuator** In order to actuate Enocean actuators, the gateway emulates corresponding sensor profiles. This means that the unit transmits the same radio telegrams as an Enocean button for example. Each channel uses its own transmitter ID. The following actuator functions are available for selection in the parameters: Switches, contact inputs, and heating, air-conditioning, and ventilation drives for actuator valves. • **Control/logic** Multiple functions can be selected within control/logic. This includes time, control, logic, value transmitter, trigger, and monitoring functions.

Type 1: Link from Enocean sensor to KNX RPS switch

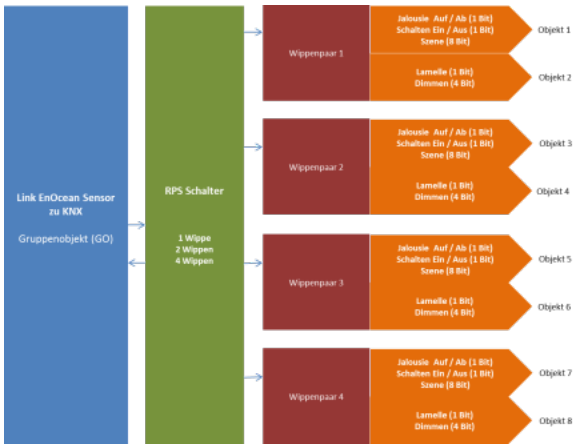


Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	RPS switch	Switch A	1.001	Sensor channel 1	1bit	K	-	-	Ü	-
		Shutter A	1.008	Sensor channel 1						
		Scene A	18.001	Sensor channel 1	8bit					
2	RPS switch	Dim A	3.007	Sensor channel 1	4 bit	K	-	-	Ü	-
		Louver A	1.008	Sensor channel 1	1 Bit					
3	RPS switch	Switch B	1.001	Sensor channel 1	1 Bit	K	-	-	Ü	-
		Shutter B	1.008	Sensor channel 1						
		Scene B	18.001	Sensor channel 1	8 bit					
4	RPS switch	Dim B	3.007	Sensor channel 1	4 bit	K	-	-	Ü	-
		Louver B	1.008	Sensor channel 1	1bit					
5	RPS switch	Switch C	1.001	Sensor channel 1	1bit	K	-	-	Ü	-
		Shutter C	1.008	Sensor channel 1						
		Scene C	18.001	Sensor channel 1	8bit					
6	RPS switch	Dim C	3.007	Sensor channel 1	4 bit	K	-	-	Ü	-
		Louver C	1.008	Sensor channel 1	1bit					
	RPS switch	Switch D	1.001	Sensor channel 1	1bit	K	-	-	Ü	-
		Shutter D	1.008	Sensor channel 1						
		Scene D	18.001	Sensor channel 1	8bit					
8	RPS switch	Dim D	3.007	Sensor channel 1	4 bit	K	-	-	Ü	-
		Louver D	1.008	Sensor channel 1	1bit					

Parameter description

Link from Enocean sensor to KNX RPS switch

Parameter	Description
Sensor type  	• **RPS switch** There are switch types with 1, 2, 4 rockers. The rockers (A-D) can have the following functions assigned to them: • **Switch on/off** On/Off, Rocker top/bottom causes an OFF telegram with a short or long button press on the upper button and an ON telegram with a press on the lower button. On/Off, Rocker top/bottom causes functions as described above, but the rocker top and bottom are switched. • **Dim** On/Off – Brighter/Darker (rocker top/bottom) causes a switch-on with a short button press on the upper button and a switch-off with a short button press on the lower button. With a long button press on the upper button, dimming is lessened and with a long button press on the lower button dimming is increased. Dimming is stopped when the respective button is released. With On/Off – Brighter/Darker (rocker top/bottom), the function is the same as before but the rocker at the top and bottom are switched. • **Shutter up/down including louvers** Louvers – Shutter up/down (rocker top/bottom) sends a travel command for the shutters when there is a long button press. The short button press causes the shutter run to stop or the louvers to rotate if the louvers are stopped. The direction of the respective command is toward the top for a button press on the upper button and toward the bottom with a button press on the lower button. With louvers – shutters down/up (rocker top/bottom), the function is the same as before but the rocker at the top and bottom are switched. • **Scene** Up to two scenes can be switched. Depending on the setting, a scene can be stored after a long button press if the actuator supports this.
Switch type	• **1 rocker** Enables the parameterizing of control elements with 1 rocker and 2 buttons correspondingly. • **2 rockers** Enables the parameterizing of control elements with 2 rockers and 4 buttons correspondingly. • **4 rockers** Enables the parameterizing of control elements with 4 rockers and 8 buttons correspondingly.
KNX function, rocker A (B, C, D)	• **Switch On/Off (rocker top/bottom)** Causes an OFF telegram with a short or long button press on the upper button and an ON telegram with a press on the lower button. • **Switch Off/On (rocker top/bottom)** the function is the same as before but the rocker at the top and bottom are switched. • **Dim - brighter/darker (rocker top/bottom)** With a short button press on the upper button, the dimmer is switched on and with a short press of the button on the bottom button, the dimmer is switched off. With a long button press on the upper button, dimming is lessened and with a long button press on the lower button dimming is increased. Dimming is stopped when the respective button is released. • **Dim – darker/brighter (rocker top/bottom)** the function is the same as before but the rocker at the top and bottom are switched. • **Shutter - up/down (rocker top/bottom)** After a long button press, the travel command is sent for the shutter. The short button press causes the shutter run to stop or the louvers to rotate. The direction of the respective command is toward the top for a button press on the upper button and toward the bottom with a button press on the lower button. • **Shutter – down/up (rocker top/bottom)** the function is the same as before but the rocker at the top and bottom are switched.

Link from Enocean sensor to KNX RPS switch

Parameter	Description
	• **Scene - a / b (rocker top/bottom)** Two scenes can be switched. Depending on the setting, a scene can be stored after a long button press if the actuator supports this.
Channel type	• **Not used** The channel is not being used. • Link between Enocean sensor and KNX If this function is activated, the following sensor functions are available for selection with the parameters: RPS switches and contacts, temperature sensors, humidity sensors, light sensors, presence sensors, gas sensors, room control units, automatic counters, universal counters, and digital inputs. • **Link between KNX and Enocean actuator** In order to actuate Enocean actuators, the gateway emulates corresponding sensor profiles. This means that the unit transmits the same radio telegrams as an Enocean button for example. Each channel uses its own transmitter ID. The following actuator functions are available for selection in the parameters: Switches, contact inputs, and heating, air-conditioning, and ventilation drives for actuator valves. • **Control/logic** Multiple functions can be selected within control/logic. This includes time, control, logic, value transmitter, trigger, and monitoring functions.

Type 2: Link from Enocean sensor to KNX 1BS RPS
Other switches and contacts

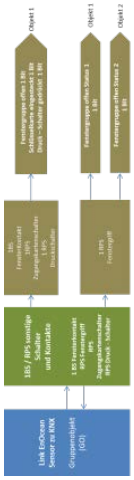


Communication objects

Channel 1			**Data Point Type**			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	1BS Window contact	Window group open	1.019	Sensor channel 1	1bit	K	-	-	Ü	-
	RPS window handle	Window group open state 1								
	RPS access card switch	Key card inserted	1.001							
	RPS pressure switch	Pressed								
2	RPS window handle	Window group open state 2	1.019	Sensor channel 1		K	-	-	Ü	-

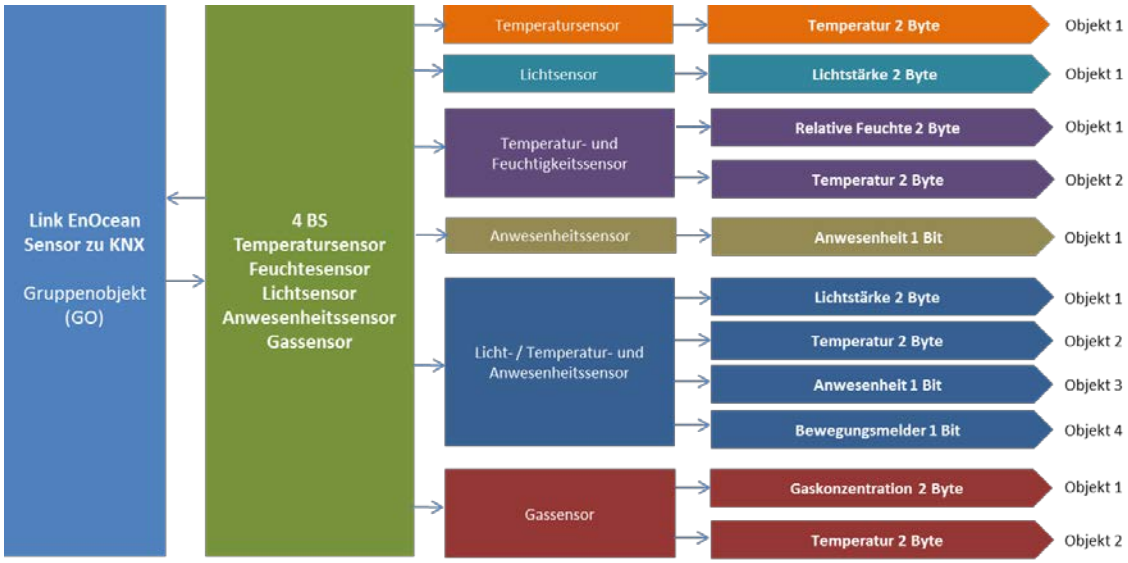
Parameter description

1BS / RPS Other switches and contacts

Parameter	Description
Sensor type 	**1BS/RPS Other switches and contacts.** This setting can be used to integrate window contacts, window handles, access card switches, and pressure sensors. 3 states are detected with window handles sensors: Window is open, tilted, or closed. When the handle is turned to a position, the corresponding state is depicted and sent to 2 communication objects. Up to 4 handles can be taught on one channel. The gateway determines a common state of all handles taught in the channel; some examples are shown in the following state table:
Switch/contact type	• **1 BS Window contact** With window contacts, up to 4 contacts can be taught on one channel. The gateway determines a common state of all contacts taught in the channel and sends the value "Closed" only when all windows with the corresponding contact or closed. • **RPS window handle** The position of the handle depends on the installation state. This can be found in the respective manufacturer's datasheet. The handle is correctly adjusted when 2 "Off" values are sent via both data points when the window is closed. • **RPS access card switch** With this setting, it is possible to implement corresponding access card switches and to send their state to the KNX bus. • **Pressure switch** With this setting, it is possible to implement corresponding pressure switches and to send their state to the KNX bus.

Window 1	Window 2	Window 3	Window 4	Common state
Open	Open	Open	Open	Open
Open	Tilted	Open	Open	Open
Open	Closed	Tilted	Closed	Open
Closed	Closed	Closed	Tilted	Tilted
Closed	Closed	Closed	Closed	Closed

Type 3: Link from Enocean sensor to KNX (4BS sensors)
4BS Temperature, humidity, light, movement/presence, and gas sensors

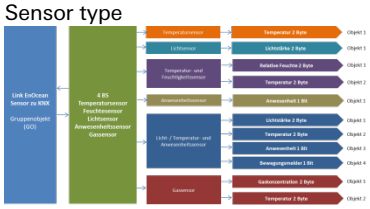
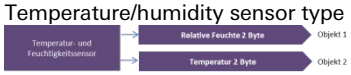


Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS Temperature sensor	Temperature	9.001	Sensor channel 1	2 byte	K	-	-	Ü	-
	4BS Humidity and temperature sensor	Rel. humidity	9.007							
	4BS Light sensor	Light intensity	9.004							
	4BS Presence sensor	Presence	1.018		1bit					
	4BS Light/temp/presence	Light intensity	9.004		2 byte					
	4BS Gas sensors	Gas concentration	9.008							
2	4BS Humidity and temperature sensor	Temperature	9.001	Sensor channel 1	2 byte	K	-	-	Ü	-
	4BS Light/temp/presence									
	4BS Gas sensors									
3	4BS Light/temp/presence	Presence	1.018	Sensor channel 1	1bit	K	-	-	Ü	-
	4BS Gas sensors	Rel. humidity	9.007		2 byte					
4	4BS Light/temp/presence	Motion detector	1.001	Sensor channel 1	1bit	K	-	-	Ü	-

Parameter description

4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
Sensor type 	• **4BS Temperature sensor** Various measurement areas are supported with the temperature sensors. The temperature measured value is depicted as a 2-byte floating point value. • **4BS Temperature and humidity sensors** 2 combination sensors can be selected. The measured values are saved in 2 different communication objects. • **4BS Light sensor** The measurement of lighting intensity is done in Lux (lx). The measured value is available as a 2-byte floating point value. • **4BS Presence sensor** With this selection, presence sensors and movement sensors can be integrated. • **Light/temperature/presence sensors** Lighting intensity and temperature are each depicted on a communication object as a 2-byte floating point value. Presence and movement sensors send 1-bit values. • **4BS Gas sensors** CO and CO2 sensors can be integrated. With CO sensors, the gas concentration and the temperature are measured (2-byte values each). With CO2 sensors, gas concentration, temperature, and relative humidity are measured (2-byte values each).
Temperature sensor type 	• **A5-02-01: -40°C to 0°C** • **A5-02-02: -30°C to +10°C** • **A5-02-03: -20°C to +20°C** • **A5-02-04: -10°C to +30°C** • **A5-02-05: 0°C to +40°C** • **A5-02-06: +10°C to +50°C** • **A5-02-07: +20°C to +60°C** • **A5-02-08: +30°C to +70°C** • **A5-02-09: +40°C to +80°C** • **A5-02-0A: +50°C to +90°C** • **A5-02-0B: +60°C to +100°C** • **A5-02-10: -60°C to +20°C** • **A5-02-11: -50°C to +30°C** • **A5-02-12: -40°C to +40°C** • **A5-02-13: -30°C to +50°C** • **A5-02-14: -20°C to +60°C** • **A5-02-15: -10°C to +70°C** • **A5-02-16: 0°C to +80°C** • **A5-02-17: +10°C to +90°C** • **A5-02-18: +20°C to +100°C** • **A5-02-19: +30°C to +110°C** • **A5-02-1A: +40°C to +120°C** • **A5-02-1B: +50°C to +130°C** • **A5-02-20: -10°C to +41.2°C** • **A5-02-30: -40°C to +62.3°C** Various measurement areas are supported with the temperature sensors. The temperature measured value is depicted as a 2-byte floating point value.
Temperature/humidity sensor type 	• **A5-04-01: 0°C to +40°C, 0% to 100%** • **A5-04-02: -20°C to +60°C, 0% to 100%** 2 combination sensors can be selected. The measured values are saved in 2 different communication objects.
Light sensor type 	• **A5-06-01: 300 lx to 60000 lx** • **A5-06-02: 0 lx to 1020 lx** The measurement of lighting intensity is done in Lux (lx). The measured value is available as a 2-byte floating point value.

4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
Presence sensor type 	• **A5-07-01: Presence** With this selection, presence sensors and movement sensors can be integrated.
Light/temperature/presence sensor type 	• **A5-08-01: 0 lx to 510 lx, 0°C to +51°C** • **A5-08-02: 0 lx to 1020 lx, 0°C to +51°C** • **A5-08-03: 0 lx to 1530 lx, -30°C to +50°C** Lighting intensity and temperature are each depicted on a communication object as a 2-byte floating point value. Presence and movement sensors send 1-bit values.
Gas sensor type 	• **A5-09-01: CO Sensor** • **A5-09-02: CO2 Sensor** CO and CO2 sensors can be integrated. With CO sensors, the gas concentration and the temperature are measured (2-byte values each). With CO2 sensors, gas concentration, temperature, and relative humidity are measured (2-byte values each).

Type 4: Link from Enocean sensor to KNX (4BS room control unit)

Total overview 4BS room control unit

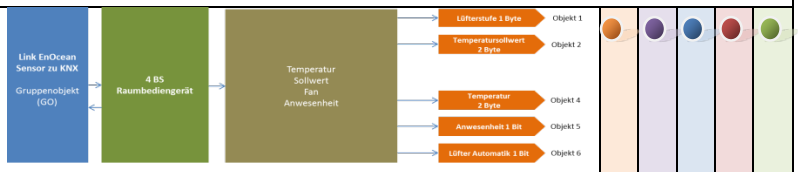
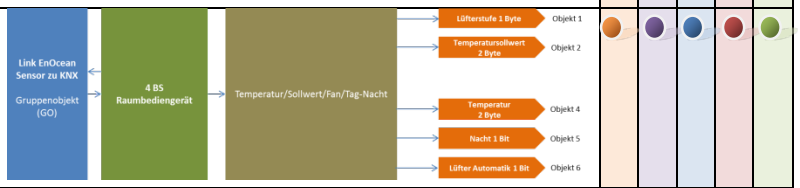
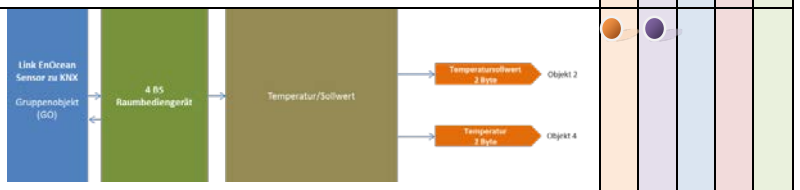
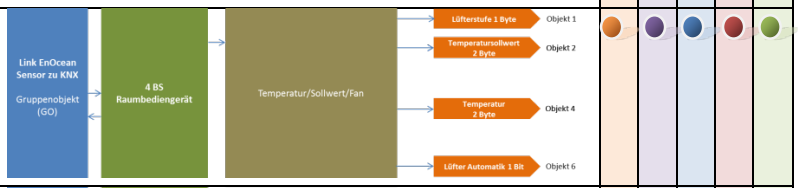
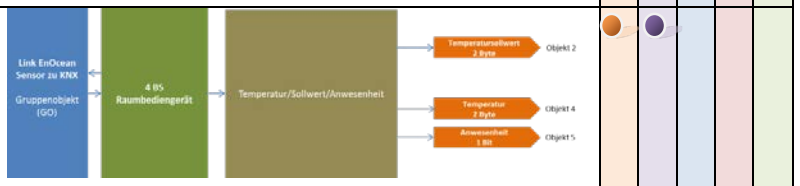
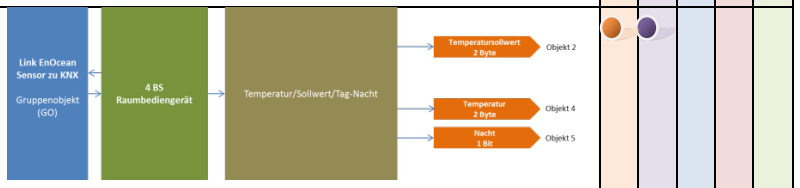


Communication objects

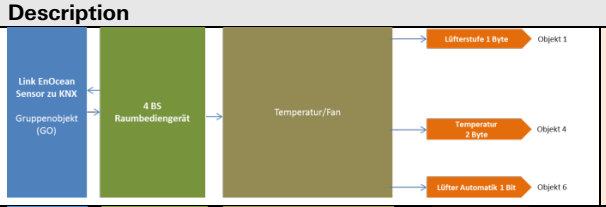
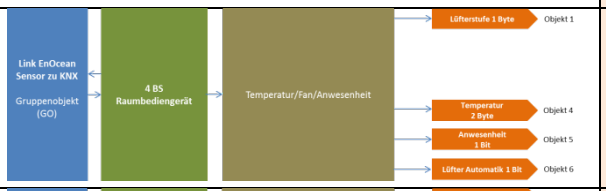
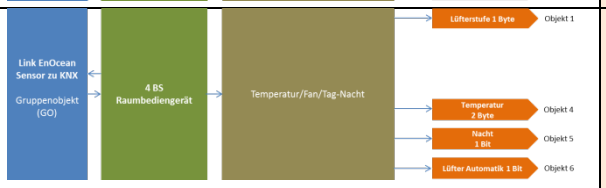
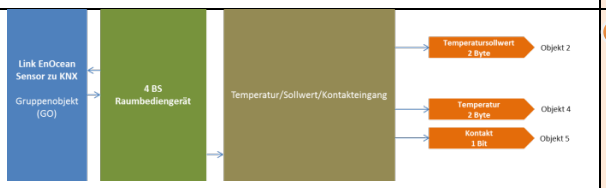
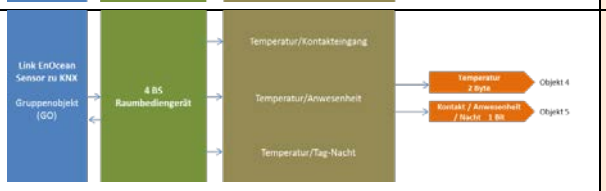
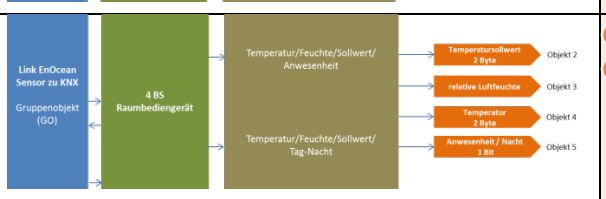
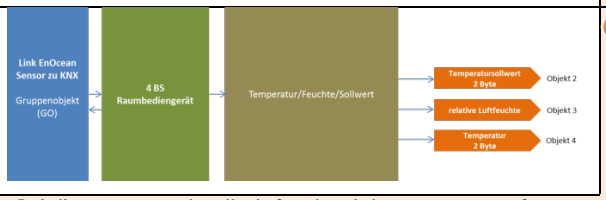
Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS room control unit	Fan stage	5.001	Sensor channel 1	1 byte	K	-	-	Ü	-
2	4BS room control unit	Temperature target value	9.001	Sensor channel 1	2 byte	K	-	-	Ü	-
3	4BS room control unit	Rel. humidity	9.007	Sensor channel 1	2 byte	K	-	-	Ü	-
4	4BS room control unit	Temperature	9.001	Sensor channel 1	2 byte	K	-	-	Ü	-
5	4BS room control unit	Presence	1.018	Sensor channel 1	1bit	K	-	-	Ü	-
		Night	1.002							
		Contact	1.001							
6	4BS room control unit	Fan automatic mode	1.001	Sensor channel 1	1bit	K	-	-	Ü	-

Parameter description

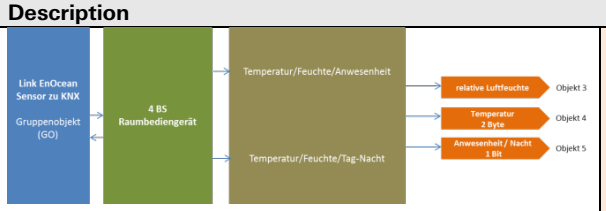
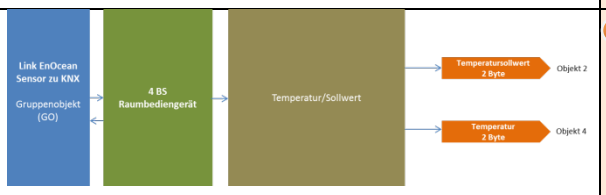
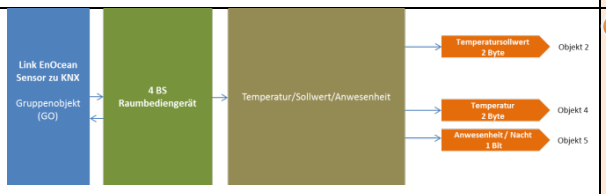
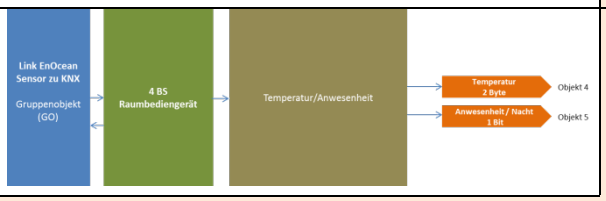
4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
Sensor type	• **4BS Room control units** Various room control units can be integrated with temperature, presence, and day/night switches. Depending on the type, target values, temperature limits, and multiple fan stages can be set.
Room control unit type **A5-10-01 Temperature / Target value / Fan / Presence**	
A5-10-02 Temperature / Target value / Fan / Day/night	
A5-10-03 Temperature / Target value	
A5-10-04 Temperature / Target value / Fan	
A5-10-05 Temperature / Target value / Presence	
A5-10-06 Temperature / Target value / Day - night	
Left limit °C	**-3** Adjustment option limit for the right stop ranges from -99°C to +99°C.
Right limit °C	**+3** Adjustment option limit for the right stop ranges from -99°C to +99°C.
Fan stage I %	**33** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage II %	**66** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage III %	**100** Adjustment option limit for the fan stage ranges from 0% to 100%

4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
Room unit type **A5-10-07 Temperature / Fan**	
A5-10-08 Temperature / Fan / Presence	
A5-10-09 Temperature / Fan / Day - night	
A5-10-0A Temperature / Target value / Contact input	
A5-10-0B Temperature / Contact input A5-10-0C Temperature / Presence A5-10-0D Temperature / Day - night	
A5-10-10 Temperature / Humidity / Target value / Presence A5-10-11 Temperature / Humidity / Target value / Day - night	
A5-10-12 Temperature / Humidity / Target value	
Left limit °C	**-3** Adjustment option limit for the right stop ranges from -99°C to +99°C.
Right limit °C	**+3** Adjustment option limit for the right stop ranges from -99°C to +99°C.
Fan stage I %	**33** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage II %	**66** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage III %	**100** Adjustment option limit for the fan stage ranges from 0% to 100%

4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
A5-10-13 Temperature / Humidity / Presence **A5-10-14 Temperature / Humidity / Day - night**	
A5-10-15 Temperature / Humidity / Target value / Presence	
A5-10-16 Temperature / Target value / Presence	
A5-10-17 Temperature / Presence	
Left limit °C	**-3** Adjustment option limit for the right stop ranges from -99°C to +99°C.
Right limit °C	**+3** Adjustment option limit for the right stop ranges from -99°C to +99°C.
Fan stage I %	**33** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage II %	**66** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage III %	**100** Adjustment option limit for the fan stage ranges from 0% to 100%

Type 5: Link from Enocean sensor to KNX (4BS counter)
4BS Automatic counter (counter, electricity, gas, water)

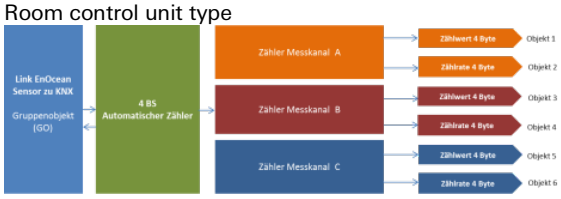
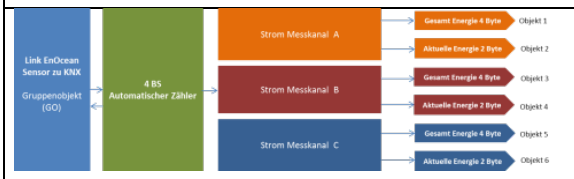
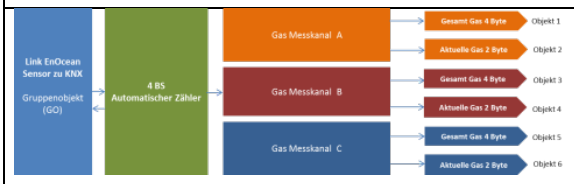
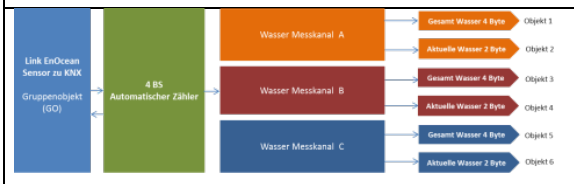


Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS Automatic counter	A(0) Count value [1]	12.001	Sensor channel 1	4 byte	K	-	-	Ü	-
		A(1) Total electricity [kWh]	13.013							
		A(0) Total gas m^3	14.076							
		A(0) Total water m^3								
2	4BS Automatic counter	A(0) Count rate 1/s	12.001	Sensor channel 1	4 byte	K	-	-	Ü	-
		A(1) Current electricity [W]	9.024		2 byte					
		A(0) Current gas l/h	9.025							
		A(0) Current water l/h								
3	4BS Automatic counter	B(0) Count value [1]	12.001	Sensor channel 1	4 byte	K	-	-	Ü	-
		B(0) Total electricity [kWh]	13.013							
		B(1) Total gas m^3	14.076							
		B(1) Total water m^3								
4	4BS Automatic counter	B(0) Count rate 1/s	12.001	Sensor channel 1	4 byte	K	-	-	Ü	-
		B(0) Current electricity [W]	9.024		2 byte					
		B(1) Current gas l/h	9.025							
		B(1) Current water l/h								
5	4BS Automatic counter	C(0) Count value [1]	12.001	Sensor channel 1	4 byte	K	-	-	Ü	-
		C(2) Total electricity [kWh]	13.013							
		C(2) Total gas m^3	14.076							
		C(2) Total water m^3								
6	4BS Automatic counter	C(0) Count rate 1/s	12.001	Sensor channel 1	4 byte	K	-	-	Ü	-
		C(2) Current electricity [W]	9.024		2 byte					
		C(2) Current gas l/h	9.025							
		C(2) Current water l/h								

Parameter description

4BS Automatic counter

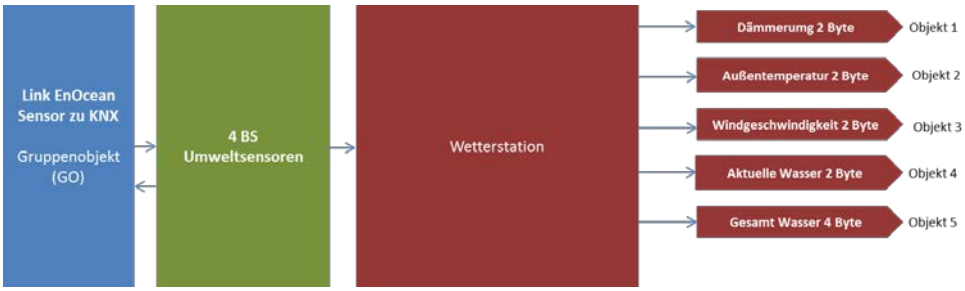
Parameter	Description
Sensor type	• **4BS Automatic counter** A maximum of 3 counters can be read per channel. 2 Communication objects of 4 bytes each are available for each count channel.
Room control unit type 	• **A5-12-00 Counter** 2 communication objects are used to provide the count value and the 1/s count rate as a 4 byte value.
	• **A5-12-01 Electricity** 2 Communication objects are used to provide total electricity (kWh) and the current power needs (W) as a 4 byte value.
	• **A5-12-02 Gas** 2 Communication objects are used to provide the total gas quantity (m^3) and the current gas consumption (l/h) as a 4 byte value.
	• **A5-12-02 Gas** 2 Communication objects are used to provide the total gas quantity (m^3) and the current gas consumption (l/h) as a 4 byte value.
Measuring channel A	• **Channel 0** The measuring channel can be assigned one of a total of 16 channels in the "Channel 0 assigned" basic setting. This can be adjusted in a value range from 0 to 15.
Measuring channel B	• **Deactivated** The measuring channel can be assigned one of a total of 16 channels in the "Deactivated" basic setting. This can be adjusted in a value range from 0 to 15.
Measuring channel C	• **Deactivated** The measuring channel can be assigned one of a total of 16 channels in the "Deactivated" basic setting. This can be adjusted in a value range from 0 to 15.

Type 6: Link from Enocean sensor to KNX (4BS environment weather sensors)
For: weather station, solar radiation, date, time, and day, direction, and geo-position

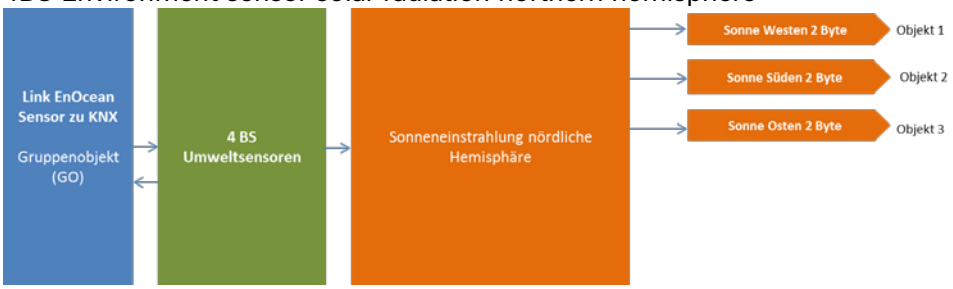
The following environment sensor types can be taught: weather station, solar radiation (northern hemisphere), date, time, and day, direction, and geo-position Depending on the setting, there are various communication objects for the respective sensor type.

Overview

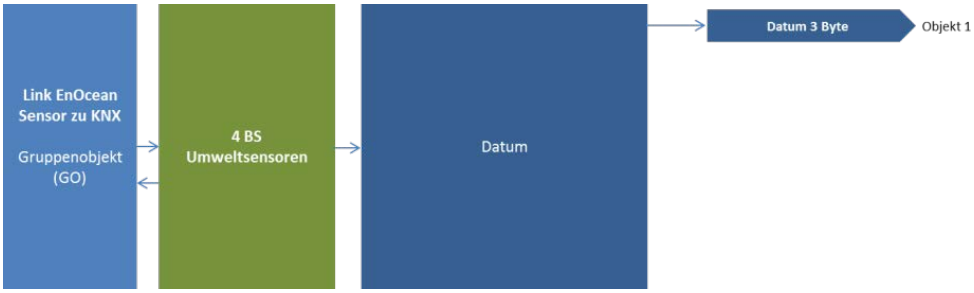
- 4BS Environment sensor weather station



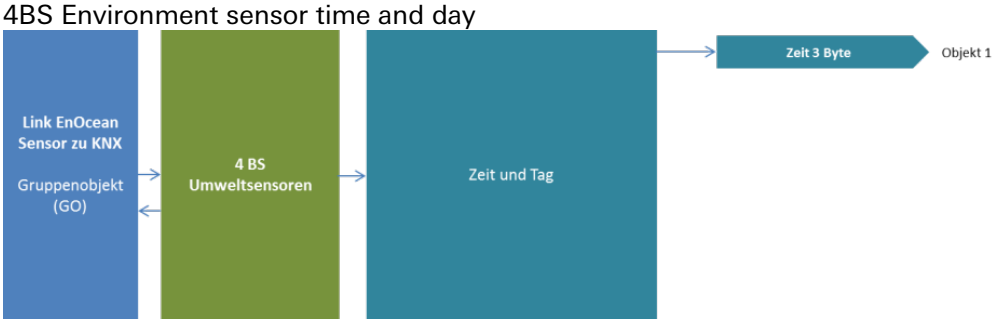
- 4BS Environment sensor solar radiation northern hemisphere



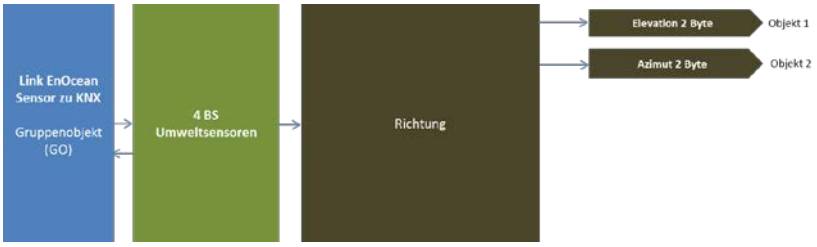
- 4BS Environment sensor date



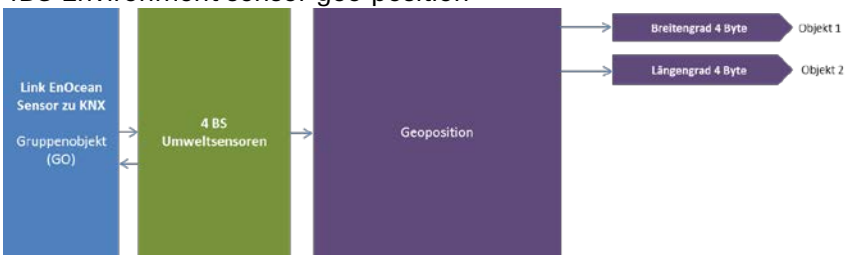
- 4BS Environment sensor time and day



- 4BS Environment sensor direction



- 4BS Environment sensor geo-position

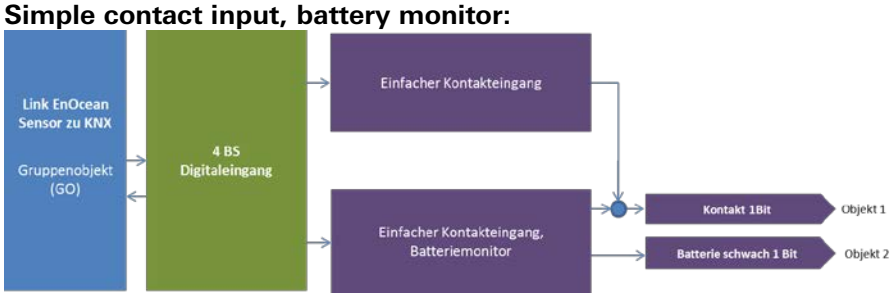


Communication objects

Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS Environment sensors	Dusk	9.004	Sensor channel 1	2 byte	K	-	-	Ü	-
		Sun to the west								
		Date	11.001		3 byte					
		Time	10.001							
		Elevation	8.011		2 byte					
		Latitude	14.007		4 byte					
2	4BS Environment sensors	Outside temperature	9.001	Sensor channel 1	2 byte	K	-	-	Ü	-
		Sun to the south	9.004							
		Azimuth	8.011							
		Longitude	14.007		4 byte					
3	4BS Environment sensors	Wind speed	9.005	Sensor channel 1	2 byte	K	-	-	Ü	-
		Sun to the east	9.004							
4	4BS Environment sensors	Night	1.002	Sensor channel 1	1bit	K	-	-	Ü	-
5	4BS Environment sensors	Rain	1.002	Sensor channel 1	1bit	K	-	-	Ü	-

Type 7: Link from Enocean sensor to KNX (4BS digital input)

Simple contact input, battery monitor:



Digital input types with and without battery monitor are supported. The input type with battery monitor sends an additional signal to the bus when the battery is weak.

Communication objects

Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS Digital input	Contact	1.019	Sensor channel 1	1bit	K	-	-	Ü	-
2	4BS Digital input	Weak battery	1.002	Sensor channel 1	1bit	K	-	-	Ü	-

Type 8: Link from KNX to Enocean actuator
(RPS switch; 1 BS contact input; heat, air conditioning, ventilation drive for actuator valve)

In order to actuate Enocean actuators, the gateway emulates the corresponding sensor profiles. This means that the unit transmits the same radio telegrams as an Enocean button for example. Each channel uses its own transmitter ID.

Overview

The following actuator functions are available for selection in the parameters:

- **RPS Switch (switching, dimming, shutters)**



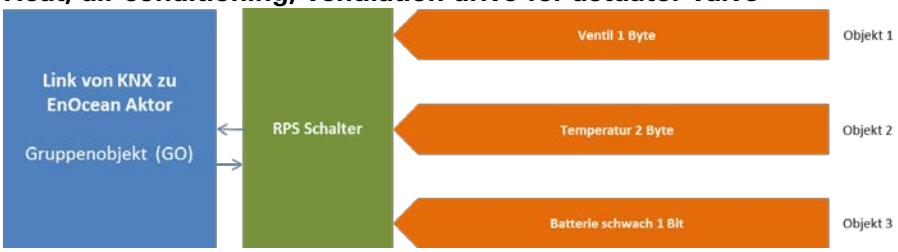
The same as with the sensors, various KNX functions can be selected (dimming, shutters, scene, and switching). The correct KNX function must be selected according to the actuator type. Absolute dimming is not available because it is not provided for in the EEPs.

- **1 BS Contact input**



A simple contact input can be simulated. On or Off is sent.

- **Heat, air conditioning, ventilation drive for actuator valve**



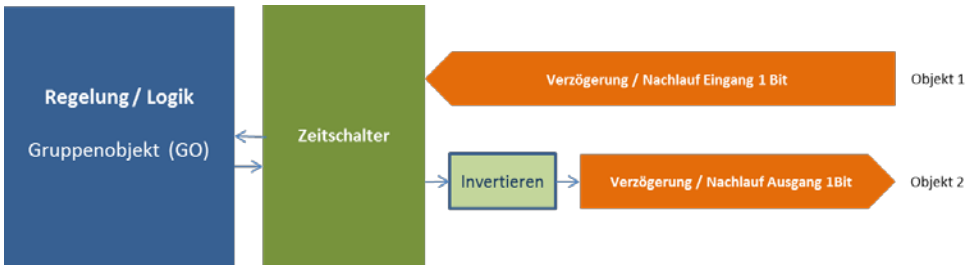
In this configuration, battery-powered heating and ventilation actuators can be activated. The temperature values transmitted by the actuator are sent to the bus. A telegram is sent when a weak battery is reported by the Enocean unit.

Communication objects

Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	RPS switch	Switching	1.001	Actuator channel 1	1bit	K	-	S	-	-
		venetian blind	1.008							
	1 BS Contact input	Window open	1.019							
	Heat, air conditioning, ventilation drive for actuator valve	Valve	5.001		1 byte					
2	RPS switch	Dim	3.007	Actuator channel 1	4 bit	K	-	S	-	-
		louver	1.009		1bit					
	Heat, air conditioning, ventilation drive for actuator valve	Temperature	9.001		2 byte	K	-	-	Ü	-
3	Heat, air conditioning, ventilation drive for actuator valve	Weak battery	1.002	Actuator channel 1	1bit	K	-	-	Ü	-

Type 9: Control/logic (time switch)

Multiple functions can be selected within control/logic. This includes time, control, logic, value transmitter, trigger, and monitoring functions.



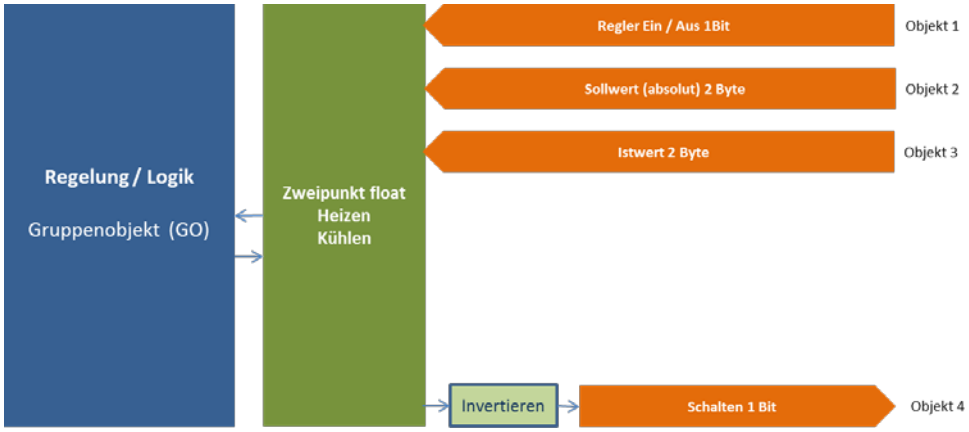
It is possible to implement a switch-on delay and post-run switching. The time is set in seconds.

Communication objects

Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Time switch	Input delay Post-run input	1.001	Control/logic channel 1	1bit	K	-	S	-	-
2	Time switch	Output delay Post-run output	1.001	Control/logic channel 1	1bit	K	-	-	Ü	-

Type 10: Control/logic (two-point float control)

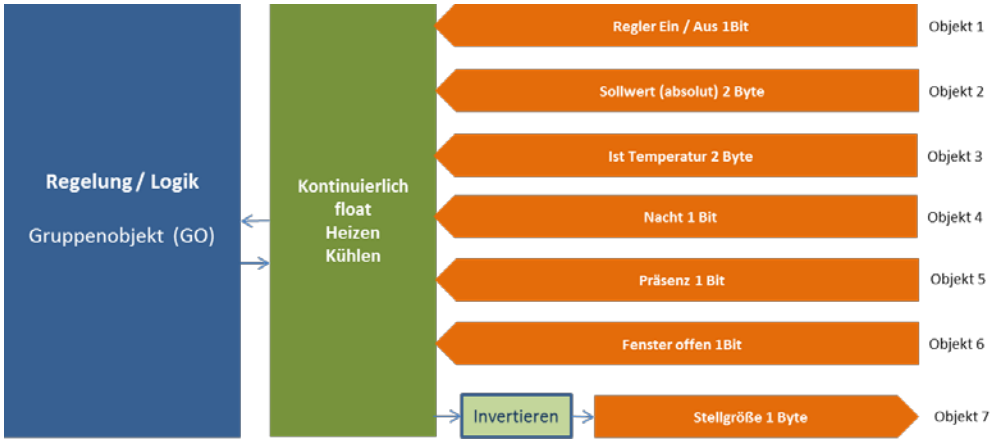
This involves continuous temperature control with night, presence, and window/door function.



Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Control	Controller On/Off	1.001	Control/logic channel 1	1bit	K	-	S	-	-
2	Control	Target value (absolute)	9.001	Control/logic channel 1	2 byte	K	-	S	-	-
		Target value (relative)	9.002							
3	Control	Actual value	9.001	Control/logic channel 1	2 byte	K	-	S	-	-
4	Control	Switching	1.001	Control/logic channel 1	1bit	K	-	-	Ü	-

Type 11: Control/logic (continuous float control)



Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Control	Controller On/Off	1.001	Control/logic channel 1	1bit	K	-	S	-	-
2	Control	Target value (absolute)	9.001	Control/logic channel 1	2 byte	K	-	S	-	-
		Target value (relative)	9.002							
3	Control	Actual temperature	9.001	Control/logic channel 1	2 byte	K	-	S	-	-
4	Control	Night	1.002	Control/logic channel 1	1bit	K	-	S	-	-
5	Control	Presence	1.018	Control/logic channel 1	1bit	K	-	S	-	-
6	Control	Window open	1.019	Control/logic channel 1	1bit	K	-	S	-	-
7	Control	Correcting variable	5.001	Control/logic channel 1	1 byte	K	-	-	Ü	-

Type 12: Control/logic (heat requirement request control)

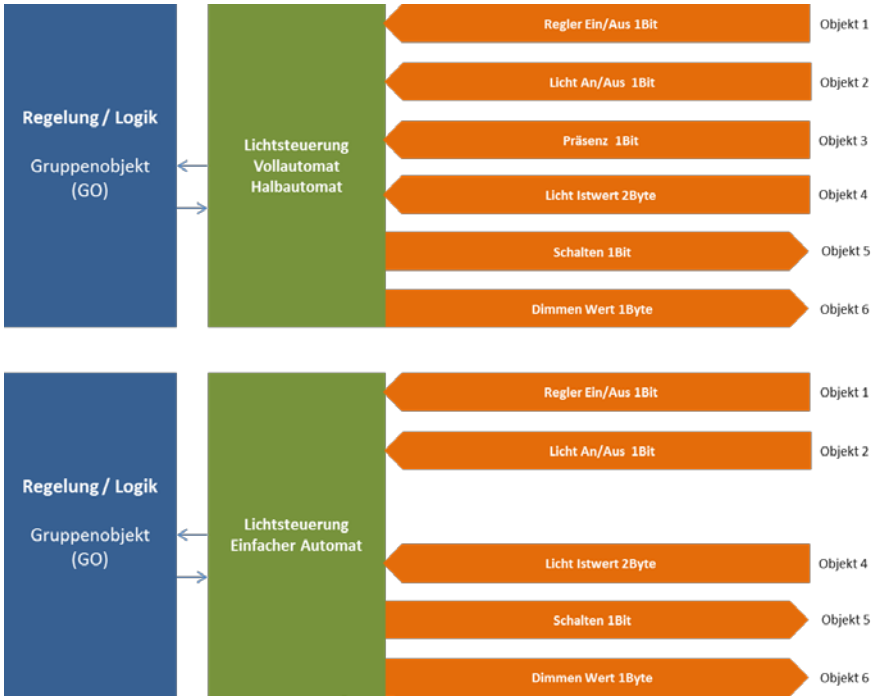


Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Control	Control value 1	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
2	Control	Control value 2	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
3	Control	Control value 3	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
4	Control	Control value 4	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
5	Control	Control value 5	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
6	Control	Control value 6	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
7	Control	Request	1.002	Control/logic channel 1	1bit	K	-	-	Ü	-
8	Control	Maximum value	5.001	Control/logic channel 1	1 byte	K	-	-	Ü	-

Note: The maximum value of control values 1 to 6 is transmitted to the output. Only the highest value is transmitted. The "Request" object is set at "1" when the maximum value is greater than "zero".

Type 13: Control/logic (light management control)



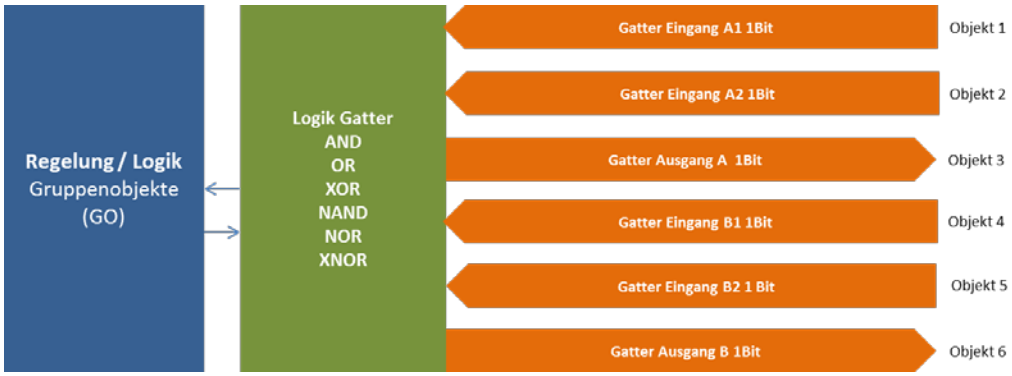
Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	Type	Object function	DPT	Object name	Length	K	L	S	Ü	A
1	Control	Controller On/Off	1.001	Control/logic channel 1	1bit	K	-	S	-	-
2	Control	Light On/Off	1.001	Control/logic channel 1	1bit	K	-	S	-	-
3	Control	Presence	1.018	Control/logic channel 1	1bit	K	-	S	-	-
4	Control	Light actual value	9.004	Control/logic channel 1	2 byte	K	-	S	-	-
5	Control	Switching	1.001	Control/logic channel 1	1bit	K	-	-	Ü	-
6	Control	Dimming value	5.001	Control/logic channel 1	1 byte	K	-	-	Ü	-

The following options are available:

- **Completely automatic** An application for completely automatic is the lighting of a hallway. The light is switched on when presence is detected if the current brightness value is below the threshold. The light can be switched on or off for a certain time by manual operation.
- **Semi-automatic** The semi-automatic mode makes it possible for the user to manually switch the light on and off. The semi-automatic mode only intervenes when the light has obviously been "forgotten". A typical application is an office with multiple workstations. The light is not switched on automatically. Semi-automatic mode switches the light off when the current brightness value is above the limit or no presence is detected for a set time.
- **Simple automatic** Simple automatic mode evaluates only the brightness and can be used, for example, for a display window. The light switches on when the brightness limit is reached.

Type 14: Control/logic (logic gate type A or B)
AND, OR, XOR, NAND, NOR, XNOR

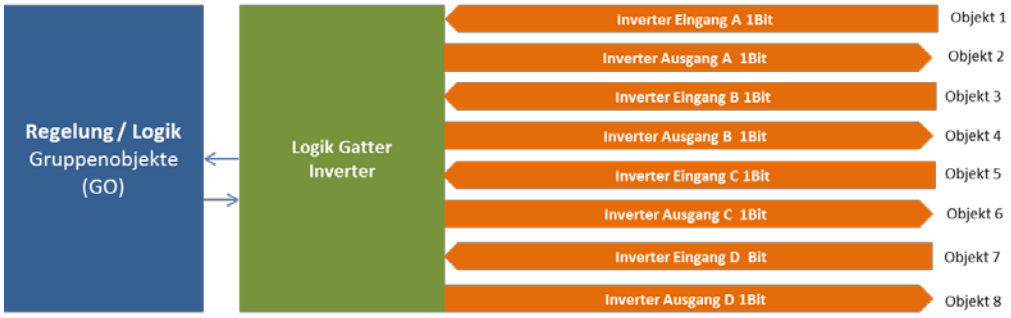


Communication objects

Channel 1			**Data Point Type**			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Logic	Gate input A1	1.002	Control/logic channel 1	1bit	K	-	S	-	-
2	Logic	Gate input A2	1.002	Control/logic channel 1	1bit	K	-	S	-	-
3	Logic	Gate output A	1.002	Control/logic channel 1	1bit	K	-	-	Ü	-
4	Logic	Gate input B1	1.002	Control/logic channel 1	1bit	K	-	S	-	-
5	Logic	Gate input B2	1.002	Control/logic channel 1	1bit	K	-	S	-	-
6	Logic	Gate output B	1.002	Control/logic channel 1	1bit	K	-	-	Ü	-

2 different logic functions can be selected, independently from one another, to gate type A or gate type B.

Type 15: Control/logic (logic inverter, pulse switch)



4 signals can be inverted (input and output A-D).



Communication objects

Channel 1			**Data Point Type**			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Logic	Inverter input A Impulse switch input A	1.002	Control/logic channel 1	1bit	K	-	S	-	-
2	Logic	Inverter output A Impulse switch output A	1.002	Control/logic channel 1	1bit	K	-	-	Ü	-
3	Logic	Inverter input B Impulse switch input B	1.002	Control/logic channel 1	1bit	K	-	S	-	-
4	Logic	Inverter output B Impulse switch output B	1.002	Control/logic channel 1	1bit	K	-	-	Ü	-
5	Logic	Inverter input C Impulse switch input C	1.002	Control/logic channel 1	1bit	K	-	S	-	-
6	Logic	Inverter output C Impulse switch output C	1.002	Control/logic channel 1	1bit	K	-	-	Ü	-
7	Logic	Inverter input D Impulse switch input D	1.002	Control/logic channel 1	1bit	K	-	S	-	-
8	Logic	Inverter output D Impulse switch output D	1.002	Control/logic channel 1	1bit	K	-	-	Ü	-

Up to 4 impulse switches can be implemented per channel. If the value "1" is received at the input, the output changes its value (from "0" to "1" or from "1" to "0").

Type 16: Control/logic (misc.: value transmitter byte/float)



Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Value transmitter (byte) Value transmitter (float)	Value transmitter binary input A	1.001	Control/logic channel 1	1bit	K	-	S	-	-
2	Value transmitter (byte) Value transmitter (float)	Value transmitter value output A	5.000 9.000	Control/logic channel 1	1 byte 2 byte	K	-	-	Ü	-
3	Value transmitter (byte) Value transmitter (float)	Value transmitter binary input B	1.001	Control/logic channel 1	1bit	K	-	S	-	-
4	Value transmitter (byte) Value transmitter (float)	Value transmitter value output B	5.000 9.000	Control/logic channel 1	1 byte 2 byte	K	-	-	Ü	-
5	Value transmitter (byte)	Value transmitter binary input C	1.001	Control/logic channel 1	1bit	K	-	S	-	-
6	Value transmitter (byte)	Value transmitter value output C	5.000	Control/logic channel 1	1 byte	K	-	-	Ü	-
7	Value transmitter (byte)	Value transmitter binary input D	1.001	Control/logic channel 1	1bit	K	-	S	-	-
8	Value transmitter (byte)	Value transmitter value output D	5.000	Control/logic channel 1	1 byte	K	-	-	Ü	-

The following options are available:

- **Value transmitter (byte)** Up to 4 byte value transmitters can be implemented on one channel. If a "1" or "0" is received at the input object, the assigned byte value is sent to the bus via the output object.
- **Value transmitter (float)** Up to 2 float value transmitters can be implemented on one channel. If a "1" or "0" is received at the input object, the assigned float value is sent to the bus via the output object.

Type 17: Control/logic (misc.: trigger byte/float, monitoring)

Overview



Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Trigger byte	Trigger value, input A	5.000	Control/logic channel 1	1 byte	K	-	S	-	-
	Trigger (float)		9.000		2 byte					
2	Trigger byte	Trigger binary output A	1.001	Control/logic channel 1	1bit	K	-	-	Ü	-
	Trigger (float)									
	Monitoring	Watchdog A alarm	1.002		1bit	K	-	S	Ü	-
3	Trigger byte	Trigger value, input B	5.000	Control/logic channel 1	1 byte	K	-	S	-	-
	Trigger (float)		9.000		2 byte					
4	Trigger byte	Trigger binary output B	1.001	Control/logic channel 1	1bit	K	-	-	Ü	-
	Trigger (float)									
	Monitoring	Watchdog A alarm	1.002		1bit	K	-	S	Ü	-
5	Trigger (byte)	Trigger value, input C	5.000	Control/logic channel 1	1 byte	K	-	S	-	-
6	Trigger (byte)	Trigger binary output C	1.001	Control/logic channel 1	1bit	K	-	-	Ü	-
	Monitoring	Watchdog A alarm	1.002		1bit	K	-	S	Ü	-
7	Trigger (byte)	Trigger value, input D	5.000	Control/logic channel 1	1 byte	K	-	S	-	-
8	Value transmitter (byte)	Trigger binary output D	1.001	Control/logic channel 1	1bit	K	-	-	Ü	-
	Monitoring	Watchdog A alarm	1.002		1bit	K	-	S	Ü	-

Up to 4 group objects can be monitored on one channel. If the associated group object (GO) fails to send a value within the set time, a value of "1" is generated via the output. Only internal links can be used for the group objects (channel inputs) to be monitored.

The following options are available:

- **Trigger (byte)** Up to 4 byte triggers can be implemented on one channel. A trigger compares the input value with the set threshold value according to the selected condition. If the set condition is fulfilled, a value of "1" is generated at the output.
- **Trigger (float)** Up to 2 float triggers can be implemented on one channel. A trigger compares the input value with the set threshold value according to the selected condition. If the set condition is fulfilled, a value of "1" is generated at the output.

4.3 KNX ENOCEAN Gateway *gesis* KNX ENO32B



General description

Products: Standalone module

- Designation: KNX ENOCEAN Gateway
- Type / Item No.: *gesis* KNX ENO32B 83.020.0628.2 (plug set not included)
  gesis KNX ENO32B Z 83.020.0628.3 (plug set included)

Please note:
It is essential to comply with the safety information in Section 1 for commissioning and proper intended use!

Function description

This gateway for 32 bidirectional channels is an independent KNX unit in a flat surface-mounted housing, which can be mounted on DIN rails for decentralized installation. This is based on the Enocean Equipment Profiles (EEP). In addition to the software for commissioning, there is comfortable manual operation available via a display. The ETS application also has an extensive logic/control range. The KNX connection is executed to be pluggable.
This unit serves as a bidirectional gateway between Enocean radio devices and the KNX bus. It enables commands and measured values of Enocean wireless sensors to be transferred to the KNX bus, e.g. to control KNX actuators. Enocean wireless actuators can also be controlled via KNX.
The unit is based on the Enocean Equipment Profiles (EEP) for communication with Enocean devices. The implemented profile is usually specified in the data sheets of the sensors.
Corresponding EEPs are emulated for the control of Enocean actuators. The gateway sends radio telegrams for this purpose, e.g. a push button or a window contact.
Encrypted communication on Enocean is also supported. Encryption can be enabled separately for each sensor and actuator channel.
You will find further information on the Enocean Equipment Profiles at http://www.Enocean-alliance.org.

In addition, the gateway provides logical and control functions and includes a radio repeater. Each of the 32 channels can be assigned to one of the following functions:

Sending statuses / values from Enocean sensors to the KNX bus

- Switching functions (switching, dimming, blind, scene, value transmitter)
- Window handles
- Window contacts
- Access card switches
- Pressure switches
- Temperature sensors
- Humidity sensors
- Light sensors
- Presence sensors
- Gas sensors
- Room control units
- Automated meter-reading devices
- Environment sensors
- Digital inputs

Control of Enocean actuators via KNX

- Emulation of an Enocean switch module for switching; dimming; blind
- Emulation of an Enocean window contact
- Bidirectional Enocean switching, dimming and blind actuators
- Bidirectional Enocean HVAC drives for actuator valves

Control/logic

- Time switches for On delays and Off delays

Regulation and control

- 2-point (byte and float)
- Continuous (float)
- heat demand requiremment
- Light control

Logic functions

- Gate (e.g. AND OR XOR)
- Inverter
- Flip-flop (toggle)

Special functions

- Value transmitter
- Trigger
- Monitoring (Watchdog)
- Filter

The ETS software is used to configure the unit and the channels via the KNX bus. The buttons and the unit display are used to teach the wireless components.

Note:
Upon delivery, this gateway has the individual address 15.15.255 and there are no group addresses or connections to sensors.

Accessories:

Commissioning software: KNX ENO tool 63x
The KNX ENO tool 63x makes it possible to edit links that were created between various Enocean sensors and the KNX/EIB-Enocean gateway *gesis* FLEX ENO32B. The unit can therefore be completely operated via remote-control. The existing configuration of a gateway can be read, changed on the PC, archived, and transferred back to the same or a different gateway. In addition, the software contains a bus monitor for displaying Enocean telegrams via the KNX bus.
The software and corresponding documentation can be obtained free of charge in the download area of Wieland Electric GmbH.

Operation and display elements

The control and display elements are used for the status display and commissioning. In the main menu, the display shows the Wieland logo, the unit names, operating mode, and the physical KNX address.

Function of manual operation

'KNX' button	When this button is pressed, the programming LED will start to flash. The unit activated for programming the KNX application and the physical address.	
"Exit/Delete" button	Long pressing > 2 sec:	The device stored on the currently displayed channel will be deleted.
	Brief press:	Channel or teaching mode will be exited.
"Activate/Add" button	Brief press:	Activation and channel selection of channels 1 to 32
	Long pressing > 2 sec:	Starts the teaching mode.

Assignment of the individual unit addresses (KNX)

In order to program the individual unit addresses via the ETS (EIB software tool), the 'KNX' button must be pressed on the unit. If programming or teaching mode is active, the red LED next to the 'KNX' button will be lit. This LED will go out when the unit has successfully received the individual addresses and the download is complete. The group addresses and parameter settings are likewise programmed via the ETS.

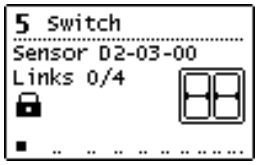
Defined operating modes

Mode	Meaning
Ready	Device start
Running	ETS application loaded, the unit is working normally.
Loading	ETS download is taking place
Pending	Last ETS download failed, the programming LED also flashes red
Unloaded	ETS application unloaded, the programming LED also flashes red

A flashing programming LED next to the KNX button indicates a problem during the last ETS download. The download must be restarted in order to load the ETS application.

Function of the status indicator and LCD display

The signal strength of received radio telegrams is visualized as a bar at the bottom of the display. If a received telegram is assigned to one or more channels, it will be shown in a matrix in the display. When a channel is selected, the channel number and the text entered in the ETS are shown on the first line of the display. The sensor/actuator type and the associated Enocean Equipment Profile (EEP), if assigned, can be seen on the second line. The channel type is displayed at the right-hand edge as a graphic symbol.



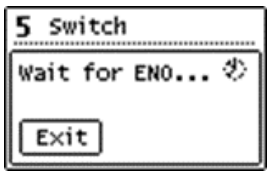
The number of assigned and available channel links is displayed on the third line. If encryption has been enabled for a channel, it is displayed on the next line with a lock. The signal strength is displayed as a bar on the last line.

Linking with Enocean units

The functions of the individual channels have to be parameterized and programmed with the ETS before the Enocean devices can be linked. As a rule, only one Enocean unit per channel can be taught. Up to four links per channel are possible for touch sensors, window handles and window contacts.
If the Enocean device sends encrypted telegrams, encryption must be enabled for the desired channel.
Any number of wireless actuators per channel can be taught in the case of unidirectional actuator channels. Only one wireless actuator per channel can be taught in the case of bidirectional channels. The actuator channels can be controlled by means of encrypted Enocean telegrams. This must be enabled in the parameters for the respective channel.
Encrypted communication in Enocean uses a continuous independent counter (Rolling Code, RLC for short) for each assignment of the transmitter and receiver. This is synchronized in both units during teach-in.
If the counter reading of the taught transmitter for the linked receiver has a difference of more than 60, a telegram sent from this transmitter is no longer accepted by the receiver. The transmitter only has to send the gateway a teach telegram, in order to resynchronize the RLC. The gateway does not have to be switched to teaching mode.
It should be noted that the RLC in the gateway cannot be counted if its power supply is interrupted. If, for example, a taught RPS button is pressed more than 30 times in this state, the button and the gateway need to be resynchronized.

Teaching radio sensors via the control elements on the gateway

Radio sensors are taught using the "Activate/Add" button. If the unit is in normal operating mode, the unit can be placed into channel mode with a short button press of the "Activate/Add" button; any additional button press effects a change to the next respective channel. The display in this case shows the current channel number and the number of units connected. The text entered in the ETS is also displayed for each channel.



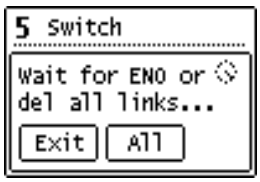
Teach mode is enabled for the desired channel using a long push of the "Activate/Add" button. A radio sensor can now be connected to the channel. In order to do this, the function set in the ETS must match. The sensor is taught by pushing the teach button on the sensor. Sensors without a teach button, e.g. window handles, need to be mechanically activated for teaching, so that they can be detected. Parameterization enables a unit to be taught after sending 3 telegrams within 10 seconds, in order to prevent other transmitting units from being taught during the teach-in process. In this regard, 'Teach switch/handles (RPS) after 3 tel' must be selected in the general parameters. The sensor must be actuated three times within 10 seconds. Teach mode is ended by briefly pushing the "Exit/Delete" button or automatically after 5 min without actuation.

Brief instructions: Teaching radio sensors

1.	"Activate/Add" button	Short button press	Select channel
2.	"Activate/Add" button	Long button press	Activate teach mode ('Wait for ENO')
3.			Activate teach mode on radio sensor
4.			Sensor is now taught
5.	"Exit/Delete" button	Short button press	Exit teach mode

Deleting radio sensor via the control elements on the gateway

Taught sensors can be deleted in different ways. The teach mode is activated for the current value by a long press of the "Exit/Delete" button. If the sensor teach button is then pressed, it will be deleted from the *gesis* KNX FLEX ENO32B gateway.



It is also possible to delete all of the taught sensors for the selected channel by pressing the "Activate/Add" ("All") button with an activated teach mode. To this end, the sensors do not have to be confirmed individually.
An additional option for deleting all of the taught sensors is by programming the application program via the ETS when the " Delete all links after download" function has been activated in general parameters. If the function of the channel was changed, the programming of the parameter likewise deletes the links of the changed channel via the ETS.
Teach mode is ended by briefly pressing the "Exit/Delete" button or automatically after 5 min without operation.

Brief instructions: Deleting radio sensors

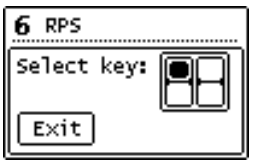
1.	"Activate/Add" button	Short button press	Select channel
2.	"Exit/Delete" button	Long button press	Activate delete mode ('Wait for ENO')
3.			Activate teach mode on radio sensor
4.			Sensor will be deleted.
5.	"Exit/Delete" button	Short button press	Exit delete mode.

Teaching radio actuators

The channel for teaching actuators is selected in the same way as for teaching sensors. The Enocean ID of the selected channel is also displayed. Teaching is provided depending on the pre-set emulated sensor type:

- RPS switch (F6-02-01 / D2-00-03)

Teach mode is enabled in the gateway for the desired channel in the emulation of an RPS switch via a long push of the "Activate/Add" button. The selection "Select key" appears in the display. The pressure point (top or bottom) of the teach telegram can be selected here by means of the 'Activate/Add' button.



Several pressure points have to be taught separately with some actuators.
The 'Activate/Add' button is pushed and held down, in order to send up to 3 teach telegrams to the actuator currently in the teach mode. ("RF" briefly appears on the display.) Once this has been completed, the teach mode of the actuator can be ended, and the actuator has been taught.

- 1 BS Contact input (D5-00-01)

The teach mode must first be enabled in the actuator. A long push of the 'Activate/Add' button in the desired channel sends the Enocean teaching telegram for emulation of a 1BS contact. ("RF" briefly appears on the display.)

- VLD actuators (D2-01-XX)
- VLD actuators (D2-05-XX)

The teach mode must first be enabled in the actuator. A long push of the 'Activate/Add' button in the desired channel triggers the teaching telegram for integrating bi-directional VLD actuators. ("RF" briefly appears on the display.) A successful connection is indicated by the links ("Links 1/1").

Attention: Some actuators on the market trigger teaching themselves. This is not supported by the gateway.

- Heat, air conditioning, ventilation drive for actuator valve (A5-20-01)
- Heat, air conditioning, ventilation drive for actuator valve (A5-20-04)

The teach-in of these bi-directional devices is initiated by the actuator, i.e. the teach-in process takes place in the same way as for a sensor channel: A long push of the 'Activate/Add' button causes the message "Wait for ENO…" to appear. A teach telegram must then be triggered at the actuator. If teach-in was successful, the display switches back to the channel view.
Teach mode is ended by briefly pressing the "Exit/Delete" button or automatically after 5 min without operation.

Brief instructions: Teaching radio actuators

1.	"Activate/Add" button	Short button press	Select channel
2.			Activate teach mode on actuator.
3.	"Activate/Add" button	Long button press	Activate teach mode on gateway.
4.	"Activate/Add" button	Short button press	Select telegram pressure point.
5.	"Activate/Add" button	Long button press	Gateway sends teach telegram to actuator.
6.	"Exit/Delete" button	Short button press	Exit mode.

Deleting radio actuators

The channel for deleting links to actuators is selected in the same way as for teaching sensors. Teaching is provided depending on the pre-set emulated sensor type:

- RPS switch (F6-02-01 / D2-00-03)
- 1 BS Contact input (D5-00-01)

The links to these unidirectional actuator channels are stored in the respective actuators. In many types, they can be deleted locally on the device without operating the gateway. However, it is also possible to delete individual links by means of teach telegrams with some actuators. In this case, actuators are deleted in the same way as for teaching.

- VLD actuators (D2-01-XX)
- VLD actuators (D2-05-XX)

The teach mode must first be enabled in the actuator. A long press of the 'Activate/Add' button in the desired channel triggers the teaching telegram for deleting links to these bi-directional actuators. ("RF" briefly appears on the display.) Successful deletion is indicated by the links ("Links 0/1").

Attention: Some actuators on the market trigger deletion themselves. This is not supported by the gateway.

- Heat, air conditioning, ventilation drive for actuator valve (A5-20-01)
- Heat, air conditioning, ventilation drive for actuator valve (A5-20-04)

Deletion is also initiated by the actuator here in the same way as for a sensor channel: A long push of the 'Activate/Add' button causes the message "Wait for ENO…" to appear. A teach telegram must then be triggered at the actuator, or the channel is deleted from the actuator without a teaching telegram via a short press of the 'Activate/Add' button. If deletion was successful, the display switches back to the channel view.

Functional method of linked radio sensors

If a telegram of an Enocean unit is received in normal operation, each channel checks whether this unit is assigned to it. If yes, the channel is briefly displayed in a matrix on the LCD and one or more of the telegrams corresponding to the function are sent to the bus. The transmit frequency at the bus is determined by the Enocean sensor. The gateway only sends a telegram to the KNX bus if a corresponding Enocean telegram was received. If a received Enocean telegram is not assigned to a channel, the signal strength is represented by a bar on the display.

Functional method of linked radio actuators

If a channel is set to switch or input contact, and the gateway receives a telegram from the KNX bus which is linked to an actuator channel, one or more radio telegrams will be sent for this channel.
If one of the HVAC drives is set, the channel waits for a request from the actuator and then sends the actual values to KNX and Enocean. Communication is bidirectional for the other actuator channels: Each telegram from KNX or Enocean triggers a telegram on the other medium.

Internal links

For some applications, it is necessary to link KNX data points (communication objects) of various channels with one another. In this manner, measured values of sensor channels can be connected to inputs of control channels. However, radio sensors can also be linked to radio actuators.
Data points can be linked in the ETS by assigning the same group address to an output and an input object. In doing so, the transferred values are also sent to the bus.
Contrary to this, internal links are provided for linking communication objects directly without sending telegrams to the KNX bus. To this end, no group addresses have to be assigned in the ETS. Internal links can be created in the ETS parameter dialog. The communication object number of the desired output channel must be selected in the receiver channel. The value of the desired object is then copied internally into the receiver object and implements the corresponding function.

Repeater function

The repeater function is used to bridge large distances between sensors and actuators. The *gesis* KNX FLEX ENO32B gateway is a level-1 radio repeater. This means that only telegrams that originate directly from a transmitter are repeated. Telegrams from other repeaters, however, are not repeated. This prevents the telegrams from being constantly repeated in a sort of endless loop. The repeater function is activated via the general parameters in the ETS. If the function is active, this is displayed in the main menu of the display below the individual address (REP).



Bus monitor function

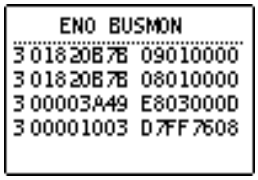
The integrated bus monitor function is used for system diagnostics directly on the unit. The unit can display both Enocean and KNX telegrams. A short push of the 'Exit/Delete' button in the main menu enables the combined Enocean and KNX bus monitor. The last five incoming and outgoing telegrams are displayed here.
The operating modes of the bus monitor can be selected via a short push of the 'Activate/Add' button.

- Combined E+K bus monitor (ENO + KNX BUSMON)
- Enocean bus monitor (ENO BUSMON)
- KNX bus monitor (KNX BUSMON)
- Enocean bus monitor for teach telegrams (ENO TEACH-IN BUSMON)

The currently displayed telegrams are deleted via a long push of the 'Activate/Add' button. The 'Exit/Delete' button must be briefly pushed to return to the main menu of the gateway.
The bus monitor is automatically closed after 5 minutes of inactivity.

Enocean bus monitor

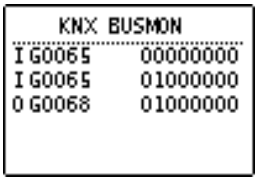
If a telegram is received by an Enocean unit, the signal strength (RSSI value) is shown on the first space of the line. The RSSI value (Received Signal Strength Indication) of 1–4 is shown (1=min.; 4=very good).



The first block of 8 digits indicates the hexadecimally coded ID from the transmitting unit. The transmitted data is also displayed, in a form that is hexadecimally coded, in a second block of digits.
If a telegram is sent by the gateway, an "S" is shown in the first space of line. In addition, the ID and the transmitted data are displayed.

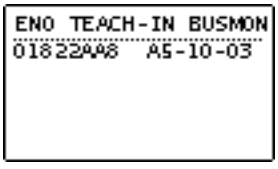
KNX bus monitor

The KNX bus monitor displays the telegrams at the object level. Therefore, only group telegrams which address the gateway or which are sent by it are visible.
If a telegram is received from KNX bus, the KNX bus monitor displays it with an "I". This is followed by the decimal number of the group object and the data package with up to 4 hexadecimal bytes.
If a KNX group address is linked to several group objects in the gateway, one line is outputted for each assignment.



When sending a telegram to the KNX bus, an "O" is displayed with the decimal object number and the hexadecimal data package.
If two objects are linked via an internal connection and a telegram is transmitted via this connection, this is indicated by an "M", the decimal object number of the receiving object and the hexadecimal data package.

Enocean bus monitor for teach telegrams



Only the Enocean telegrams which the unit sends after pushing the teach button are displayed in this operating mode. As a result, the Enocean Equipment Profile (EEP) supported by the unit can be shown directly on the display. The first block of 8 digits provides the hexadecimal ID of the sending device. The next block shows the EEP number if this can be evaluated.

Summary of the representation of the telegrams in the display:

Telegram	Display
Receiving Enocean telegram (ENO BUSMON)	(1–4) Device ID Data package
Sending Enocean telegram (ENO BUSMON)	S Device ID Data package
Receiving Enocean teach telegram (ENO TEACH-IN BUSMON)	Device ID EEP
Receiving KNX telegram (KNX BUSMON)	I GO No. Data package
Sending KNX telegram (KNX BUSMON)	O GO No. Data package
Receiving internally linked telegram (KNX BUSMON)	M GO No. Data package

Reset to the factory settings

It is possible to reset the device to factory settings:

- Disconnect the KNX Bus connector from the device.
- Push and hold down the 'Exit/Delete' and 'Activate/Add' buttons **simultaneously**.
- Reconnect the KNX Bus connector to the device.
- Press and hold down the buttons until the backlight of the display is illuminated.

When the buttons are released, "MASTER RESET" appears on the display to indicate that the reset to factory settings was successful.

Specifications

Construction type

Enclosure	*gesis* FLEX 95 mm with end caps on both sides
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Connectors

KNX input	For connecting a BST14i2 female connector (93.421.0553.1)
KNX output	For connecting a BST14i2 male connector (93.422.0553.1)

Power supply

	Carried out via the KNX bus connection. No additional supplies necessary.
Current consumption	Approx. 12 mA

Radio interface

	Enocean, ISM band 868.2 Hz. ASK supports the Enocean EEP profile, version 2.1
Distance	10 m to 30 m in the building. Depending on the structural conditions. Also see www.enocean.com

Electric safety

Protection class	I
Protection Class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V phase conductor to N or PE 400 V phase conductor to phase conductor

Galvanic isolation

	(internal basic insulation, doubled externally or reinforced insulation)
Electronics/Mains	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 … +45 °C
Storage temperature	-25 … +70 °C
Relative humidity	5% … 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Mounting on TH 35 DIN rail
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Reliability	Failure rate 700 fit (at 40 °C)
EMC requirements	Complies with EN 50491-5-1, EN 50491-5-2, and EN 50491-5-3
Radio standard	ETSI EN 300220-1 and ETSI EN 300220-2
Housing material	Plastic, halogen-free, light gray upper piece, black lower piece
Fire resistance (housing)	UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)
Fire load	Approx. 1.4 kWh
Weight	Approx. 340 g
Licensing and certification	KNX-certified
CE marking	in accordance with EMC Directive 2014/30/EU and RED Directive 2014/53/EU (residential and functional buildings)

Accessories: Commissioning software: KNX ENO tool 63x

The KNX ENO tool 63x makes it possible to edit links that were created between various Enocean sensors and the KNX/EIB-Enocean gateway gesis FLEX ENO32. The unit can therefore be completely operated via remote-control. The existing configuration of a gateway can be read, changed on the PC, archived, and transferred back to the same or a different gateway. In addition, the software contains a bus monitor for displaying Enocean telegrams via the KNX bus.
The software and corresponding documentation can be obtained free of charge in the download area of Wieland Electric GmbH.

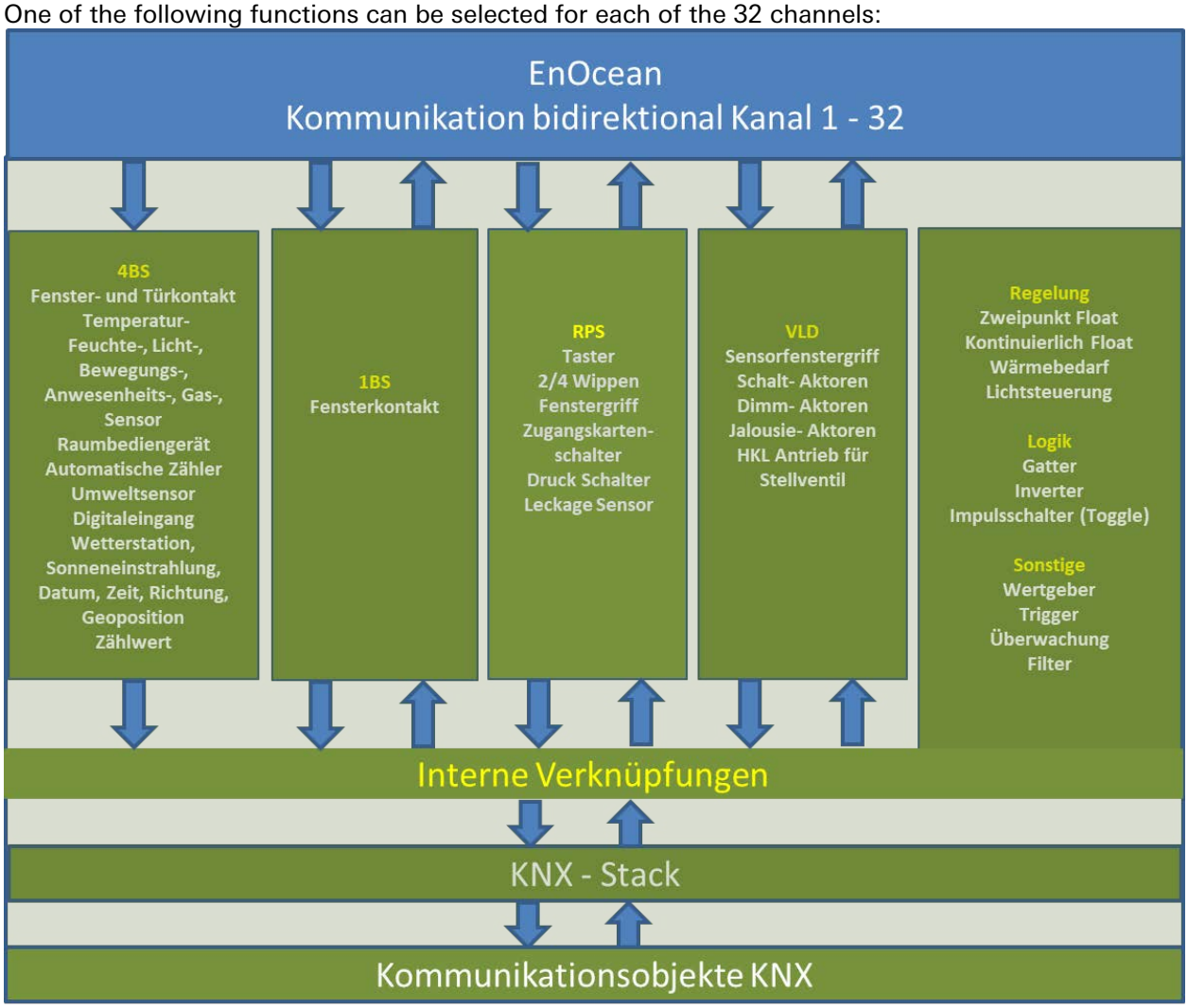
Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module .

Application description

Gateway functions

One of the following functions can be selected for each of the 32 channels:



The operating modes are set via parameters.
The object numbers indicated in the tables stand for the first channel from the gateway in each case. One channel contains a maximum of 8 communication objects with this unit.

The object numbers for individual channels 2 to 32 can be derived from the object numbers of channel 1 as follows:
Obj. No. $_{\text{Channel X}}$ = Obj. No.$_{\text{Channel 1}}$ + (X - 1)*8 (X = Channel number (1 - 32))

Communication objects and parameter KNX

Overview

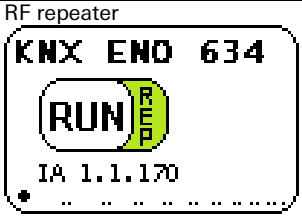
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General parameters for channel 1 to channel 32

General

Parameter	Description
Device Name	• *gesis* **KNX FLEX-ENO32B** A name of your own choice can be given to the module here. The device name should be meaningful, e.g. "Office 1". This name is also shown on the device in the main view on the display.
Delete all links after download	• **No** • **Yes** All the previously created and existing settings will be deleted after an ETS download if the setting is 'Yes'. Links which have already been programmed will also be lost.
Teach switch/handle (RPS) after 3 tel.	• **No** • **Yes** This parameter selects whether the sensor has to be actuated 1x or 3x for teaching an Enocean button or window handle.
RF repeater 	• **Off** • **On** The repeater function is used to bridge large distances between sensors and actuators. The *gesis* KNX FLEX ENO32B gateway is a level-1 radio repeater. Only telegrams that originate directly from a transmitter are repeated. Telegrams from other repeaters, however, are not repeated. The repeater function is activated with the setting "On". If the function is active, this is displayed in the main menu of the display with 'REP'.

Communication objects and parameter KNX per channel

Channel 1 to 32

Parameter	Description
Channel type	• **Inactive** The channel is not being used. • **Link from Enocean sensor to KNX** Various Enocean sensors can be incorporated in a KNX system in this operating mode. When the teach button is actuated, most Enocean sensors send their EEP to prevent the sensor from being linked to an unsuitable channel. In this respect, the EEP supported by the channel can be read off in the designation of the sensor type. If an attempt is made to teach a sensor with an EEP which is unsuitable for the channel, the gateway will not create the link. If the EEP of a channel is changed during the ETS configuration, any taught sensors in the channel will be deleted at the next download. During operation, the gateway forwards the data sent from an integrated sensor via Enocean to KNX via one or more objects. If the Enocean sensor sends encrypted telegrams, this must be enabled via the parameter 'Channel encryption'. • **Link from KNX to Enocean actuator** The gateway can emulate the corresponding sensor profiles to control Enocean actuators. This means the device sends the same radio telegrams as e.g. an Enocean button. In this respect, each channel uses its own sender ID. In addition, bidirectional Enocean actuators with the following EEP families are supported: – D2-01-XX Switching/dimming actuators – D2-05-XX blind actuators – A5-20-01 and A5-20-04 HVAC actuators for adjusting valves • **Control/logic** Several control/logic functions can be selected here. They include time, control, logic, value transmitter, trigger and monitoring functions. These functions can be operated with a sensor or actuator channel in the device, or externally via KNX telegrams.

4.3.1 link Enocean to KNX

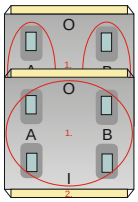
RPS switch

The type of device to be used can be selected via the switch type parameter. It is possible to teach devices with a single switch or two or four rockers.
Channel encryption can also be activated in the parameters. It should be noted that the PTM 215 module is currently the only Enocean button which can handle encrypted communication.
Switching the PTM 215 to **encrypted** communication:

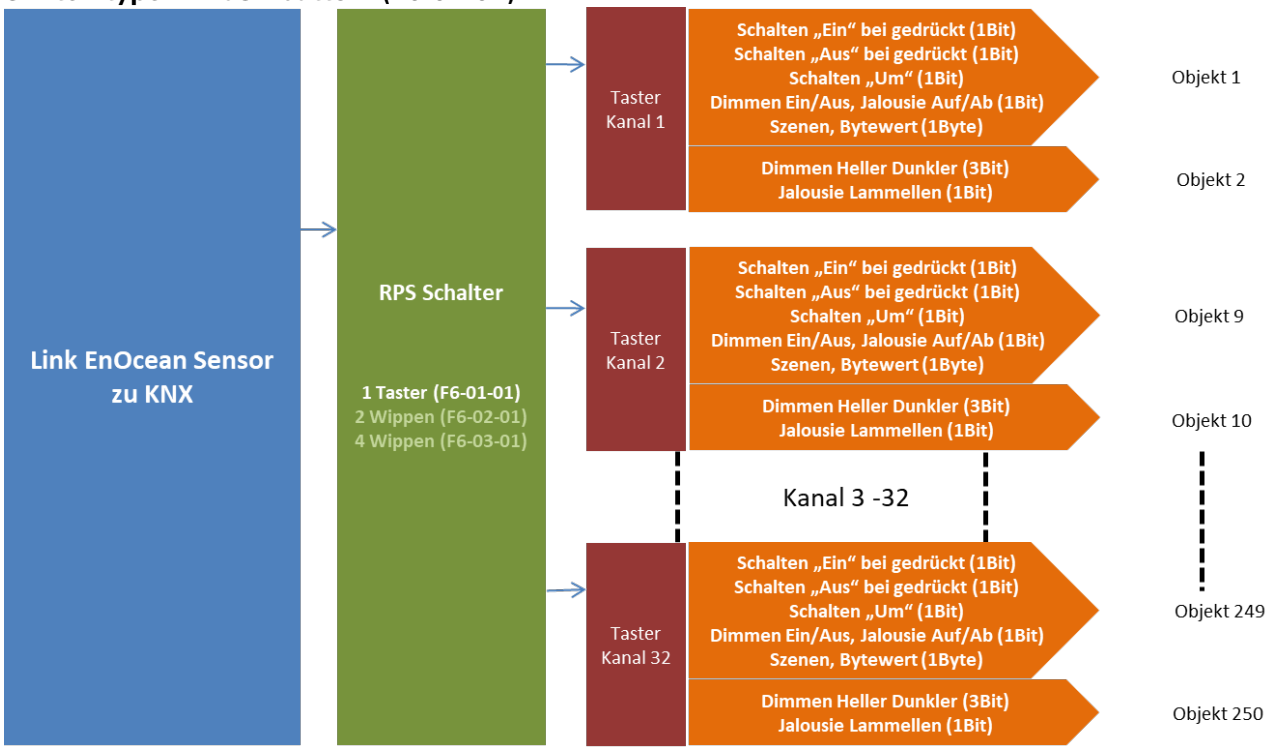
1. Simultaneously push both contact blades of either channel A or B.
2. Use the energy bow to trigger a teach telegram and activate encryption.

Switching the PTM 215 to **unencrypted** communication:

1. Simultaneously push all 4 contact blades of channel A and B.
2. Use the energy bow to trigger a teach telegram and deactivate encryption.



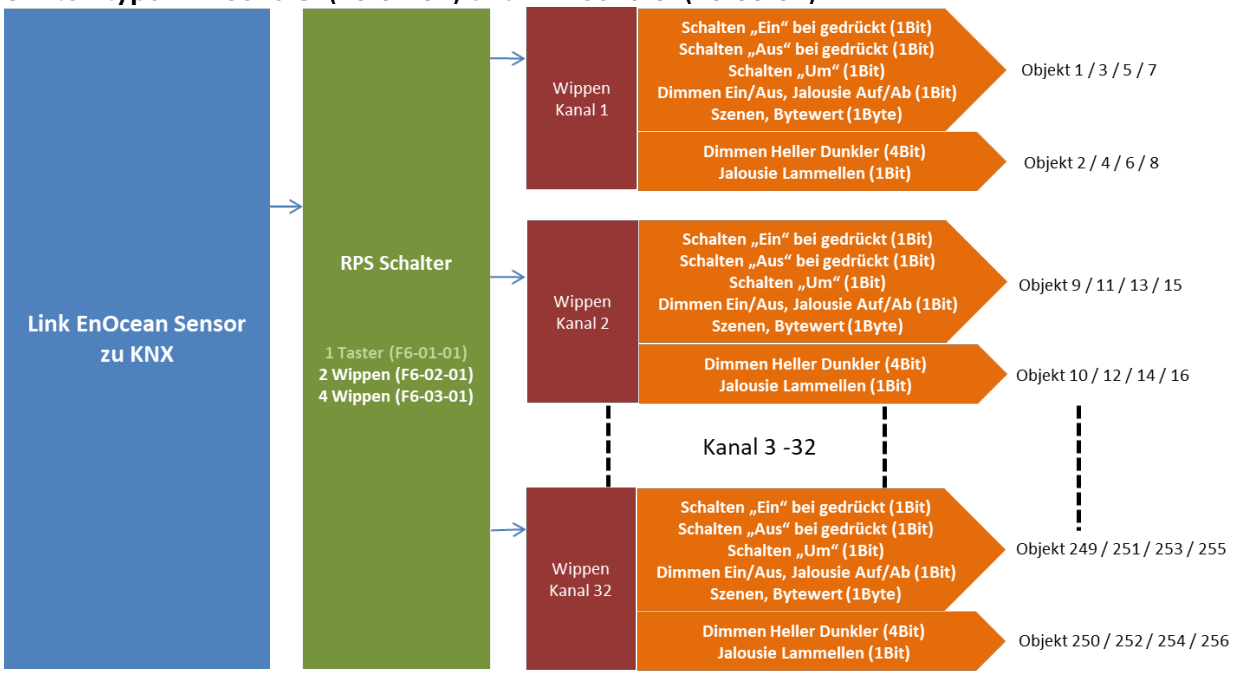
Switch type '1 Push button' (F6-01-01)



Pushbutton Channel 1 communication objects

Channel 1 … Channel 32			**Data Point Type**			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	1 Push button (F6-01-01)	Switch A	1.001	Switch On / Off / Toggle	1 bit	K	-	-	Ü	-
		Shutter A	1.008	Shutter up / down						
		Scene A	18.001	Scene	8 bits					
		Byte value	5.xxx	Byte value						
2	1 Push button (F6-01-01)	Dim A	3.007	Dim brighter / darker	4bit	K	-	-	Ü	-
		Louver A	1.007	Blind louvers	1 bit					

Switch type '2 Rockers' (F6-02-01) and '4 Rockers' (F6-03-01)



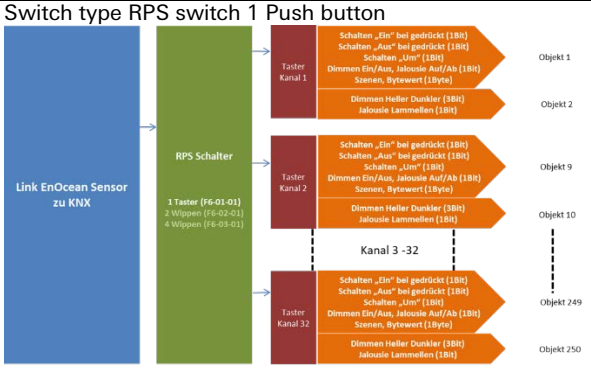
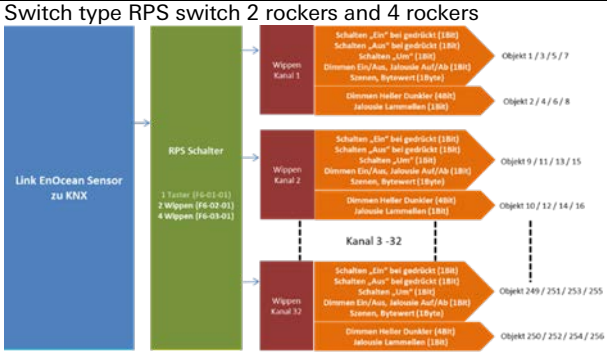
Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Rockers (F6-02-01) (F6-03-01)	Switch A	1.001	Switch On / Off / Toggle	1 bit	K	-	-	Ü	-
		Shutter A	1.008	Shutter up / down						
		Scene A	18.001	Scene	8 bits					
		Byte value	5.xxx	Byte value						
2	Rockers	Dim A	3.007	Dim brighter / darker	4bit	K	-	-	Ü	-
		Louver A	1.008	Blind louvers	1 bit					
3	Rockers (F6-02-01) (F6-03-01)	Switch B	1.001	Switch On / Off / Toggle	1 bit	K	-	-	Ü	-
		Shutter B	1.008	Shutter up / down						
		Scene B	18.001	Scene	8 bits					
		Byte value	5.xxx	Byte value						
4	Rockers	Dim B	3.007	Dim brighter / darker	4bit	K	-	-	Ü	-
		Louver B	1.008	Blind louvers	1 bit					
5	Rockers (F6-02-01) (F6-03-01)	Switch C	1.001	Switch On / Off / Toggle	1 bit	K	-	-	Ü	-
		Shutter C	1.008	Shutter up / down						
		Scene C	18.001	Scene	8 bits					
		Byte value	5.xxx	Byte value						
6	Rockers	Dim C	3.007	Dim brighter / darker	4bit	K	-	-	Ü	-
		Louver C	1.008	Blind louvers	1 bit					
7	Rockers (F6-02-01) (F6-03-01)	Switch D	1.001	Switch On / Off / Toggle	1 bit	K	-	-	Ü	-
		Shutter D	1.008	Shutter up / down						
		Scene D	18.001	Scene	8 bits					
		Byte value	5.xxx	Byte value						
8	Rockers	Dim D	3.007	Dim brighter / darker	4bit	K	-	-	Ü	-
		Louver D	1.008	Blind louvers	1 bit					

A 4-fold rocker is configured in a similar way to a 2-fold rocker (F6-02-01). However, it should be noted that 2 channels must be used in the gateway for complete integration. Rocker pair A-B in one channel and rocker pair C-D in a second channel. Channel encryption is not supported if a 4-fold rocker is used.

Parameter description

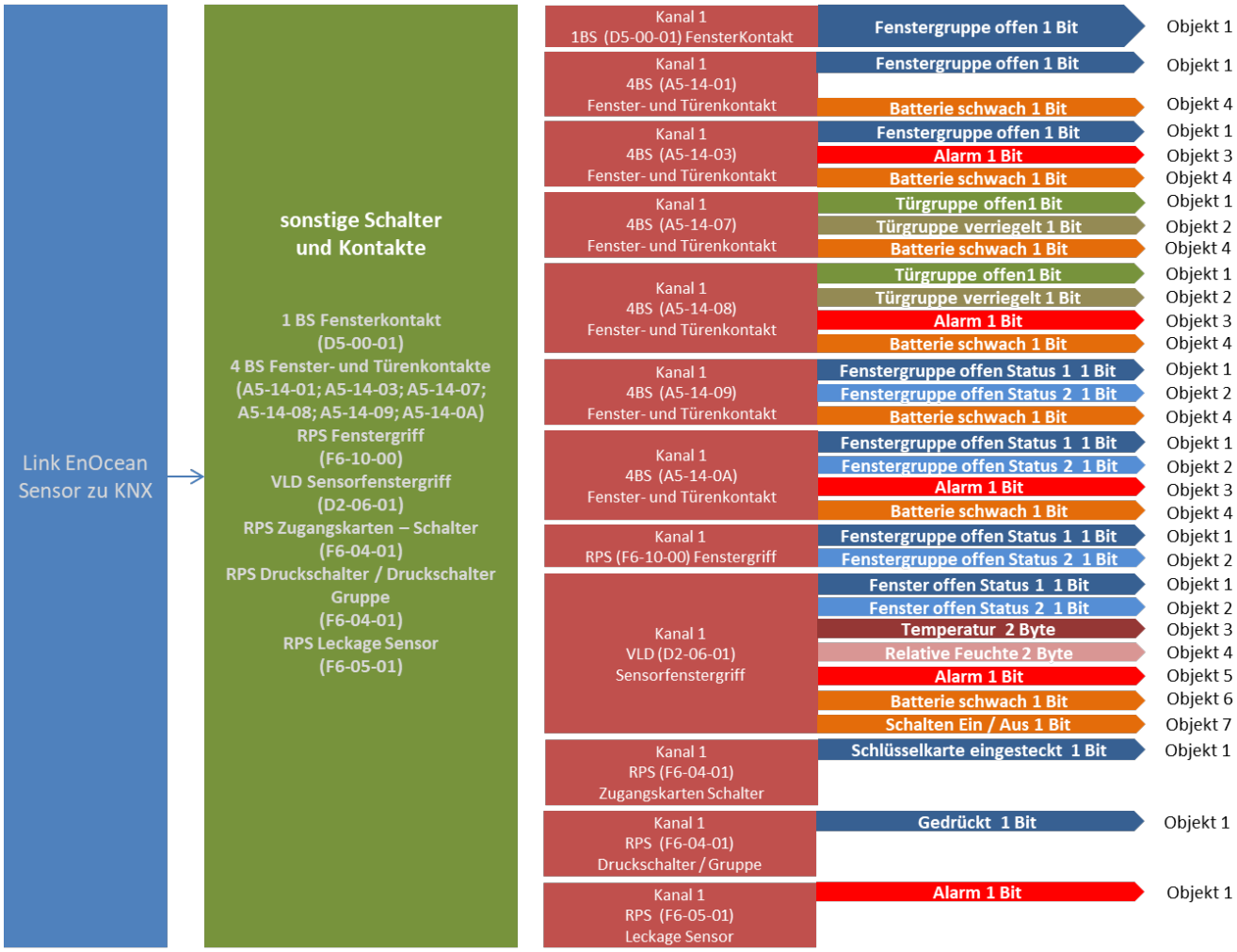
Link from Enocean sensor to KNX RPS switch

Parameter	Description
Switch type RPS switch 1 Push button 	**RPS switch 1 Push button:** The "KNX function" parameters define which KNX telegrams are triggered when the push button is pushed and released: • **Switching Off when pushed** Switches off when the push button is pushed and on when the push button is released. • **Switching On when pushed** Switches on when the push button is pushed and off when the push button is released. • **Switching Toggle** Toggles the output when the push button is pushed. • **Dimming** A switching telegram is sent via the 'Switching' object with a short button push. Relative dimming over the entire dimming range is sent to the 'Dimming' object with a long button push. A dimming stop telegram is sent via the 'Dimming' object when releasing after a long button push. Both objects are linked: each switch-on and increase in brightness is followed by a switch-off and decrease in brightness at the next button push. • **Blind Up / Down including louver** The louver is opened via the 'Blind louvers' object with a short button push. The blind is moved up or down in turn via the 'Blind Up/Down' object with a long button push. • **Scene** A short button push triggers the preset scene. Furthermore, a parameter can be defined to determine whether a telegram for teaching the preset scene is sent with a long button push. • **Byte value** A button push sends a parameterizable byte value of 0–255.
Switch type RPS switch 2 rockers and 4 rockers 	• **2 Rockers** Each pressure point of the rockers can be set individually. The "KNX function Switch pressure point" parameters define which KNX telegrams are triggered when the pressure point is actuated and released: • **Disabled** The rocker has no function. • **Switching On** Switches on when the rocker is actuated. • **Switching Off** Switches off when the rocker is actuated. • **Switching Toggle** Toggles when the rocker is actuated • **Dimming** A switching telegram is sent via the *Switching' object with a short button push. Relative dimming over the entire dimming range is sent to the 'Dimming' object with a long button push. A dimming stop telegram is sent via the 'Dimming' object when releasing after a long button push. Both objects are linked: each switch-on and increase in brightness is followed by a switch-off and decrease in brightness at the next button push. • **Blind Up / Down including louver** (single-button operation) The louver is opened via the 'Blind louvers' object with a short button push. The blind is moved up or down in turn via the 'Blind Up/Down' object with a long button push.

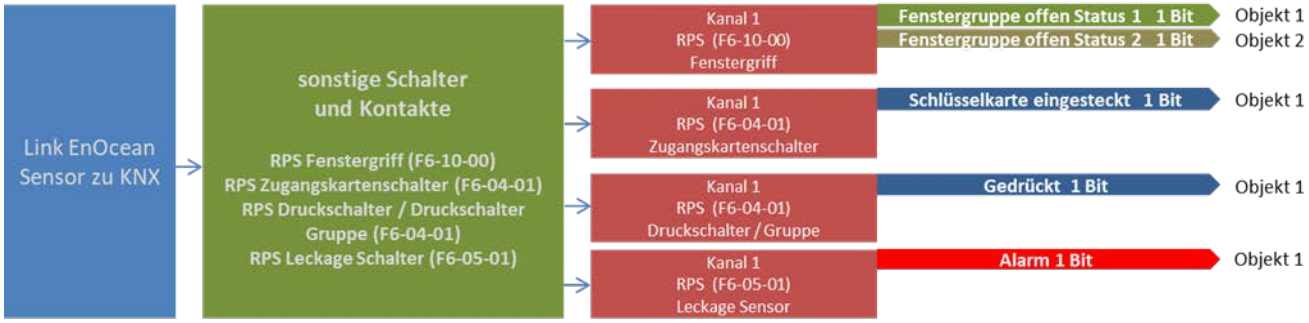
Link from Enocean sensor to KNX RPS switch

Parameter	Description
	• **Scene** A short button push triggers the preset scene. Furthermore, a parameter can be defined to determine whether a telegram for teaching the preset scene is sent with a long button push. • **Byte value** A button push sends a parameterizable byte value of 0–255.
Note on 4 rockers: **A 4-fold rocker (F6-03-01) is configured in a similar way to the 2-fold rocker (F6-02-01). However, it should be noted that 2 channels must be parameterized in the gateway for complete integration. Rocker pair A-B is configured in one channel and rocker pair C-D in a second channel.** **Channel encryption is not supported if a 4-fold rocker is used.**	

Other switches and contacts



RPS Types (F6-10-00; F6-04-01; F6-05-01):



Communication objects

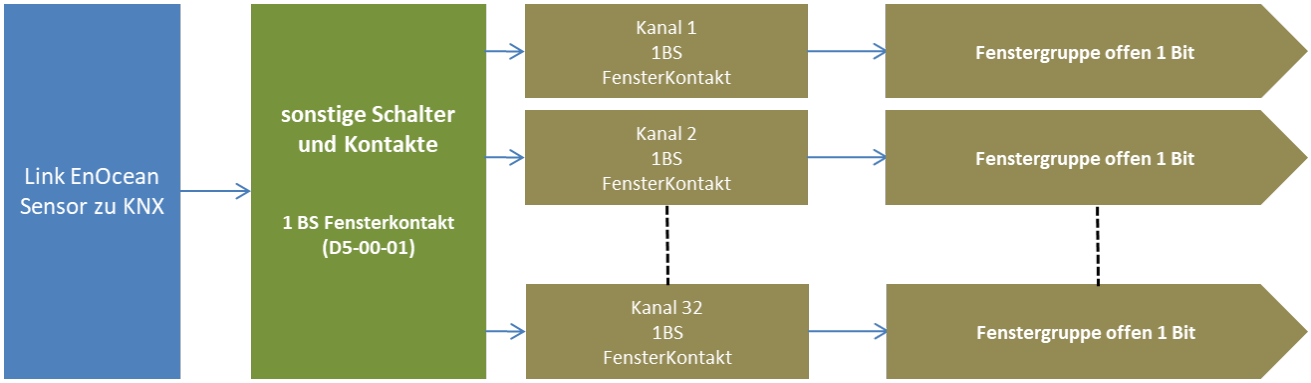
Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	RPS window handles (F6-10-00)	Window group open state 1	1.002	Special sensor channel 1	1 bit	K	-	-	Ü	-
	1RPS access card switch (F6-04-01)	Key card inserted								
	RPS pressure switch / Pressure switch group (F6-04-01)	Pressed								
	RPS Liquid leakage sensor (F6-05-01)	Alarm	1.005							
2	RPS window handles (F6-10-00)	Window group open state 2	1.002	Special sensor channel 1	1 bit	K	-	-	Ü	-

Parameter description

RPS window handle, access card switch and liquid leakage sensors

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Sensor type RPS
  </td><td>• The following RPS sensor types are available:</td></tr>
<tr><td>RPS window handles (F6-10-00)
  </td><td>• 3 states are detected with window handles sensors: Window is open, tilted, or closed. When the handle is turned to a position, the corresponding state is depicted and sent to 2 communication objects. Up to 4 handles can be taught on one channel.
The gateway determines a common state of all handles taught in the channel; some examples are shown in the following state table:
<table>
<tr><th>Window 1</th><th>Window 2</th><th>Window 3</th><th>Window 4</th><th>Common state</th></tr>
<tr><td>Open</td><td>Open</td><td>Open</td><td>Open</td><td>Open</td></tr>
<tr><td>Open</td><td>Tilted</td><td>Open</td><td>Open</td><td>Open</td></tr>
<tr><td>Open</td><td>Closed</td><td>Tilted</td><td>Closed</td><td>Open</td></tr>
<tr><td>Closed</td><td>Closed</td><td>Closed</td><td>Tilted</td><td>Tilted</td></tr>
<tr><td>Closed</td><td>Closed</td><td>Closed</td><td>Closed</td><td>Closed</td></tr>
</table>
The following communication objects are available for window handles:
<table>
<tr><th>Group object</th><th>Type KNX</th><th>Size</th><th>Direction</th></tr>
<tr><td>Special Sensor channel – Window group open state 1</td><td>1.002</td><td>1 bit</td><td>To KNX</td></tr>
<tr><td>Special Sensor channel – Window group open state 2</td><td>1.002</td><td>1 bit</td><td>To KNX</td></tr>
</table>
The following telegrams are sent via these objects in the various states of the window group:
<table>
<tr><th></th><th>Window closed</th><th>Window tilted</th><th>Window open</th></tr>
<tr><td>Window group open state 1</td><td>Off</td><td>On</td><td>On</td></tr>
<tr><td>Window group open state 2</td><td>Off</td><td>Off</td><td>On</td></tr>
</table>
The position of the handle depends on the installation condition. This is described in the manufacturer's data sheet for the window handle. The handle is correctly mounted if two 'Off' values are sent via both data points when the window is closed become</td></tr>
<tr><td>RPS access card switch (F6-04-01)
  </td><td>• As soon as a card is inserted in the access card switch, it sends a signal which is applied and transmitted to the KNX bus.</td></tr>
<tr><td>RPS pressure switch (F6-04-01)
RPS pressure switch group (F6-04-01)
  </td><td>• When a pressure switch is actuated, a telegram is sent via the object configured for the channel.
The number of switches can also be defined for groups of pressure switches, so that an On telegram is sent.</td></tr>
<tr><td>RPS Liquid leakage sensor (F6-05-01)
  </td><td>• If the liquid leakage sensor is active, an alarm telegram (1.005) is generated at the KNX bus.</td></tr>
</table>

1BS Window contact (D5-00-01):



Communication objects

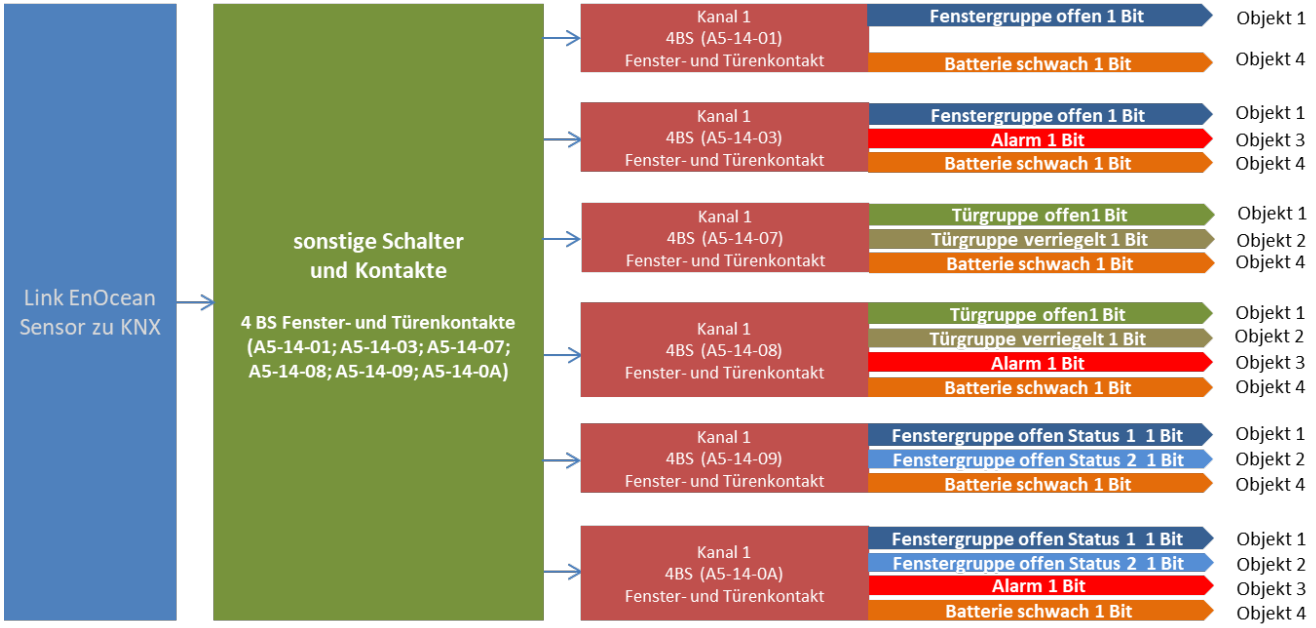
Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	1BS Window contact (D5-00-01)	Door group open	1.019	Special sensor channel 1	1 bit	K	-	-	Ü	-

Parameter description

1BS Window contacts

Parameter	Description
Sensor type 4BS Window and door contacts 	• Up to 4 contacts can be taught in one channel in this device type. The gateway detects a common state of all contacts taught in the channel and only sends the value 'closed' when all windows are closed.
	• Three states can be detected with window handle sensors: open and tilted. Up to 4 handles can be taught in one channel. In this respect, the gateway calculates a common state of all taught handles in the channel.

4BS Window and door contacts (A5-14-0X):

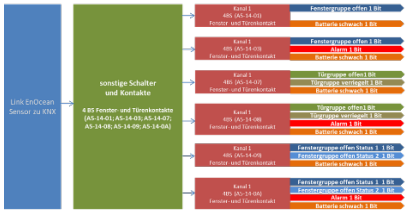
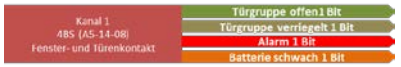


Communication objects

Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS Window and door contacts (A5-14-01; A5-14-03)	Window group open	1.002	Special sensor channel 1	1 bit	K	-	-	Ü	-
	4BS Window and door contacts (A5-14-09; A5-14-0A)	Window group open state 1								
	4BS Window and door contacts (A5-14-07; A5-14-08)	Door group open								
2	4BS Window and door contacts (A5-14-09; A5-14-0A)	Window group open state 2	1.002	Special sensor channel 1	1 bit	K	-	-	Ü	-
	4BS Window and door contacts (A5-14-07; A5-14-08)	Door group locked								
3	4BS Window and door contacts (A5-14-03; A5-14-08; A5-14-0A)	Alarm	1.005	Special sensor channel 1	1 bit	K	-	-	Ü	-
4	4BS Window and door contacts (A5-14-01; A5-14-03; A5-14-07; A5-14-08; A5-14-09; A5-14-0A)	Weak battery	1.002	Special sensor channel 1	1 bit	K	-	-	Ü	-

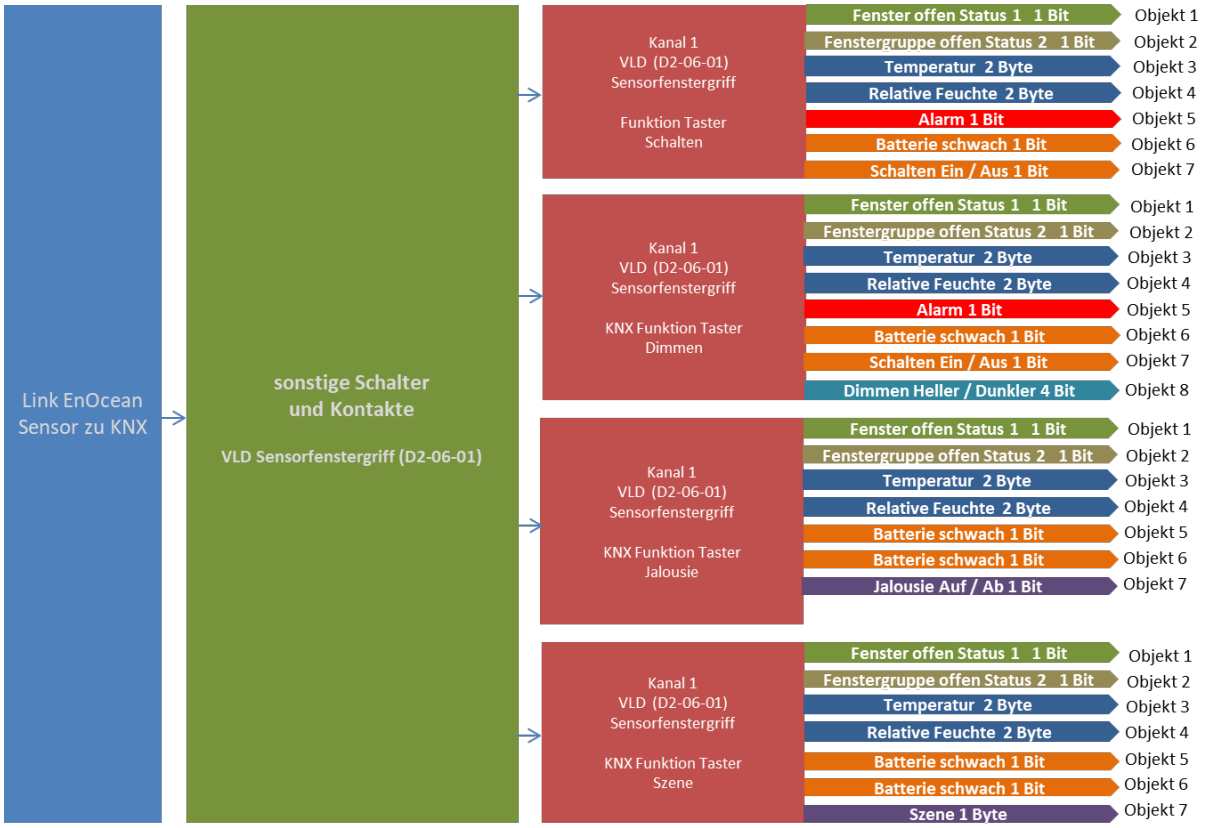
Parameter description

4BS Window and door contacts

Parameter	Description
Sensor type 4BS Window and door contacts 	• Up to 4 contacts can be taught in one channel in this device type. The gateway detects a common state of all contacts taught in the channel and only sends the value ‘closed’ when all windows are closed.
	• Two states can be detected with window handle sensors: open and closed. Up to 4 handles can be taught in one channel. In this respect, the gateway determines a common state of all taught handles in the channel. A second 1-bit object indicates the state of the battery depending on a parameterizable voltage.
	• Three objects can be operated with window handle sensors. Two states can be detected: open and closed. Up to 4 handles can be taught in one channel. In this respect, the gateway determines a common state of all taught handles in the channel. This application also has an alarm function which is output to the KNX bus. Another 1-bit object indicates the state of the battery depending on a parameterizable voltage.
	• Three states can be detected with door handle sensors: open, closed and locked. Up to 4 doors can be taught in one channel. In this respect, the gateway determines a common state of all taught doors in the channel. Another 1-bit object indicates the state of the battery depending on a parameterizable voltage.
	• Three states can be detected with door handle sensors: open, closed and locked. Up to 4 doors can be taught in one channel. In this respect, the gateway determines a common state of all taught doors in the channel. This application also has an alarm function which is output to the KNX bus. Another 1-bit object indicates the state of the battery depending on a parameterizable voltage.
	• Three states can be detected with window handle sensors: open, closed and tilted. Up to 4 handles can be taught in one channel. In this respect, the gateway determines a common state of all taught handles in the channel. A second 1-bit object indicates the state of the battery depending on a parameterizable voltage.
	• Three objects can be operated with window handle sensors. Two states can be detected: open and closed. Up to 4 handles can be taught in one channel. In this respect, the gateway determines a common state of all taught handles in the channel. This application also has an alarm function which is output to the KNX bus. Another 1-bit object indicates the state of the battery depending on a parameterizable voltage.

VLD Sensor window handle (D2-06-01):

Channel 1

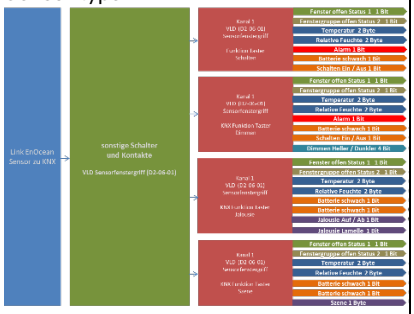
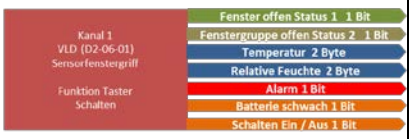
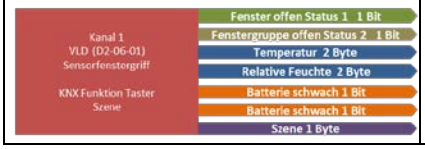


Communication objects

Channel 1			**Data Point Type**			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	VLD sensor window handle (D2-06-01)	Window open state 1	1.002	Special sensor channel 1	1 bit	K	-	-	Ü	-
2	VLD sensor window handle (D2-06-01)	Window open state 2	1.002	Special sensor channel 1	1 bit	K	-	-	Ü	-
3	VLD sensor window handle (D2-06-01)	Temperature	9.001	Special sensor channel 1	2 byte	K	-	-	Ü	-
4	VLD sensor window handle (D2-06-01)	Relative humidity	9.007	Special sensor channel 1	2 byte	K	-	-	Ü	-
5	VLD sensor window handle (D2-06-01)	Alarm	1.005	Special sensor channel 1	1 bit	K	-	-	Ü	-
6	VLD sensor window handle (D2-06-01)	Weak battery	1.002	Special sensor channel 1	1 bit	K	-	-	Ü	-
7	VLD sensor window handle (D2-06-01)	Switch on/off	1.001	Special sensor channel 1	1 bit	K	-	-	Ü	-
		Shutter up / down	1.008							
		Scene			1 byte					
8	VLD sensor window handle (D2-06-01)	Dim brighter / darker	3.007	Special sensor channel 1	4bit	K	-	-	Ü	-
		Blind louver	1.007		1 bit	K	-	-	Ü	-

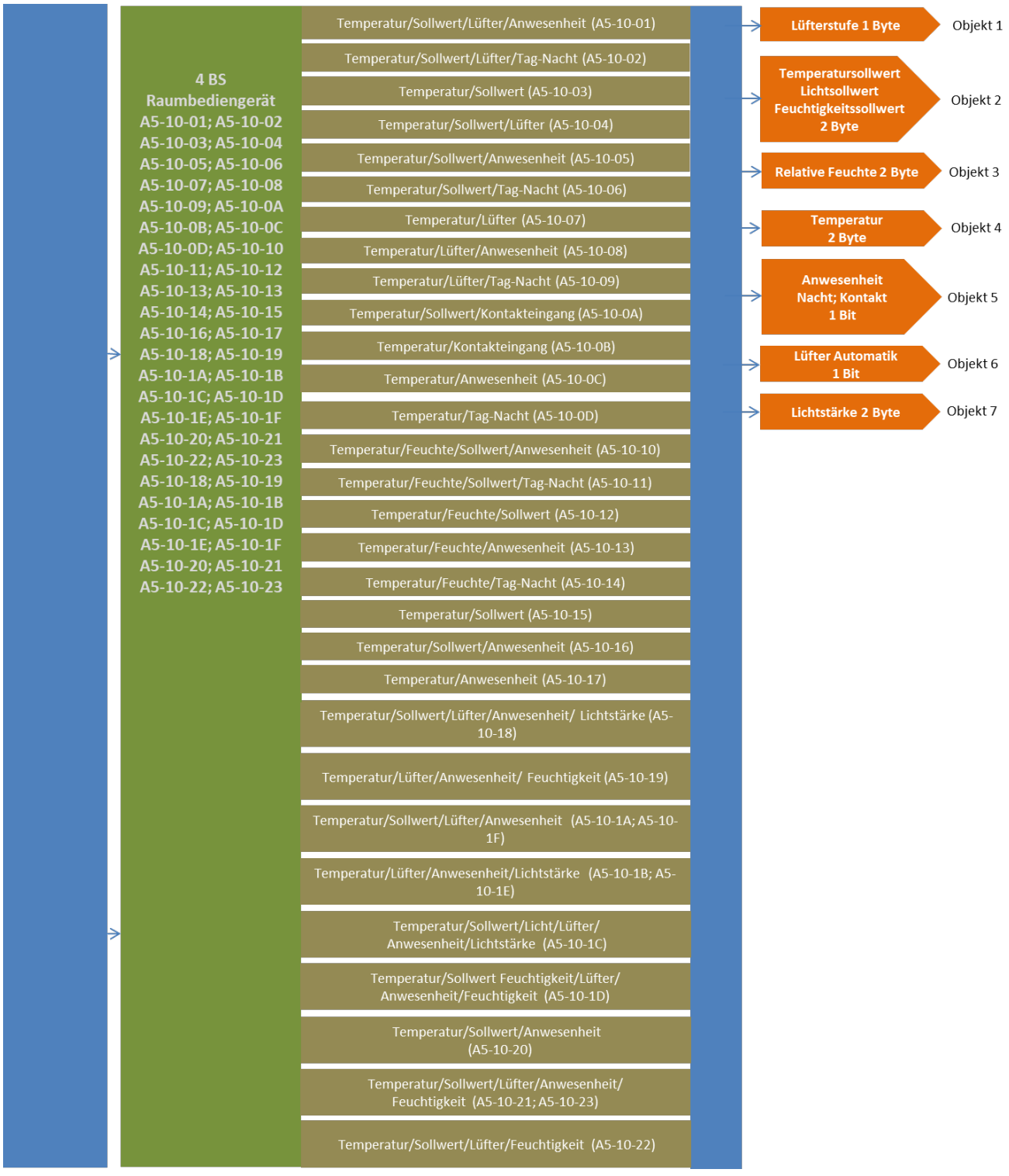
Parameter description

VLD Sensor window handle

Parameter	Description
Sensor type VLD 	• The following KNX functions can be optionally assigned to the button on the VLD sensor window handle: Switch on/off (1 Bit) Dimming (4 bit) with switching object (1 bit) Blind Up / Down (1 bit) with Blind louver (1 bit) Scene (1 byte) for two scenes "Scene a" and "Scene b"
VLD sensor window handle (D2-0601) KNX function buttons    	The two parameterizable buttons on the device can execute the following functions depending on the 'KNX function buttons' parameter: • **Switching** With this setting, a KNX telegram of the data type 1.001 Switching On is sent by one button when it is actuated and Switching Off is sent by the other button when it is actuated. • **Dim** With this setting, a KNX telegram of the data type 1.001 Switching On / Off is sent to the KNX bus with one button and a KNX telegram of the data type 3.007 for Dimming brighter / darker is sent to the KNX bus with the other button. • **Blind** With this setting, a KNX telegram of the data type 1.008 Blind Up / Down is sent to the KNX bus with one button and a KNX telegram of the data type 1.007 for Number of louver steps is sent to the KNX bus with the other button. • **Scene** A scene (1–64) in the KNX system can be activated with a button on the VLD sensor window handle. Two scenes in the KNX system can therefore be called up with the two parameterizable pushbuttons on the VLD sensor window handle.

4BS Room control unit (A5-10-YX)

Total overview 4BS room control unit

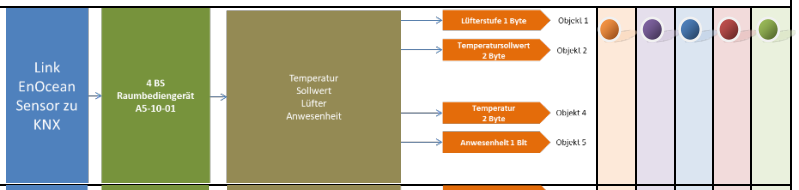
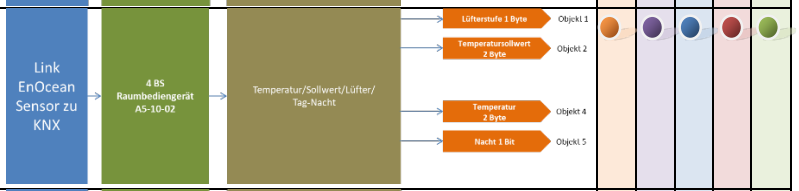
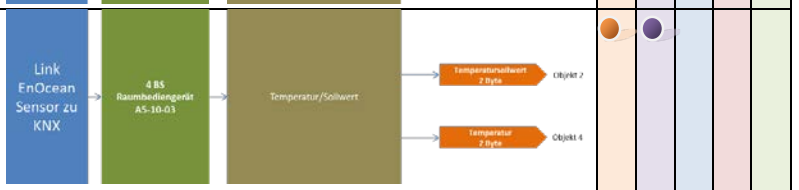
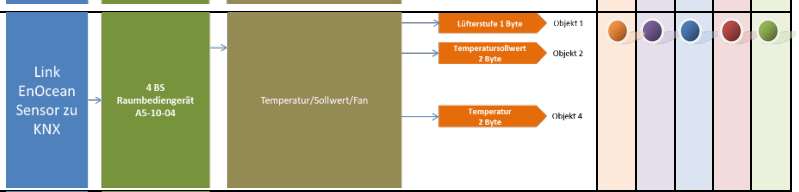
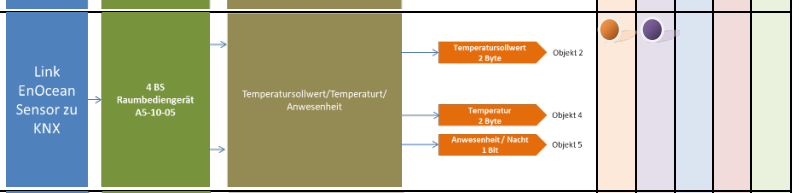
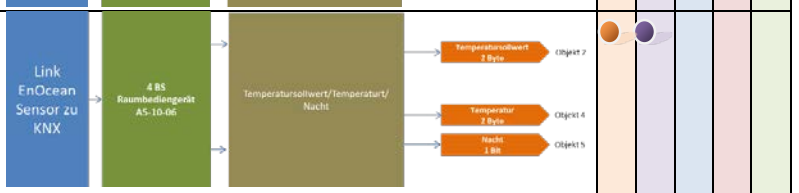


Communication objects

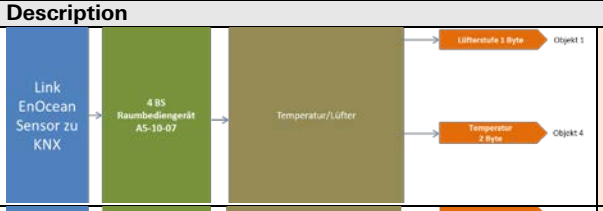
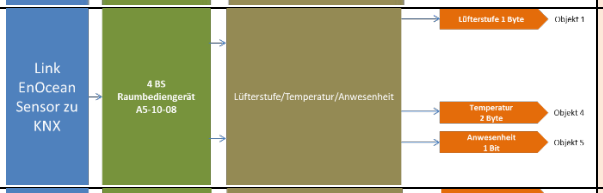
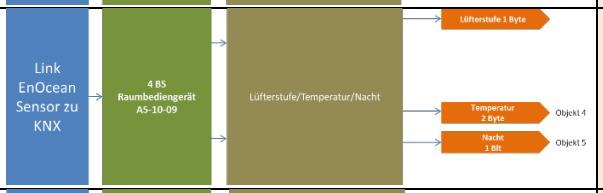
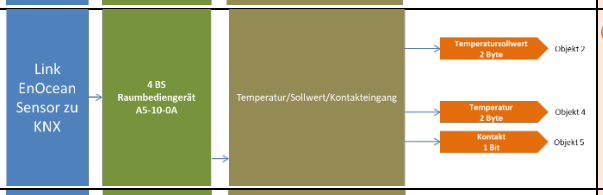
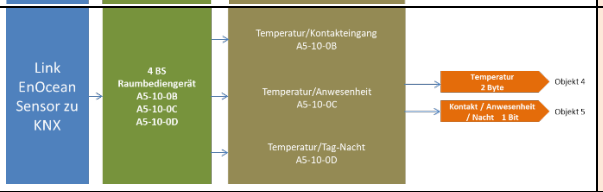
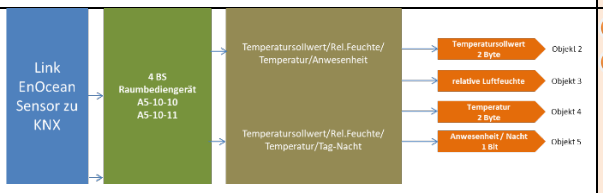
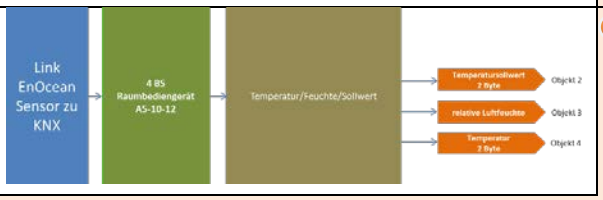
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Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS room control unit	Fan stage	5.001	Sensor channel 1	1 byte	K	-	-	Ü	-
2	4BS room control unit	Temperature target value	9.001	Sensor channel 1	2 byte	K	-	-	Ü	-
		Light target value	9.004							
		Humidity target value	9.007							
3	4BS room control unit	Rel. humidity	9.007	Sensor channel 1	2 byte	K	-	-	Ü	-
4	4BS room control unit	Temperature	9.001	Sensor channel 1	2 byte	K	-	-	Ü	-
5	4BS room control unit	Presence	1.018	Sensor channel 1	1 bit	K	-	-	Ü	-
		Night	1.002							
		Contact	1.001							
6	4BS room control unit	Fan automatic mode	1.001	Sensor channel 1	1 bit	K	-	-	Ü	-
7	4BS room control unit	Light intensity	9.004	Sensor channel 1	2 byte	K			Ü	

Parameter description

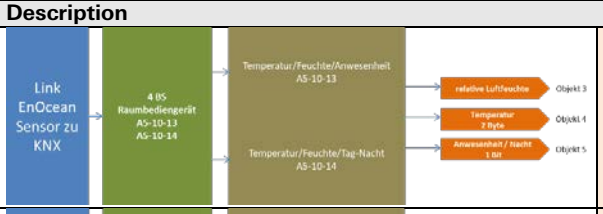
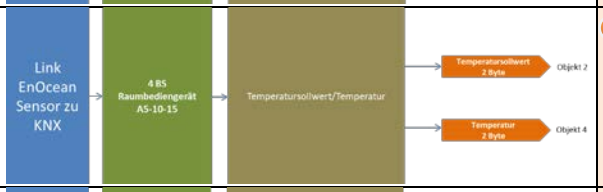
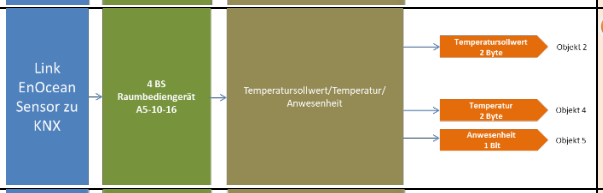
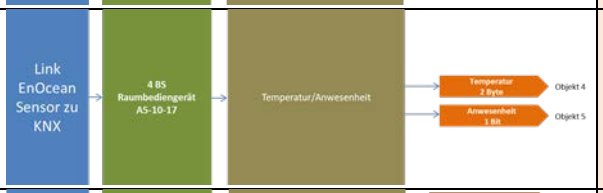
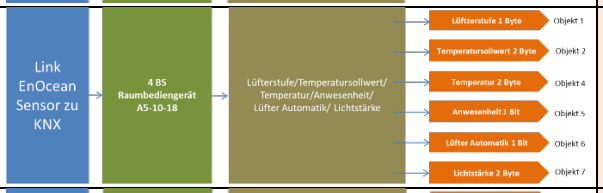
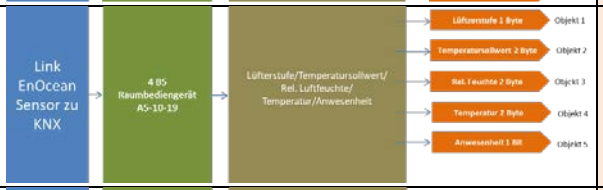
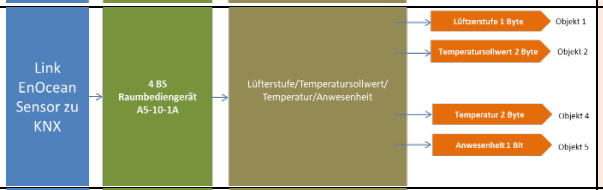
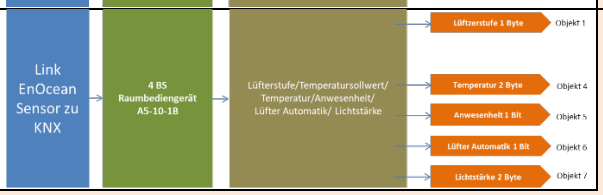
4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
Sensor type	**4BS room control unit** A variety of room control units can be used with the gateway. Various objects are displayed depending on the configuration level and EPPs of the unit. If a profile supports Temperature target value, the limit values sent to KNX at the left and right stop of the target value adjuster can be defined via parameters. If a fan stage change is available in the profile, the percentage value which is sent when switching to the respective fan stage can be set with 3 parameters.
Room control unit type **A5-10-01 Temperature / Target value / Fan / Presence**	
A5-10-02 Temperature / Target value / Fan / Day – night	
A5-10-03 Temperature / Target value	
A5-10-04 Temperature / Target value / Fan	
A5-10-05 Temperature / Target value / Presence	
A5-10-06 Temperature / Target value / Day – night	
Left limit °C	**3** Adjustment option limit for the left stop ranges from -99 °C to +99 °C.
Right limit °C	+3 Adjustment option limit for the right stop ranges from -99 °C to +99 °C.
Fan stage I %	**33** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage II %	**66** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage III %	**100** Adjustment option limit for the fan stage ranges from 0% to 100%

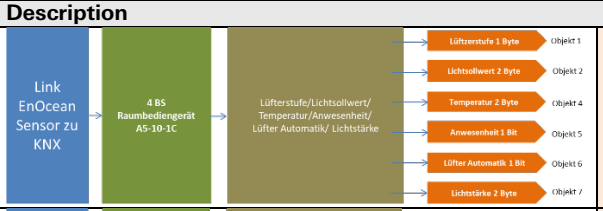
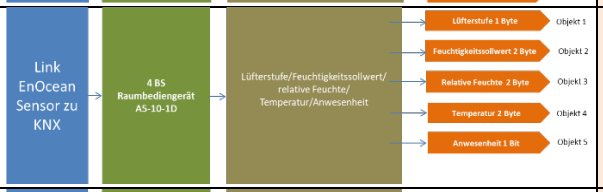
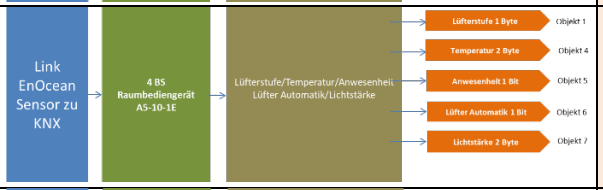
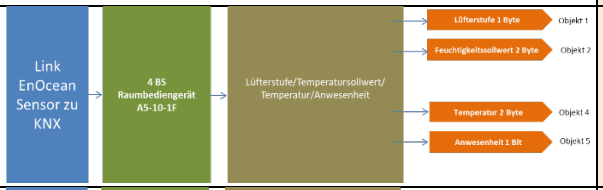
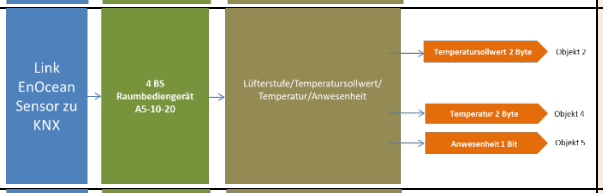
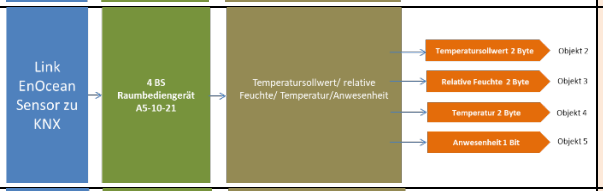
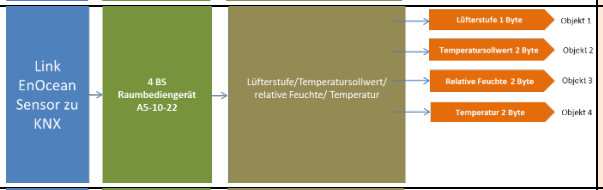
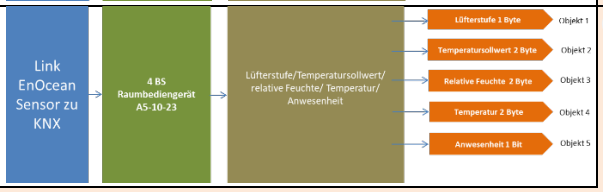
4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
Room unit type **A5-10-07 Temperature / Fan**	
A5-10-08 Fan / Temperature / Presence	
A5-10-09 Temperature / Fan / Day – night	
A5-10-0A Temperature / Target value / Contact input	
A5-10-0B Temperature / Contact input **A5-10-0C Temperature / Presence** **A5-10-0D Temperature / Day – night**	
A5-10-10 Temperature Target Value / Rel. Humidity / Temperature / Presence **A5-10-11 Temperature Target Value / Rel. Humidity / Temperature / Night**	
A5-10-12 Temperature TargetValue / Rel. Humidity / Temperature	
Left limit °C	**-3** Adjustment option limit for the left stop ranges from -99 °C to +99 °C.
Right limit °C	**+3** Adjustment option limit for the right stop ranges from -99 °C to +99 °C.
Fan stage I %	**33** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage II %	**66** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage III %	**100** Adjustment option limit for the fan stage ranges from 0% to 100%

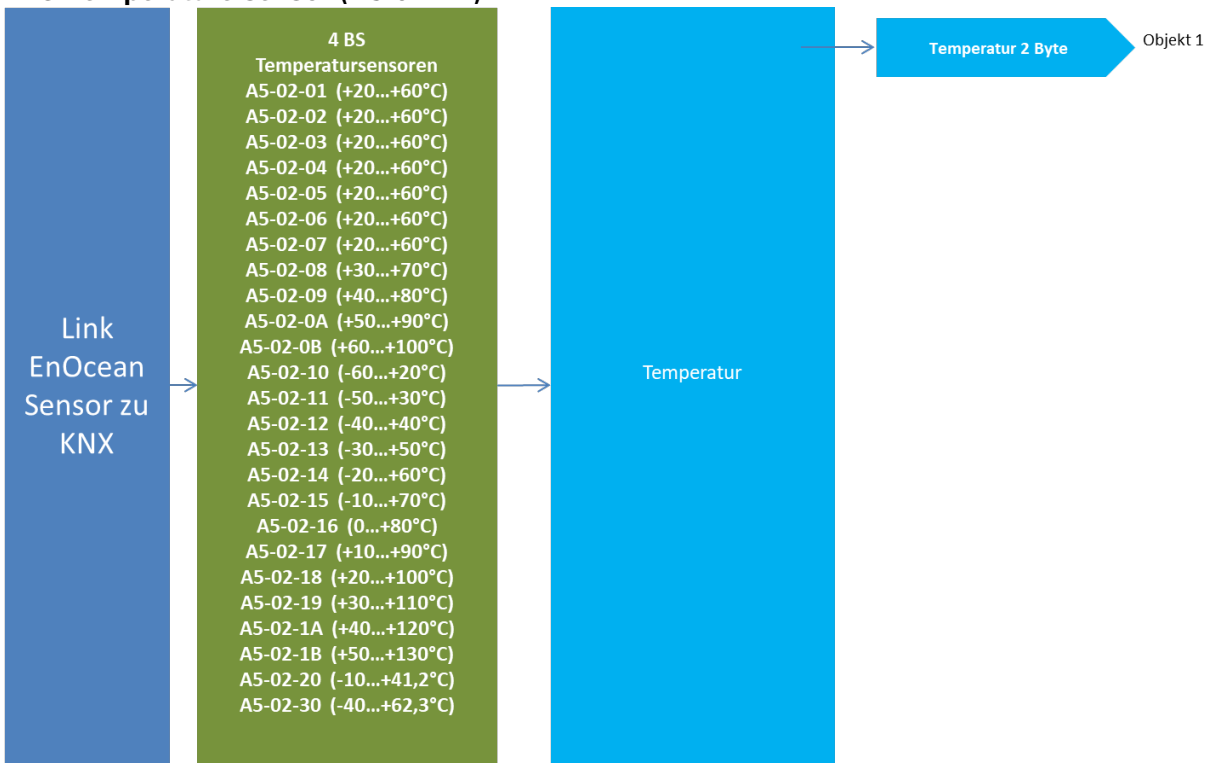
4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
A5-10-13 Temperature / Humidity / Presence **A5-10-14 Temperature / Humidity / Day - night**	
A5-10-15 Temperature / Humidity / Target value / Presence	
A5-10-16 Temperature Target Value / Temperature / Presence	
A5-10-17 Temperature / Presence	
A5-10-18 Fan Stage / Temperature Target Value / Temperature / Presence / Fan Automatic / Light Intensity	
A5-10-19 Fan Stage / Temperature Target Value / Rel. Humidity / Temperature / Presence	
A5-10-1A Fan Stage / Temperature Target Value / Temperature / Presence	
A-10-1B Fan Stage / Temperature / Presence / Fan Automatic / Light Intensity	
Left limit °C	**-3** Adjustment option limit for the left stop ranges from -99 °C to +99 °C.
Right limit °C	**+3** Adjustment option limit for the left stop ranges from -99 °C to +99 °C.
Fan stage I %	**33** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage II %	**66** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage III %	**100** Adjustment option limit for the fan stage ranges from 0% to 100%

4BS Temperature, humidity, light, movement/presence, and gas sensors

Parameter	Description
A5-10-1C Fan Stage / Light Target Value / Temperature / Presence / Fan Automatic / Light Intensity	
A5-10-1D Fan Stage / Humidity Target Value / Relative Humidity / Temperature / Presence	
A5-10-1E Fan Stage / Temperature / Presence / Fan Automatic / Light Intensity	
A5-10-1F Fan Stage / Temperature Target Value / Temperature / Presence	
A5-10-20 Temperature Target Value / Temperature / Presence	
A5-10-21 Temperature Target Value / Relative Humidity / Temperature / Presence	
A5-10-22 Fan Stage / Temperature Target Value / Relative Humidity / Temperature	
A5-10-23 Fan Stage / Temperature Target Value / Relative Humidity / Temperature / Presence	
Left limit °C	**-3** Adjustment option limit for the left stop ranges from -99 °C to +99 °C.
Right limit °C	**+3** Adjustment option limit for the left stop ranges from -99 °C to +99 °C.
Fan stage I %	**33** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage II %	**66** Adjustment option limit for the fan stage ranges from 0% to 100%
Fan stage III %	**100** Adjustment option limit for the fan stage ranges from 0% to 100%

4BS Temperature sensor (A5-02-YX)

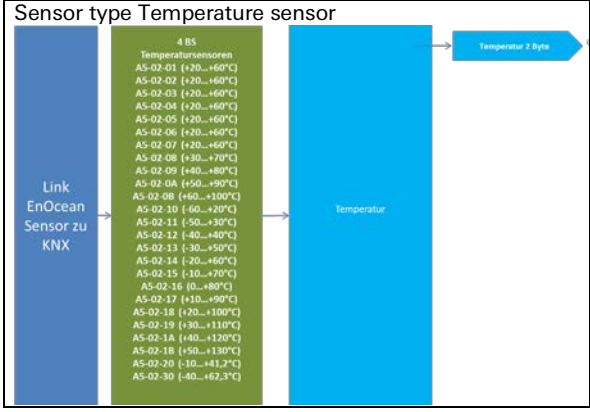


Communication objects

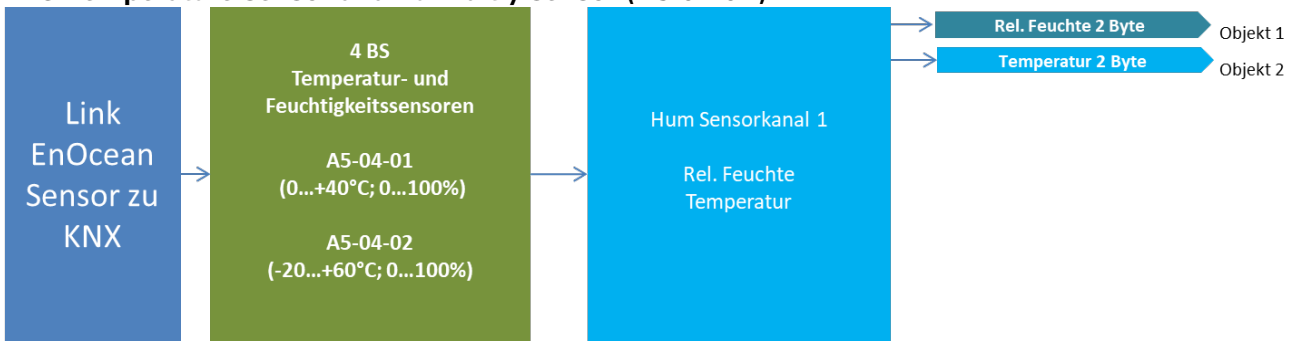
Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Temperature sensor A5-02-01 (+20…+60°C) A5-02-02 (+20…+60°C) A5-02-03 (+20…+60°C) A5-02-04 (+20…+60°C) A5-02-05 (+20…+60°C) A5-02-06 (+20…+60°C) A5-02-07 (+20…+60°C) A5-02-08 (+30…+70°C) A5-02-09: +40°C to +80°C A5-02-0A: +50°C to +90°C A5-02-0B: +60°C to +100°C A5-02-10: -60°C to +20°C A5-02-11: -50°C to +30°C A5-02-12: -40°C to +40°C A5-02-13: -30°C to +50°C A5-02-14: -20°C to +60°C A5-02-15: -10°C to +70°C A5-02-16: 0°C to +80°C A5-02-17: +10°C to +90°C A5-02-18: +20°C to +100°C A5-02-19: +30°C to +110°C A5-02-1A: +40°C to +120°C A5-02-1B: +50°C to +130°C A5-02-20: -10°C to +41.2°C A5-02-30: -40°C to +62.3°C	Temp. Sensor channel 1	9.001	Temperature	2 byte	K	-	-	Ü	-

Parameter description

4BS Temperature sensors

Parameter	Description
Sensor type Temperature sensor 	Various measurement areas are supported with the temperature sensors. The temperature measured value is depicted as a 2-byte floating point value.

4BS Temperature sensor and humiditiy sensor (A5-04-0X)

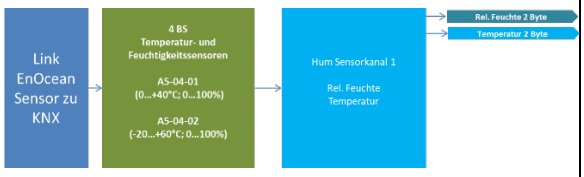


Communication objects

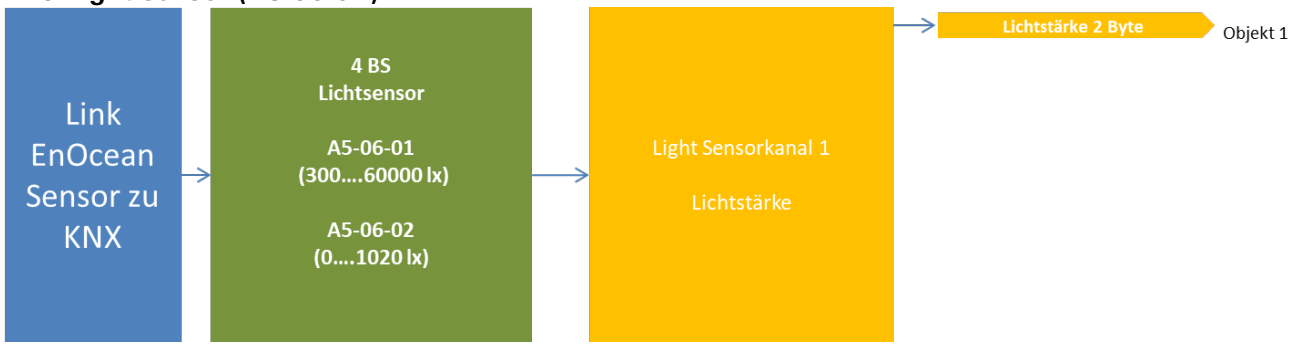
Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Humiditiy sensor	Rel. Humidity Sensor channel 1	9.007	Relative humidity	2 byte	K	-	-	Ü	-
2	Temperature sensor	Temperature Sensor channel 1	9.001	Temperature	2 byte	K	-	-	Ü	-

Parameter description

4BS temperature sensor and humiditiy sensor

Parameter	Description
Sensor type Temperature sensor 	The measured values for Temperature and Humidity are sent via two different communication objects:

4BS Light sensor (A5-06-0X)

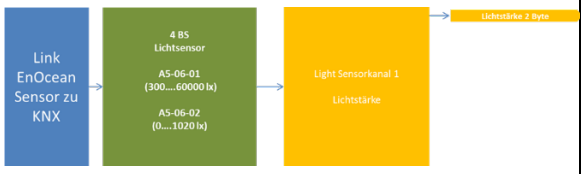


Communication objects

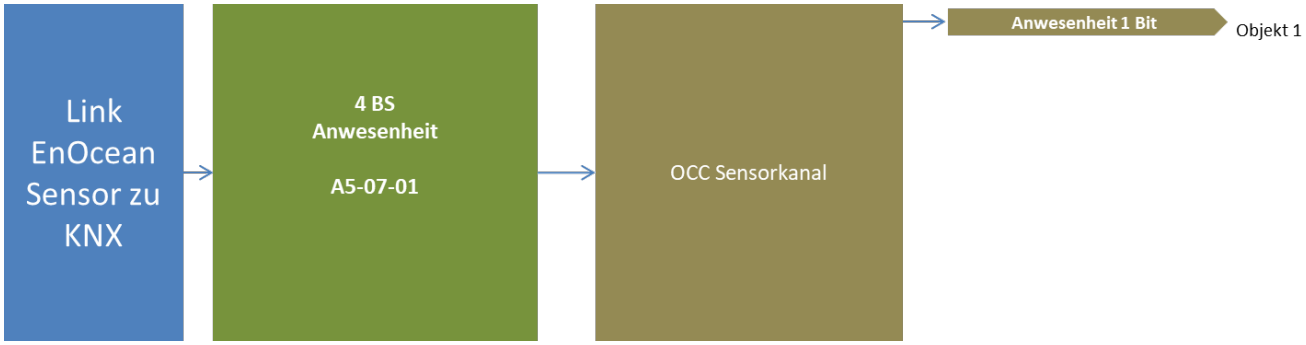
Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Light sensor	Light intensity	9.004	Light Sensor channel 1	2 byte	K	-	-	Ü	-

Parameter description

4BS Light sensor

Parameter	Description
Sensor type Temperature sensor 	The measurement of lighting intensity is done in Lux (lx). The measured value is available as a 2-byte floating point value.

4BS Presence sensor (A5-07-01)

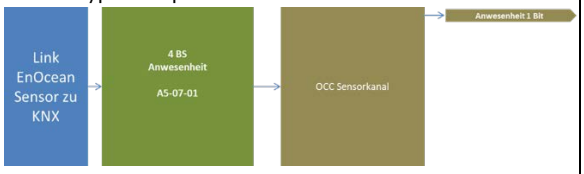


Communication objects

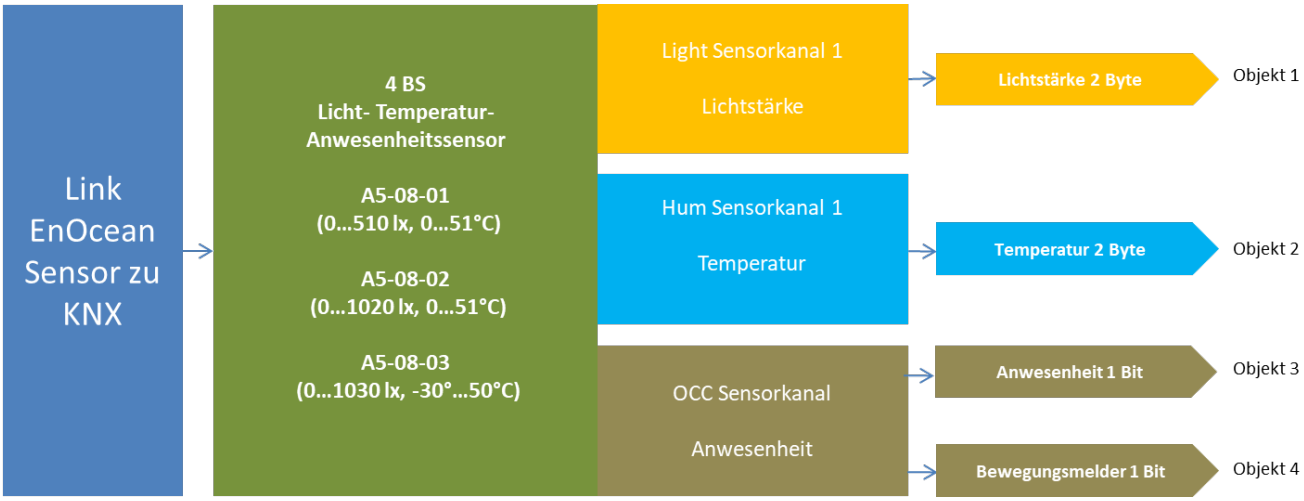
Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Presence sensor	Presence	1.018	OCC sensor channel 1	1 bit	K	-	-	Ü	-

Parameter description

4BS Presence sensor

Parameter	Description
Sensor type Temperature sensor 	Presence is sent by means of a 1-bit object.

4BS Light, temperature and presence sensor (A5-08-0X)

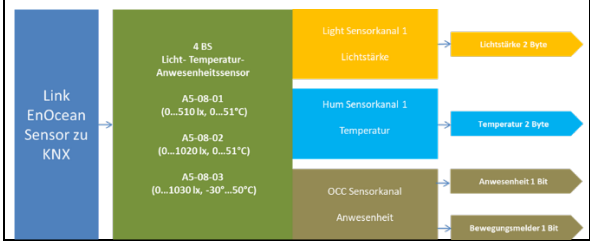


Communication objects

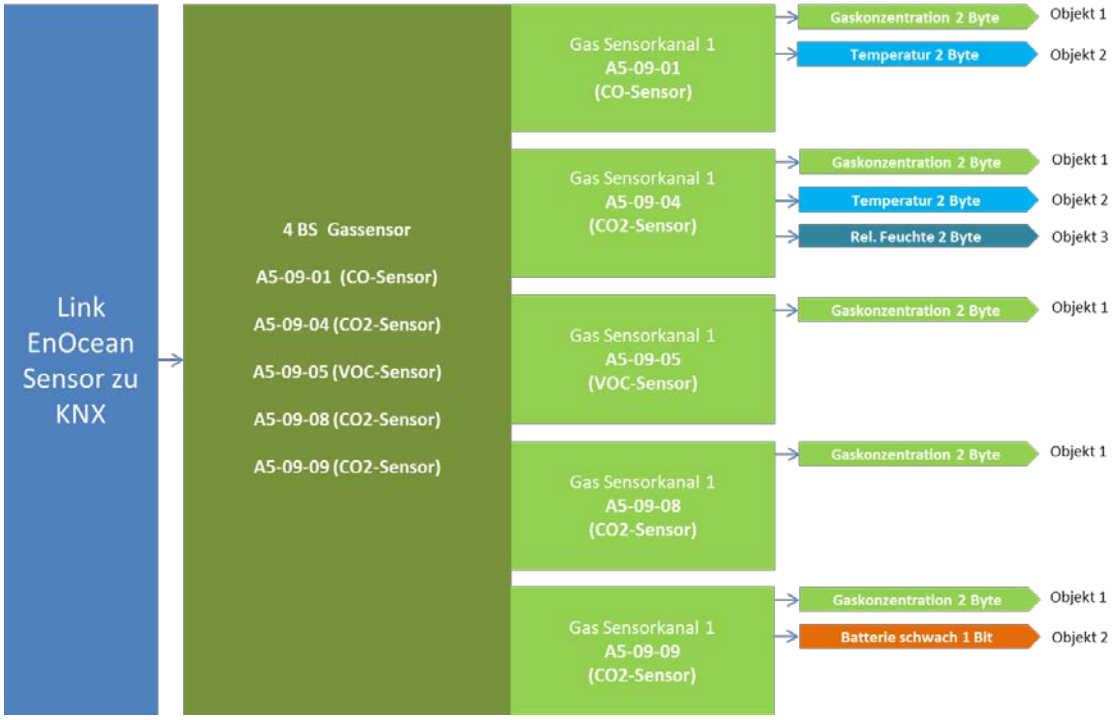
Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Light sensor	Light intensity	9.004	LTO sensor channel 1	2 byte	K	-	-	Ü	-
2	Temperature	Temperature	9.001	LTO sensor channel 1	2 byte	K			Ü	
3	Presence detector	Presence	1.018	LTO sensor channel 1	1 bit	K			Ü	
4	Motion detector	Motion detector	1.001	LTO sensor channel 1	1 bit	K			Ü	

Parameter description

4BS Presence sensor

Parameter	**Description**
Sensor type Temperature sensor 	Both light intensity and temperature are mapped on a communication object as a 2-byte floating point value. Presence and movement are mapped with 1-bit telegrams.

4BS Gas sensor (A5-09-0X)

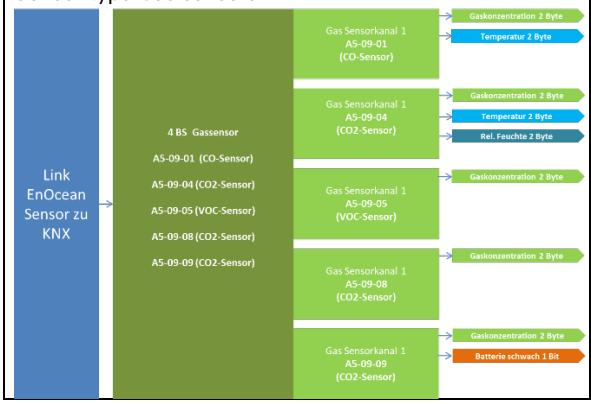


Communication objects

Channel 1			**D**ata Point Type			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Gas sensor	Gas concentration	9.008	Gas sensor channel 1	2 byte	K	-	-	Ü	-
2	Battery monitoring	Weak battery	1.002	Gas sensor channel 1	1 bit	K			Ü	
	Temperature measurement	Temperature	9.001		2 byte					
3	Humiditiy sensor	Rel. humidity	9.007	Gas sensor channel 1	2 byte	K			Ü	

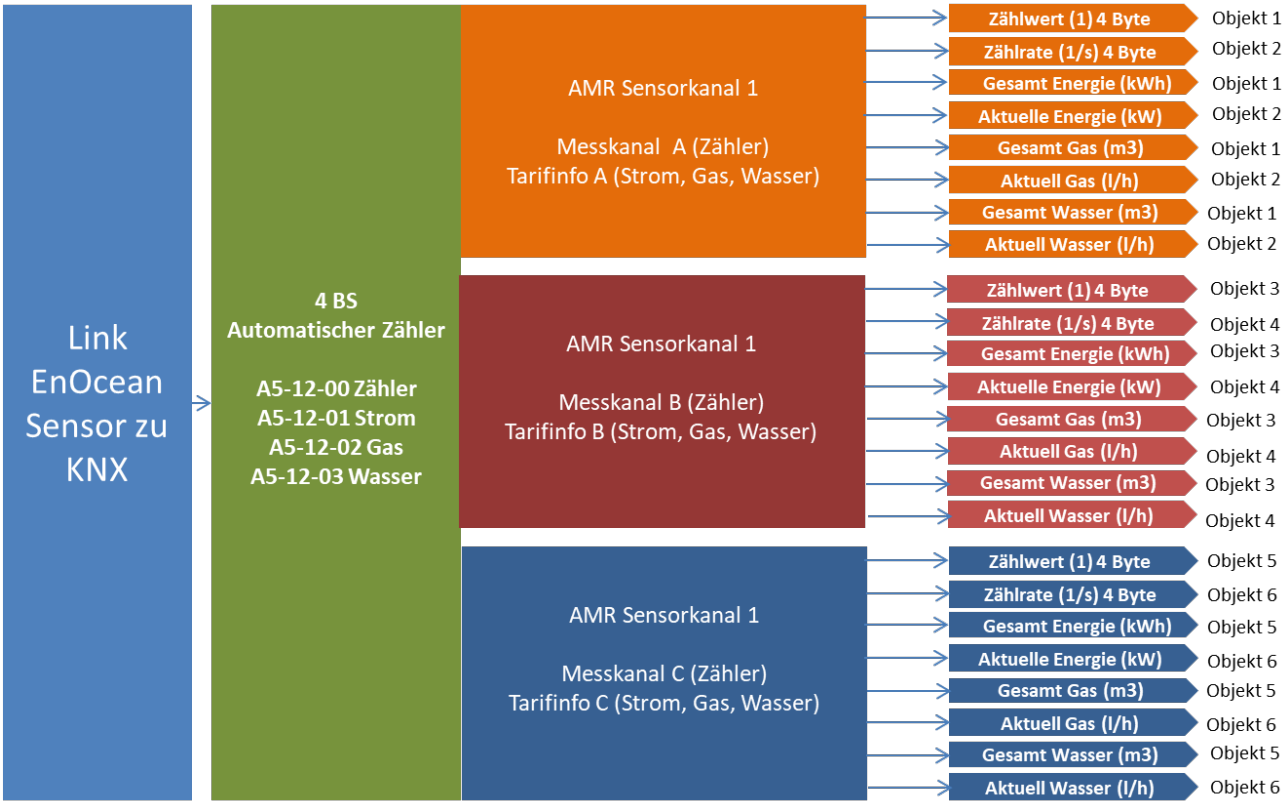
Parameter description

4BS Gas sensors

Parameter	**Description**
Sensor type Gas sensors 	The gas concentration is available as an object for all sensors. Further measured values can be sent to KNX depending on the EPP of the sensor:

4BS Counter (A5-12-0X)

4BS Automatic counter (counter, electricity, gas, water)

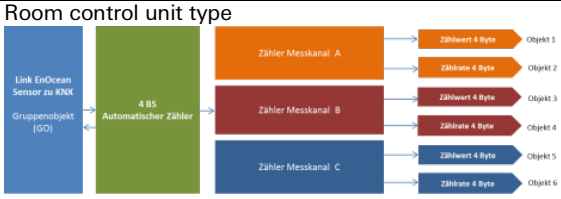
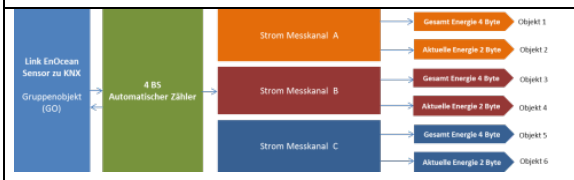
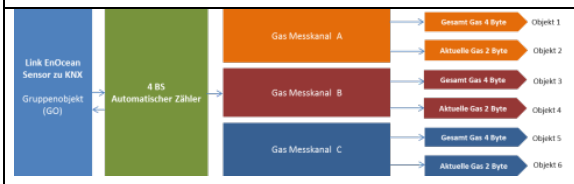
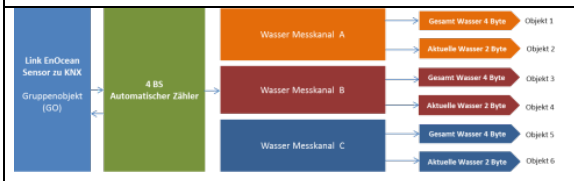


Communication objects

Channel 1			**Data Point Type**			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS Automatic counter	countervalue [1]	12.001	AMR sensor channel 1	4 byte	K	-	-	Ü	-
		Total electricity [kWh]	13.013							
		Total gas m³	14.076							
		Total water m³								
2	4BS Automatic counter	Count rate 1/s	12.001	AMR Sensor channel 1MR Sensor channel 1	4 byte	K	-	-	Ü	-
		Current electricity [W]	9.024		2 byte					
		Current gas l/h	9.025							
		Current water l/h								
3	4BS Automatic counter	countervalue [1]	12.001	AMR sensor channel 1	4 byte	K	-	-	Ü	-
		Total electricity [kWh]	13.013							
		Total gas m³	14.076							
		Total water m³								
4	4BS Automatic counter	Count rate 1/s	12.001	AMR sensor channel 1	4 byte	K	-	-	Ü	-
		Current electricity [W]	9.024		2 byte					
		Current gas l/h	9.025							
		Current water l/h								
5	4BS Automatic counter	countervalue [1]	12.001	AMR sensor channel 1	4 byte	K	-	-	Ü	-
		Total electricity [kWh]	13.013							
		Total gas m³	14.076							
		Total water m³								
6	4BS Automatic counter	Count rate 1/s	12.001	AMR sensor channel 1	4 byte	K	-	-	Ü	-
		Current electricity [W]	9.024		2 byte					
		Current gas l/h	9.025							
		Current water l/h								

Parameter description

4BS Automatic counter

Parameter	Description
Sensor type	**4BS automatic counter** A maximum of three counter channels are supported for each channel. The counter channels which the Enocean device sends must be known and set in the parameter. Two communication objects are available for each counter channel; one value for the current consumption and one for the total consumption.
Room control unit type 	• **A5-12-00 Counter** 2 communication objects are used to provide the count value and the 1/s count rate as a 4 byte value.
	• **A5-12-01 Electricity** 2 Communication objects are used to provide total electricity (kWh) and the current power needs (W) as a 4 byte value.
	• **A5-12-02 Gas** 2 Communication objects are used to provide the total gas quantity (m^3) and the current gas consumption (l/h) as a 4 byte value.
	• **A5-12-02 Gas** 2 Communication objects are used to provide the total gas quantity (m^3) and the current gas consumption (l/h) as a 4 byte value.
Measuring channel A	• **Channel 0** The measuring channel can be assigned to channel '0' in the basic setting, one of a total of 16 channels. The value range can be set from 0 to 15.
Measuring channel B	• **Deactivated** The measuring channel can be deactivated in the basic setting and assigned to one of a total of 16 channels. The value range can be set from 0 to 15.
Measuring channel C	• **Deactivated** The measuring channel can be deactivated in the basic setting and assigned to one of a total of 16 channels. The value range can be set from 0 to 15.

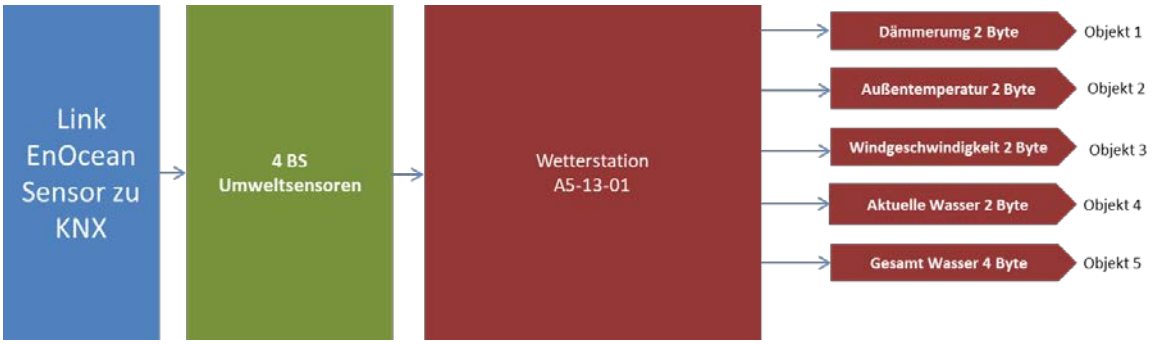
4BS Environment weather sensors (A5-13-0X)

For: weather station, solar radiation, date, time, and day, direction, and geo-position

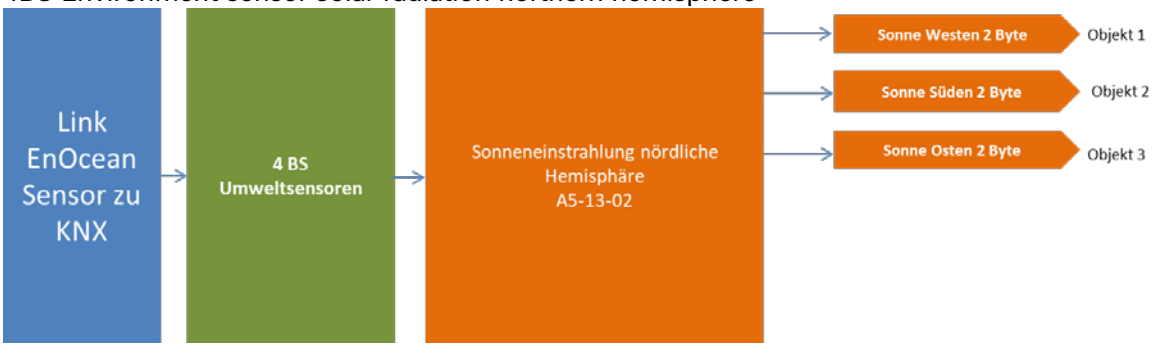
The following environment sensor types can be taught: weather station, solar radiation (northern hemisphere), date, time, and day, direction, and geo-position Depending on the setting, there are various communication objects for the respective sensor type.

Overview

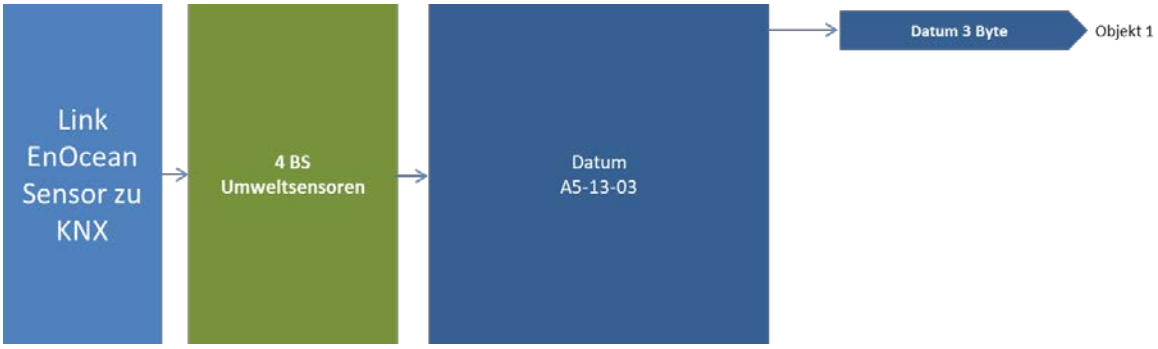
- 4BS Environment sensor weather station



- 4BS Environment sensor solar radiation northern hemisphere



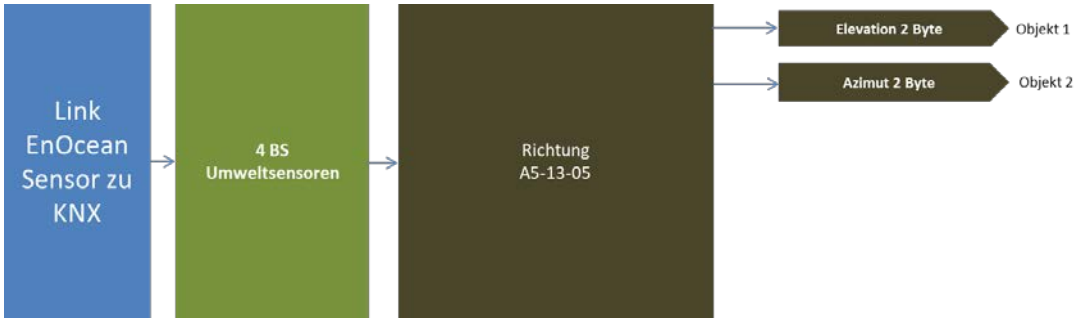
- 4BS Environment sensor date



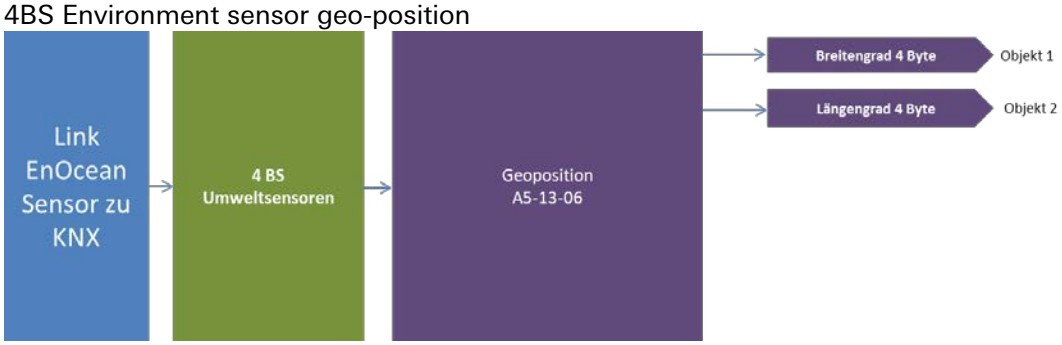
- 4BS Environment sensor time and day



- 4BS Environment sensor direction



- 4BS Environment sensor geo-position

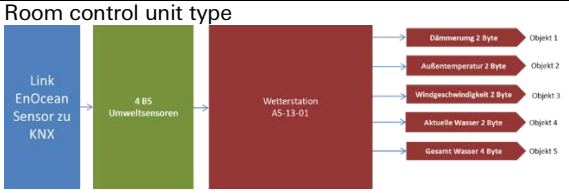
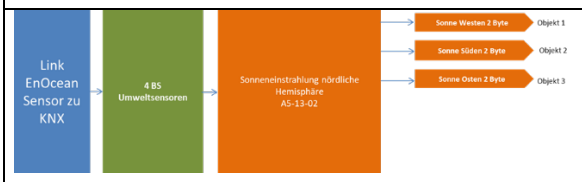
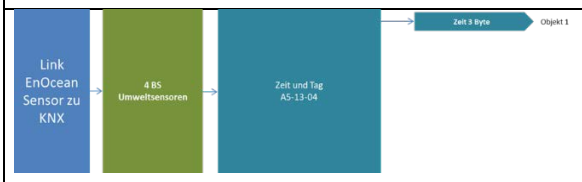
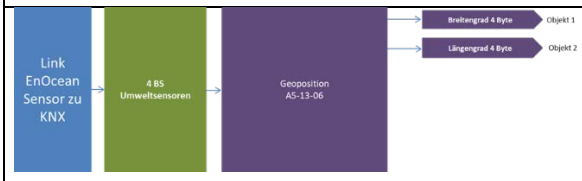


Communication objects

Channel 1			**Data Point Type**			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS Environment sensors	Dusk	9.004	Env.App. Sensor channel 1	2 byte	K	-	-	Ü	-
		Sun to the west								
		Date	11.001		3 byte					
		Time	10.001							
		Elevation	8.011		2 byte					
		Latitude	14.007		4 byte					
2	4BS Environment sensors	Outside temperature	9.001	Env.App. Sensor channel 1	2 byte	K	-	-	Ü	-
		Sun to the south	9.004							
		Azimuth	8.011							
		Longitude	14.007		4 byte					
3	4BS Environment sensors	Wind speed	9.005	Env.App. Sensor channel 1	2 byte	K	-	-	Ü	-
		Sun to the east	9.004							
4	4BS Environment sensors	Night	1.002	Env.App. Sensor channel 1	1 bit	K	-	-	Ü	-
5	4BS Environment sensors	Rain	1.002	Env.App. Sensor channel 1	1 bit	K	-	-	Ü	-

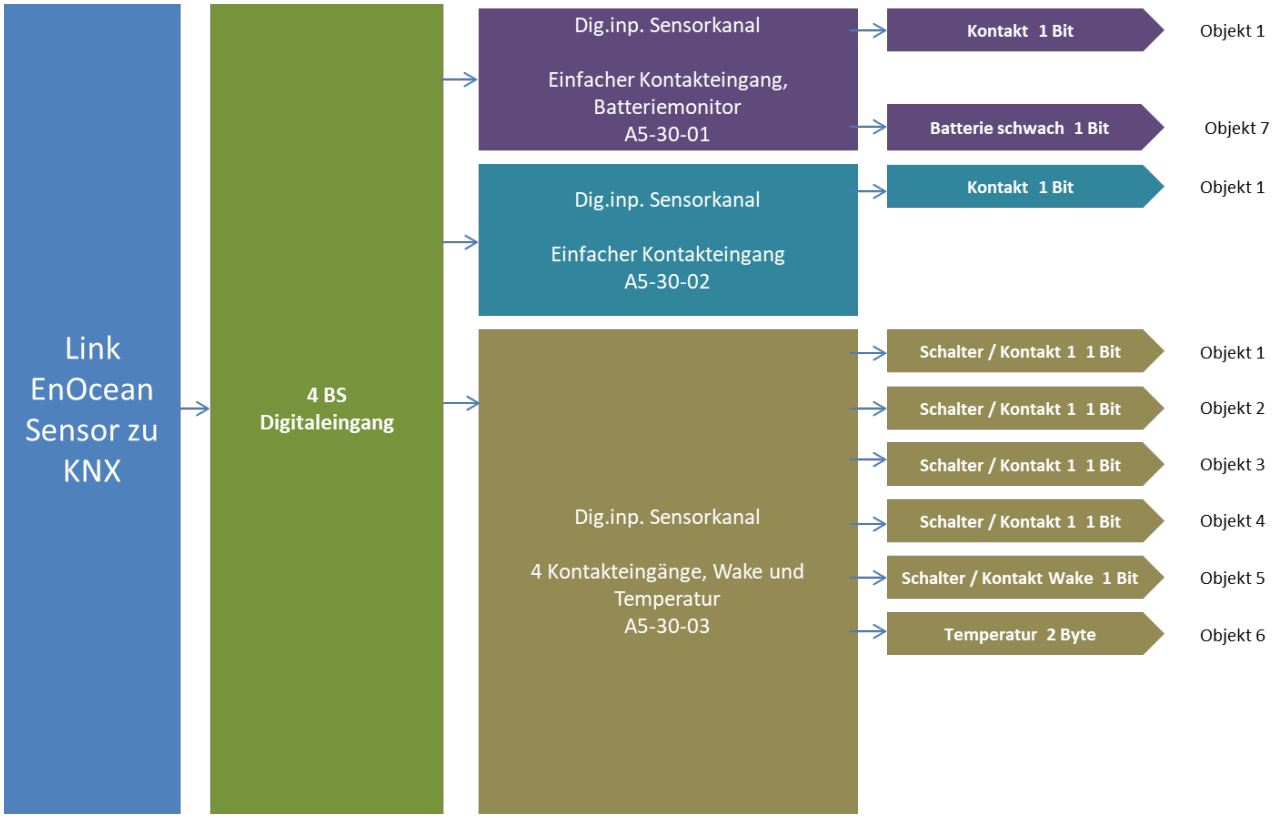
Parameter description

4BS Environment sensors

Parameter	Description
Sensor type	**4BS Environment sensors** The following environmental sensors can be used with the gateway:
Room control unit type 	• **A5-13-01 Weather station** Sensor channels for dusk, outdoor temperature, wind speed, night and rain can be evaluated and processed via 5 objects.
	• **A5-13-02 Sun intensity, Northern hemisphere** The sunlight values for the cardinal points West, South and East can be sent to three objects as a 2-byte value.
	• **A5-13-03 Date** The date is sent to KNX by means of a 3-byte value.
	• **A5-13-04 Time and Day** The current time is sent to KNX with a communication object by means of a 3-byte value.
	• **A5-13-05 Direction** The current sun position is sent to the KNX bus via two objects with a 2-byte value for both the elevation and the azimuth.
	• **A5-13-06 Geographic position** The current geographic position of the weather station is sent to the KNX bus via two objects with a 4-byte value for both longitude and latitude.

4BS Digital input (A5-30-0X)

Three digital input types are supported by this gateway. The digital input type with a battery monitor sends an additional signal to the bus if the battery becomes weak.
Up to four inputs, a wake signal and the temperature can be processed with another.
The following variants are supported:

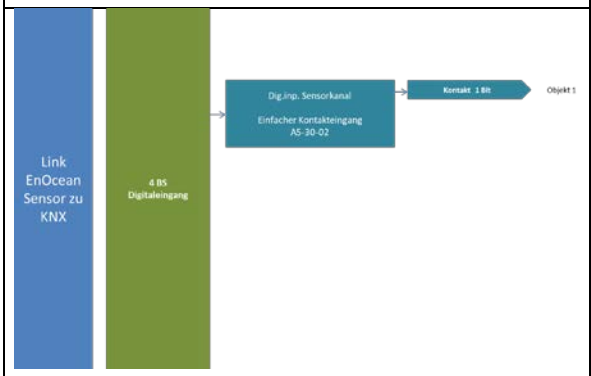


Communication objects

Channel 1			**D**ata Point Type			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	4BS Digital input	Switch / contact 1	1.019	Dig.Inp.Sensor channel 1	1 bit	K	-	-	Ü	-
2	4BS Digital input	Switch / contact 2	1.019	Dig.Inp.Sensor channel 1	1 bit	K	-	-	Ü	-
3	4BS Digital input	Switch / contact 3	1.019	Dig.Inp.Sensor channel 1	1 bit	K	-	-	Ü	-
4	4BS Digital input	Switch / contact 4	1.019	Dig.Inp.Sensor channel 1	1 bit	K	-	-	Ü	-
5	4BS Digital input	Switch / contact Wake	1.002	Dig.Inp.Sensor channel 1	1 bit	K	-	-	Ü	-
6	4BS Digital input	Temperature	9.001	Dig.Inp.Sensor channel 1	2 byte	K	-	-	Ü	-
7	4BS Digital input	Weak battery	1.002	Dig.Inp.Sensor channel 1	1 bit	K	-	-	Ü	-

Parameter description

4BS Digital input

Parameter	Description
Sensor type	**4BS Digital input** The following environmental sensors can be used with the gateway:
	• **A5-30-01 Single contact input, Battery monitor** This function sends an object for a contact as a 1-bit value. State open or closed. 1 bit of information is sent to a second object via an object if the sensor battery is weak.
	• **A5-30-02 Single contact input** This function sends an object for a contact to the KNX bus as a 1-bit value. State open or closed.
	• **A5-30-03 4 Contact inputs, Wake and Temperature** Up to 5 Enocean switches / contacts, one of which executes a Wake function, with 1 bit of information and the current temperature as a 2-byte value can be sent to the KNX bus with this setting.

4.3.2 Link from KNX to Enocean actuator, bidirectionally

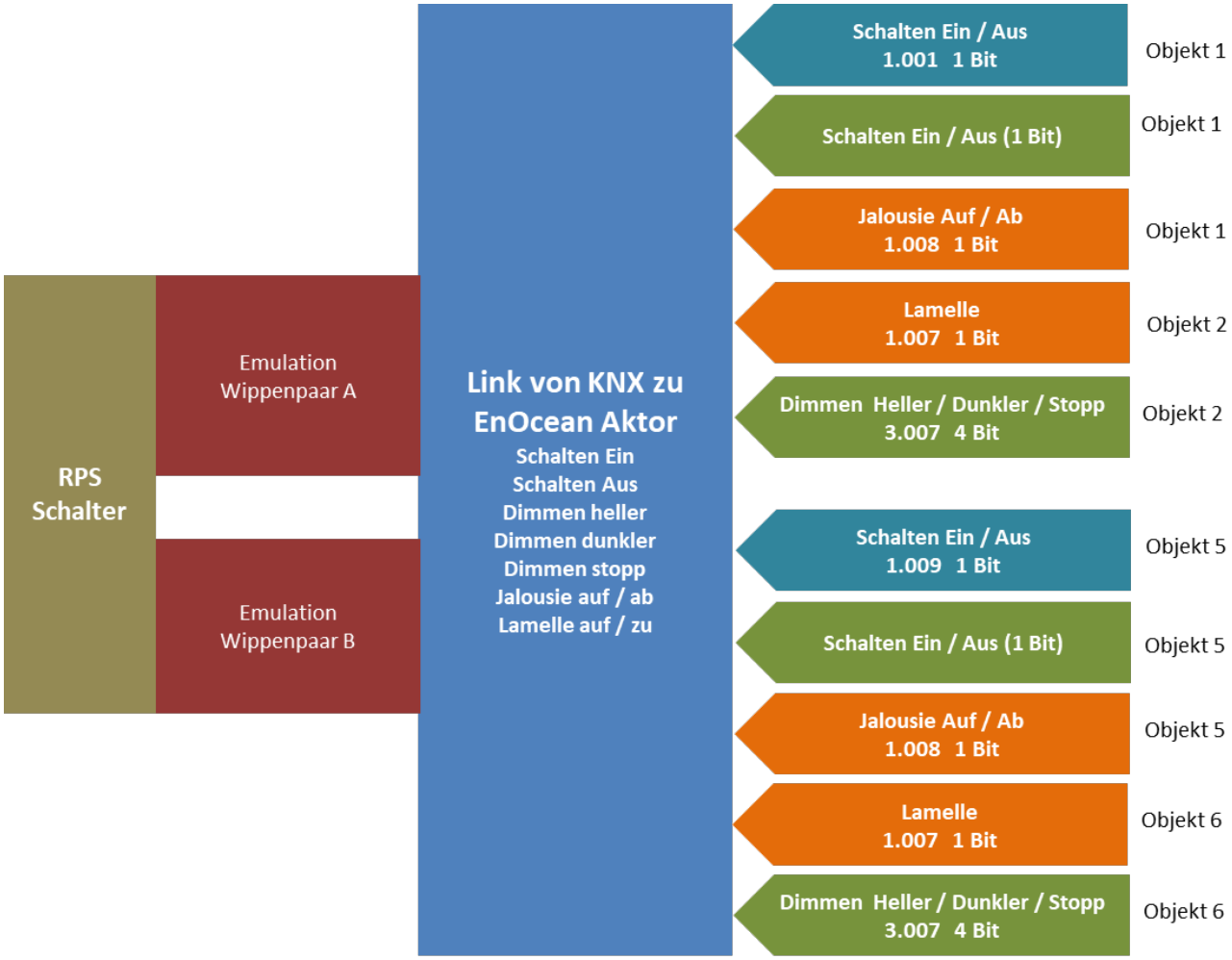
The gateway can emulate the corresponding sensor profiles to control Enocean actuators via KNX telegrams. This means the device sends the same radio telegrams as e.g. an Enocean button. In this respect, each channel uses its own sender ID. In addition, bidirectional Enocean actuators with the following EEP families are supported:
D2-01-XX: Switch-/dimming actuators
D2-05-XX: Blind actuators
A5-20-01 and A5-20-04: HVAC drives for actuator valves

Overview
The following actuator functions are available for selection in the parameters:

- RPS switch (F6-02-01 / D2-00-03)
- VLD actuator (D2-01-XX / D2-05-XX)
- 1 BS Contact input (D5-00-01)
- Heat, air conditioning, ventilation drive for actuator valve (A5-20-01 / A5-20-04)

RPS Switch Emulation (F6-02-01 D2-00-03)

A complete RPS switch with 2 rockers can be emulated with this profile. Each rocker is separately configurable. The following functions are available:



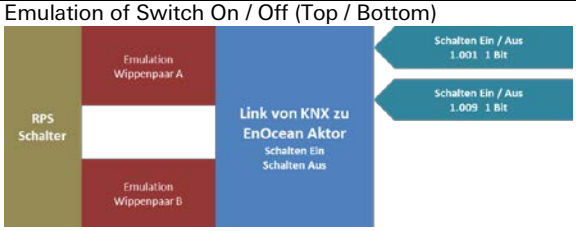
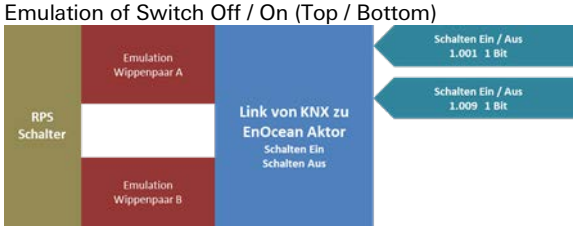
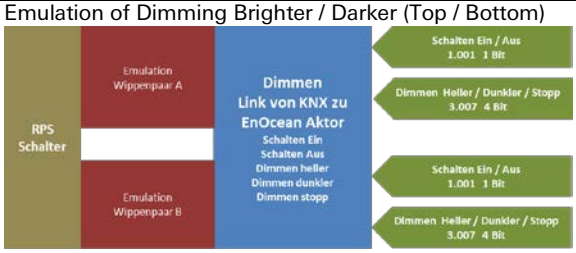
Communication objects

Switching, Dimming, Blind operating mode

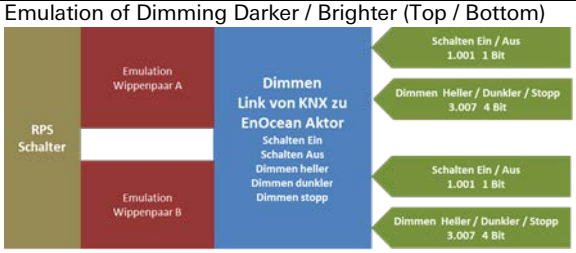
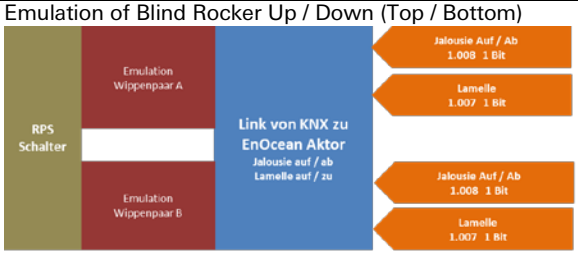
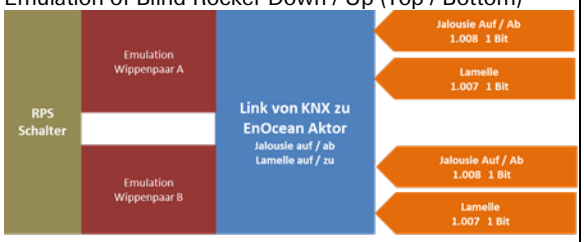
Channel 1			Enocean	KNX			Flags				
Obj. No.	**Type**	**Object function**	**Telegram**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	RPS Actuator channel A	Switch A 'On'	0x10 -> 0x00	1.001	RPS Actuator channel 1	1 bit	K	-	S	-	-
		Switch A 'Off'	0x30 -> 0x00								
		Shutter 'up'	0x00 -> 0x30	1.008							
		Shutter 'down'	0x00 -> 0x10								
2	RPS Actuator channel A	Dim lighter A	0x10	3.007	RPS Actuator channel 1	4bit	K	-	S	-	-
		Dim darker A	0x30								
		Dimming stop	0x0F0A								
		Louver 'Open'	0x00->0x10->0x00	1.007		1 bit					
		Louver 'Closed'	0x00->0x30->0x00								
5	RPS Actuator channel B	Switch B 'On'	0x10 -> 0x00	1.001	RPS Actuator channel 1	1 bit	K	-	S	-	-
		Switch B 'Off'	0x30 -> 0x00								
		Shutter 'up'	0x00 -> 0x70	1.008							
		Shutter 'down'	0x00 -> 0x50								
6	RPS Actuator channel B	Dim lighter B	0x50	3.007	RPS Actuator channel 1	4bit	K		S	-	-
		Dim darker	0x70								
		Dimming stop	0x0F0A								
		Louver 'Closed'	0x00->0x10->0x00	1.007		1 bit					
		Louver 'Open'	0x00->0x30->0x00								

Parameter description

Emulation of RPS Switching, Dimming, Blind function

Parameter	Description
Emulation of Switch On / Off (Top / Bottom) 	In the case of a switching telegram via KNX, the telegram of the Enocean rocker is emulated and sent for 'Button pushed' and for "Button released" shortly thereafter: **KNX telegramm** / **Enocean telegrams (RPS Data)** Rocker A Switch On: 0x10 -> 0x00 Rocker A Switch Off: 0x30 -> 0x00 Rocker B Switch On: 0x50 -> 0x00 Rocker B Switch Off: 0x70 -> 0x00
Emulation of Switch Off / On (Top / Bottom) 	In the case of a switching telegram via KNX, the telegram of the Enocean rocker is sent for 'Button pushed' and for 'Button released' shortly thereafter: **KNX telegramm** / **Enocean telegrams (RPS Data)** Rocker A Switch On: 0x30 -> 0x00 Rocker A Switch Off: 0x10 -> 0x00 Rocker B Switch On: 0x70 -> 0x00 Rocker B Switch Off: 0x50 -> 0x00
Emulation of Dimming Brighter / Darker (Top / Bottom) 	In the case of a switching telegram via KNX, the telegram of the Enocean rocker is sent for 'Button pushed' and for 'Button released' shortly thereafter. **KNX telegramm** / **Enocean telegrams (RPS Data)** Rocker A Switch On: 0x10 -> 0x00 Rocker A Switch Off: 0x30 -> 0x00 Rocker B Switch On: 0x50 -> 0x00 Rocker B Switch Off: 0x70 -> 0x00 In the case of a dimming telegram via KNX, the telegram of the Enocean rocker is sent for 'Button pushed'. 'Dimming stop' via KNX triggers an Enocean telegram for 'Button released'. **KNX telegramm** / **Enocean telegrams (RPS Data)** Rocker A Dimming Brighter: 0x10, Rocker A Dimming Darker: 0x30 Rocker A Dimming stop: 0x00 Rocker B Dimming Brighter: 0x50 Rocker B Dimming Darker: 0x70 Rocker B Dimming stop: 0x00

Emulation of RPS Switching, Dimming, Blind function

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Emulation of Dimming Darker / Brighter (Top / Bottom)
 
</td><td>In the case of a switching telegram via KNX, the telegram of the Enocean rocker is sent for ‘Button pushed‘ and for ‘Button released‘ shortly thereafter.
<table>
<tr><th>KNX telegramm</th><th>Enocean telegrams (RPS Data)</th></tr>
<tr><td>Rocker A Switch On</td><td>0x10 -> 0x00</td></tr>
<tr><td>Rocker A Switch Off</td><td>0x30 -> 0x00</td></tr>
<tr><td>Rocker B Switch On</td><td>0x50 -> 0x00</td></tr>
<tr><td>Rocker B Switch Off</td><td>0x70 -> 0x00</td></tr>
</table>
In the case of a dimming telegram via KNX, the telegram of the Enocean rocker is sent for ‘Button pushed‘. 'Dimming stop' via KNX triggers an Enocean telegram for ‘Button released‘.
<table>
<tr><th>KNX telegramm</th><th>Enocean telegrams (RPS Data)</th></tr>
<tr><td>Rocker A Dimming Brighter</td><td>0x10,</td></tr>
<tr><td>Rocker A Dimming Darker</td><td>0x30</td></tr>
<tr><td>Rocker A Dimming stop</td><td>0x00</td></tr>
<tr><td>Rocker B Dimming Brighter</td><td>0x50</td></tr>
<tr><td>Rocker B Dimming Darker</td><td>0x70</td></tr>
<tr><td>Rocker B Dimming stop</td><td>0x00</td></tr>
</table></td></tr>
<tr><td>Emulation of Blind Rocker Up / Down (Top / Bottom)
 
</td><td>In the case of a move command telegram via KNX, the telegram of the Enocean rocker is sent for ‘Button released‘ and for ‘Button pushed‘ shortly thereafter:
<table>
<tr><th>KNX telegramm</th><th>Enocean telegrams (RPS Data)</th></tr>
<tr><td>Rocker A Blind Up</td><td>0x00 -> 0x30</td></tr>
<tr><td>Rocker A Blind Down</td><td>0x00 -> 0x10</td></tr>
<tr><td>Rocker B Blind Up</td><td>0x00 -> 0x70</td></tr>
<tr><td>Rocker B Blind Down</td><td>0x00 -> 0x50</td></tr>
</table>
Telegrams for adjusting the louvers via KNX trigger 3 telegrams via Enocean: ‘Button released‘ followed by ‘Button pushed‘ and subsequently ‘Button released‘:
<table>
<tr><th>KNX telegramm</th><th>Enocean telegrams (RPS Data)</th></tr>
<tr><td>Rocker A Louver Decrease</td><td>0x00 -> 0x30 -> 0x00</td></tr>
<tr><td>Rocker A Louver Increase</td><td>0x00 -> 0x10 -> 0x00</td></tr>
<tr><td>Rocker B Louver Decrease</td><td>0x00 -> 0x70 -> 0x00</td></tr>
<tr><td>Rocker B Louver Increase</td><td>0x00 -> 0x50 -> 0x00</td></tr>
</table></td></tr>
<tr><td>Emulation of Blind Rocker Down / Up (Top / Bottom)
 
</td><td>In the case of a move command telegram via KNX, the telegram of the Enocean rocker is sent for ‘Button released‘ and for ‘Button pushed‘ shortly thereafter:
<table>
<tr><th>KNX telegramm</th><th>Enocean telegrams (RPS Data)</th></tr>
<tr><td>Rocker A Blind Up</td><td>0x00 -> 0x10</td></tr>
<tr><td>Rocker A Blind Down</td><td>0x00 -> 0x30</td></tr>
<tr><td>Rocker B Blind Up</td><td>0x00 -> 0x50</td></tr>
<tr><td>Rocker B Blind Down</td><td>0x00 -> 0x70</td></tr>
</table>
Telegrams for adjusting the louvers via KNX trigger 3 telegrams via Enocean: ‘Button released‘ followed by ‘Button pushed‘ and subsequently ‘Button released‘:
<table>
<tr><th>KNX telegramm</th><th>Enocean telegrams (RPS Data)</th></tr>
<tr><td>Rocker A Louver Decrease</td><td>0x00 -> 0x10 -> 0x00</td></tr>
<tr><td>Rocker A Louver Increase</td><td>0x00 -> 0x30 -> 0x00</td></tr>
<tr><td>Rocker B Louver Decrease</td><td>0x00 -> 0x50 -> 0x00</td></tr>
<tr><td>Rocker B Louver Increase</td><td>0x00 -> 0x70 -> 0x00</td></tr>
</table></td></tr>
</table>

1BS Contact input emulation (D5-00-0)

A 1BS contact input is emulated with this profile. It is used e.g. by many single Enocean window contacts. One object is available



Communication objects

Contact input operating mode

Channel 1			Enocean	KNX			Flags				
Obj. No.	**Type**	**Object function**	**Telegram**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	1 BS Contact input	Window open	0x08 0x09	1.019	Contact Actuator channel 1	1 bit	K	-	S	-	-

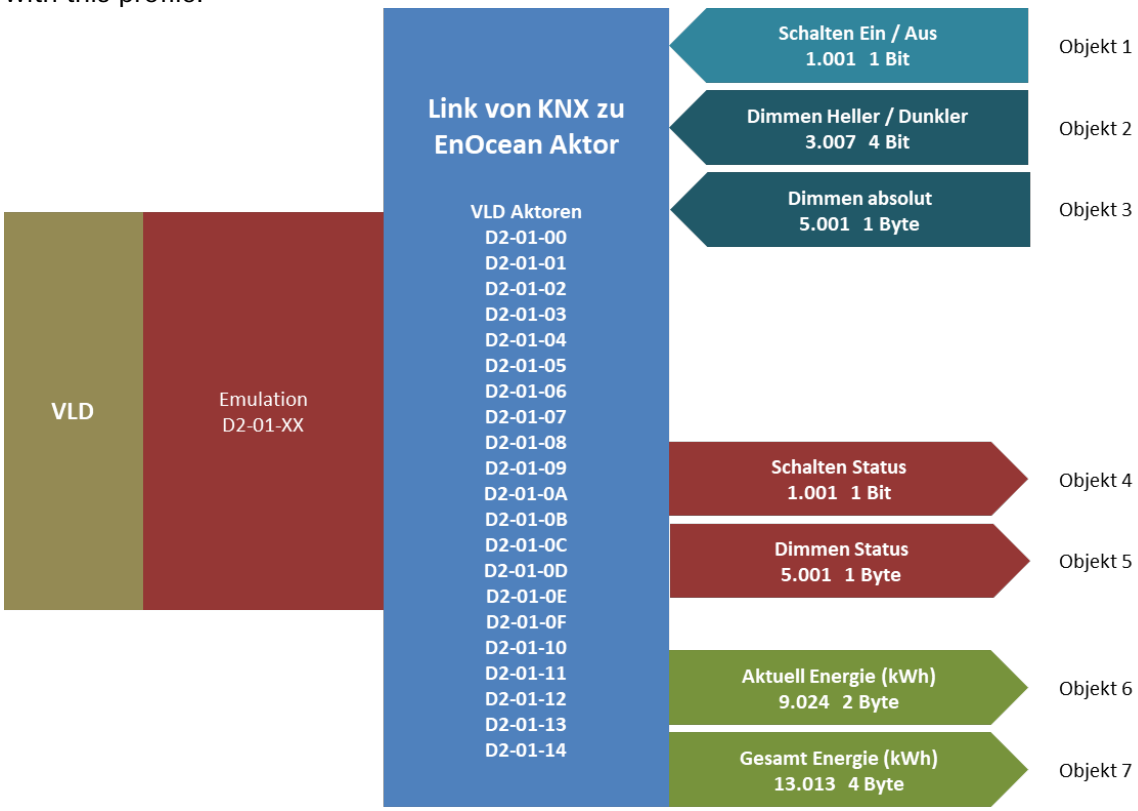
Parameter description

Emulation of 1BS contact input

Parameter	Description
Emulation of contact input (open / closed) 	A 1BS contact input is emulated with this profile. It is used e.g. by many single Enocean window contacts. One object is available: **Group object** / **Type KNX** / **Size** / **Direction** Contact Actuator channel 1… – Window open / 1.019 / 1 bit / From KNX KNX telegrams via the object are mapped to Enocean as follows: **KNX telegramm** / **Enocean telegrams (1BS Data)** Window open / 0x08 Window closed / 0x09

VLD Actuators Emulation (D2-01-XX)

Various bidirectional Enocean switching or dimming actuators of the D2-01-XX EEP family can be used with this profile.



Communication objects

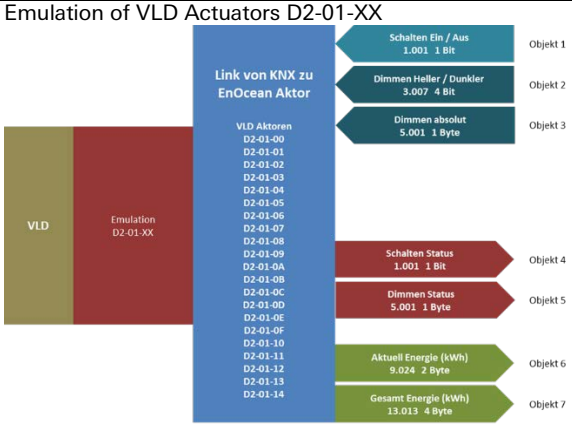
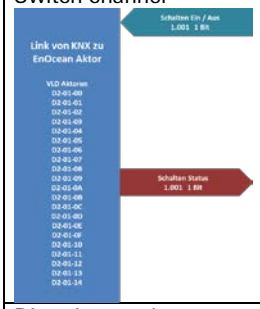
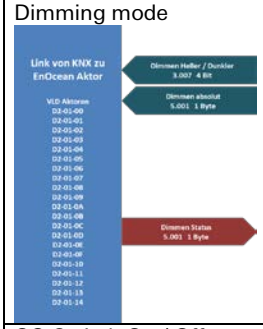
Depending on the device type, the following objects are available for switching or dimming. Some profiles also have an energy meter:

Channel 1			KNX			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	VLD actuator	Switch on/off	1.001	VLD actuator channel	1 bit	K	-	S	-	-
2	VLD actuator	dim brighter / darker	3.007	VLD actuator channel	4bit	K	-	S	-	-
3	VLD actuator	Dimming absolute	5.001	VLD actuator channel	1 byte	K	-	S	-	-
4	VLD actuator	Switching status	1.001	VLD actuator channel	1 bit	K	-	-	Ü	-
5	VLD actuator	Dimming status	5.001	VLD actuator channel	1 byte	K	-	-	Ü	-
6	VLD actuator	Current electricity	9.024	VLD actuator channel	2 byte	K	-	-	Ü	-
7	VLD actuator	Total electricity	13.013	VLD actuator channel	4 byte	K	-	-	Ü	-

The channel used by the Enocean device must be set in the parameters. As an alternative, the gateway channel can also be used to control all the channels of an Enocean device. If the Enocean device has several channels, a separate gateway channel can be used for each one.

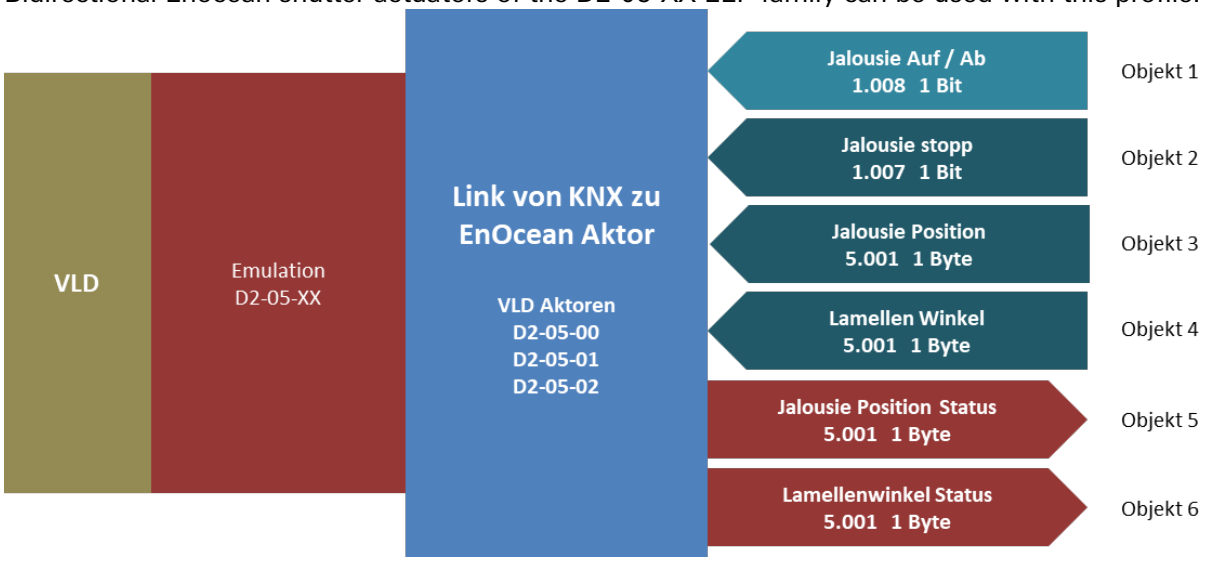
Parameter description

Emulation of VLD Actuator (D2-01-XX)

Parameter	Description
Emulation of VLD Actuators D2-01-XX 	The channel used by the Enocean device must be set in the parameters. As an alternative, the gateway channel can also be used to control all the channels of an Enocean device. If the Enocean device has several channels, a separate gateway channel can be used for each one.
Switch channel 	The switch command is assigned to one of 0 – 28 channels or to all channels here. **Channel 0** Channel 1 . … Channel 28 Mains voltage
Dimming mode 	Here it is possible to select whether the dimming value should be directly evaluated or executed by an internally set timer. **Direct** Dimming with Timer 1 Dimming with Timer 2 Dimming with Timer 3 The Timer 1 – 3 functions are described in the 4.3.3 Control and Logic section.
GO Switch On / Off GO Dimming Brighter / Darker GO Dimming absolute	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

VLD Actuators Emulation (D2-05-XX)

Bidirectional Enocean shutter actuators of the D2-05-XX EEP family can be used with this profile.



Communication objects

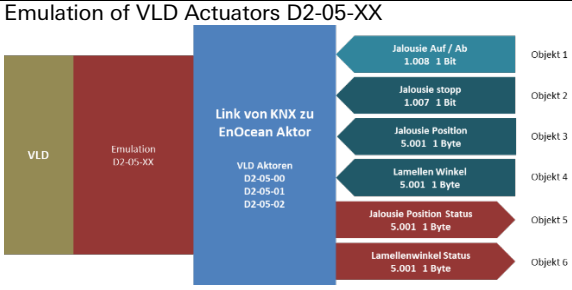
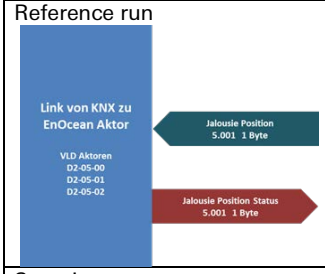
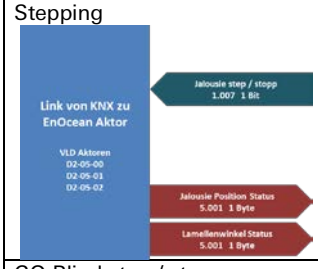
The following objects are available for these device types:

Channel 1			KNX			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	VLD actuator	Shutter up / down	1.008	VLD actuator channel	1 bit	K	-	S	-	-
2	VLD actuator	Shutter step / stop	1.007	VLD actuator channel	1 bit	K	-	S	-	-
3	VLD actuator	Shutter position	5.001	VLD actuator channel	1 byte	K	-	S	-	-
4	VLD actuator	Louver angle	5.001	VLD actuator channel	1 byte	K	-	-	Ü	-
5	VLD actuator	Blind position status	5.001	VLD actuator channel	1 byte	K	-	-	Ü	-
6	VLD actuator	Louver angle status	5.001	VLD actuator channel	1 byte	K	-	-	Ü	-

The channel used by the Enocean device must be set in the parameters. As an alternative, the gateway channel can also be used to control all the channels of an Enocean device. If the Enocean device has several channels, a separate gateway channel can be used for each one.
In addition, it can be determined by parameter whether the actuator should approach positions directly or via a reference run. The moving time of a step command can also be set.

Parameter description

Emulation of VLD Actuator (D2-05-XX)

Parameter	Description
Emulation of VLD Actuators D2-05-XX 	The channel used by the Enocean device must be set in the parameters. As an alternative, the gateway channel can also be used to control all the channels of an Enocean device. If the Enocean device has several channels, a separate gateway channel can be used for each one. In addition, it can be determined by parameter whether the actuator should approach positions directly or via a reference run. The moving time of a step command can also be set.
Device type 	The respective VLD type can be selected here **D2-05-00** D2-05-01 D2-05-02
Device channel	The shutter function is assigned to a device channel here. The following options are available: **Channel 1** Channel 2 Channel 3 Channel 4 All channels
Reference run 	A reference run is required to define a specific position of the blind for the position run. The following options are available: **Off** Over 0% Over 100%
Stepping 	Stepping enables blind adjustment in steps (step /stop). The travel time for one step is set here. **Off** On (Step adjustable from100ms – 5000ms)
GO Blind step / stop GO Blind Up / Down GO Blind position GO Louver angle	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

HVAC Drives for actuator valves Emulation (A5-20-01)

Various bidirectional Enocean actuator drives can be used with this profile.



The drive cyclically asks the gateway for new data (10 minutes is permanently set in many drives) and sends its battery status and temperature at the same time. In this respect, KNX telegrams are sent by the gateway when the request is received. If KNX telegrams were received during the waiting time for the request, the valve only moves to the last received position after the request.

Communication objects

HVAC drives for actuator valves A5-20-01

Channel 1			KNX			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	HVAC	Valve	5.001		1 byte	K	-	S	-	-
2	HVAC	Temperature	9.001		2 byte	K	-	-	Ü	-
3	HVAC	Weak battery	1.002		1 bit	K	-	-	Ü	-

Parameter description

Emulation of HVAC drive for actuator valve A5-20-01

Parameter	**Description**
Emulation of A56-20-01 drive for actuator valve 	The drive cyclically asks the gateway for new data (10 minutes is permanently set in many drives) and sends its battery status and temperature at the same time. In this respect, KNX telegrams are sent by the gateway when the request is received. If KNX telegrams were received during the waiting time for the request, the valve only moves to the last received position after the request.
GO valve	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

HVAC Drives for actuator valves Emulation (A5-20-01)

Various bidirectional Enocean actuator drives can be used with this profile.



The drive cyclically asks the gateway for new data (10 minutes is permanently set in many drives) and sends its battery status and temperature at the same time. In this respect, KNX telegrams are sent by the gateway when the request is received. If KNX telegrams were received during the waiting time for the request, the valve only moves to the last received position after the request.
In addition, the threshold of the battery voltage for the message "Weak battery" via KNX can be set in the parameters of this profile.

Communication objects

HVAC drives for actuator valves A5-20-04

Channel 1			KNX			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	HVAC	Valve	5.001		1 byte	K	-	S	-	-
2	HVAC	Temperature	9.001		2 byte	K	-	-	Ü	-
3	HVAC	Weak battery	1.002		1 bit	K	-	-	Ü	-

Parameter description

Emulation of HVAC drive for actuator valve A5-20-04

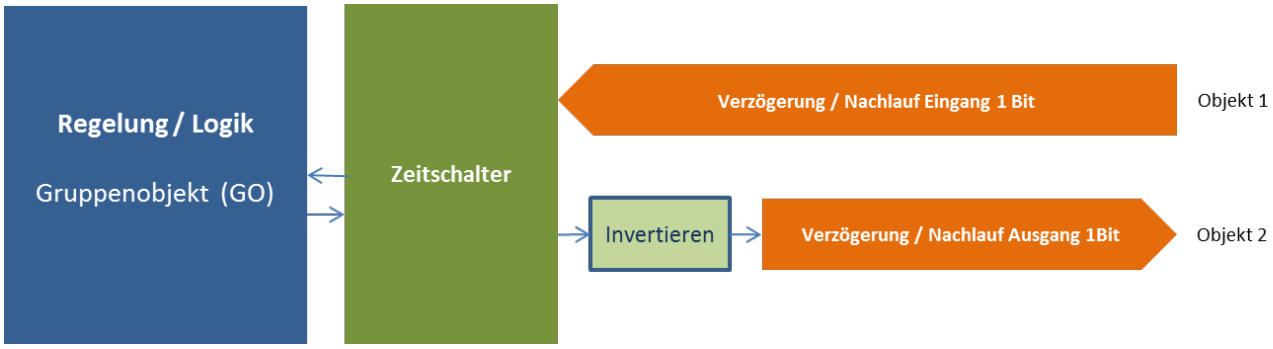
Parameter	Description
Emulation of A56-20-01 drive for actuator valve 	The drive cyclically asks the gateway for new data (10 minutes is permanently set in many drives) and sends its battery status and temperature at the same time. In this respect, KNX telegrams are sent by the gateway when the request is received. If KNX telegrams were received during the waiting time for the request, the valve only moves to the last received position after the request. In addition, the threshold of the battery voltage for the message "Weak battery" via KNX can be set in the parameters of this profile.
Low battery voltage 	The threshold of the battery voltage for the message "Weak battery" via KNX can be set in 0.1 V steps with this parameter. **< 2.8 V** < 2.9 V … < 5.0 V
GO valve	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

4.3.3 Control and logic gateway functions

Several control/logic functions can be selected here. They include time, control, logic, value transmitter, trigger and monitoring functions. These functions can be operated with a sensor or actuator channel in the device or externally via KNX telegrams.

Time switch

It is possible to implement a switch-on delay and post-run switching. The time is set in seconds.



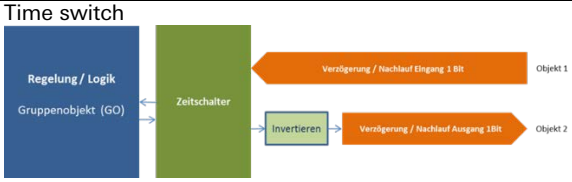
It is possible to implement a switch-on delay and post-run switching. The time is set in seconds.

Communication objects

Channel 1			Data Point Type			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Time switch	Input delay Post-run input	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
2	Time switch	Output delay Post-run output	1.001	Control/logic channel 1	1 bit	K	-	-	Ü	-

Parameter description

Time switch

Parameter	Description
Time switch 	It is possible to implement a switch-on delay and post-run switching. The time is set in seconds.
Time switch type	You can choose between switch-on delay and post-run switching. • **Switch-on delay** • Post-run switching
Delay Time	Setting the time in 1-second steps for the pre-set delay 1- 2 -3 … **60** … 36000 s
Output 	Depending on the evaluation and connected devices of various manufacturers, it may be necessary to invert the information at the output. The following parameter selection is therefore provided: • **Do not invert** • Invert
GO input delay	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Two-point float

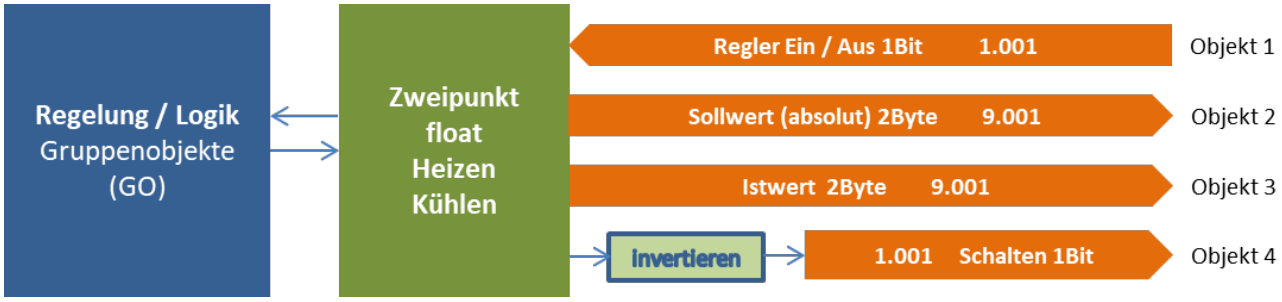
The channel is active at device start. It can be disabled via the 'Controller On/Off' object. After disabling, the 'Switch' object sends an Off telegram and the channel does not react to any changes via the 'Actual/Target value' objects during deactivation.
If the controller was disabled, any changes to the input objects are processed on activation, and the output actuates according to its configuration.

The 'Operating mode' or 'Output' parameter can be used to determine whether the output switches off or on when the actual value is higher than the target value. If the actual value is less than the target value with a fixed hysteresis of -1K, the output is switched on or off.

When the device is restarted, the target value defined in the parameters applies. The 'Target value via group object' parameter defines how a new target value via telegram is processed. A distinction is made between:

Relative: Target value from parameter +/- value from telegram

Absolute: Target value from parameter is overwritten by value from telegram

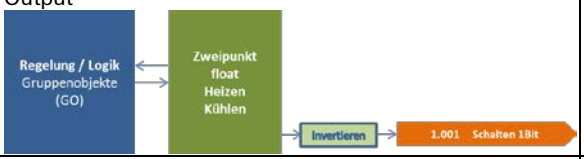
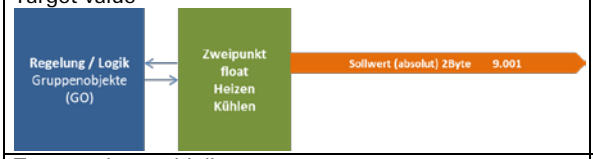


Communication objects

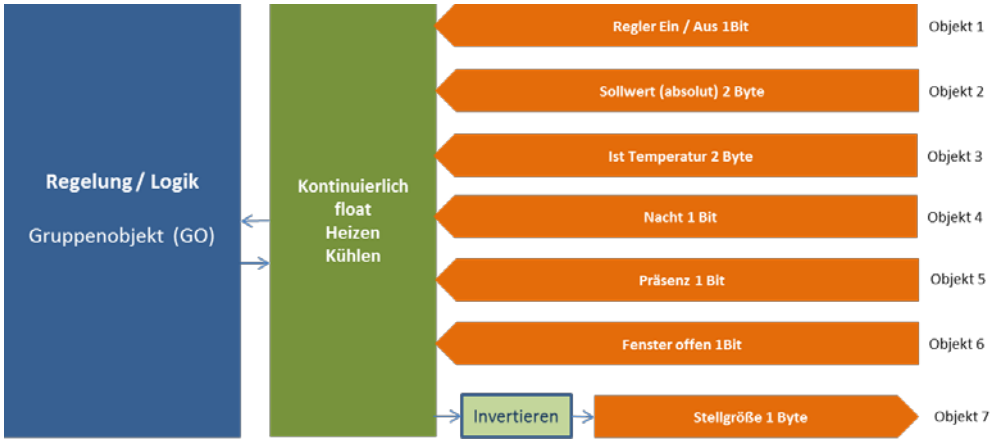
Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Control	Controller On/Off	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
2	Control	Target value (absolute) Target value (relative)	9.001 9.002	Control/logic channel 1	2 byte	K	-	S	-	-
3	Control	Actual value	9.001	Control/logic channel 1	2 byte	K	-	S	-	-
4	Control	Switching	1.001	Control/logic channel 1	1 bit	K	-	-	Ü	-

Parameter description

Two-point float

Parameter	Description
Control algorithm 	**Two-point float** The respective channel is active on device start. It can be disabled via the 'Controller On/Off' object. After disabling, the 'Switch' object sends an Off telegram and the channel does not react to any changes via the 'Actual/Target value' objects during deactivation. If the controller was disabled, any changes to the input objects are processed on activation, and the output actuates according to its configuration.
Operating mode	The 'Operating mode' parameter can be used to determine whether the output switches off or on when the actual value is higher than the target value. Selection of the heating or cooling operating mode • **Heating** • Cooling
Output 	The 'Output' parameter can be used to determine whether the output switches off or on when the actual value is higher than the target value. The output signal is modified for further processing in the system. • F • Invert
Target value 	The target value represents the comparative value for the actual value. If the actual value is less than the target value with a fixed hysteresis of -1K, the output is switched on or off. When the device is restarted, the target value defined in the parameters applies.
Target value multiplier	Multiplier for the preset target value. The default value is 1. • 100 • 10 • **1** • 0.1 • 0.01
Target value over group object	The 'Target value via group object' parameter defines how a new target value telegram is processed: Relative: Target value from parameter +/- value from telegram Absolute: Target value from parameter is overwritten with the value from the telegram. • Relative (displacement of K) • **Absolut (°C)**
GO Target Value (absolute) GO Controller On / Off GO Actual Value	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Continuous float



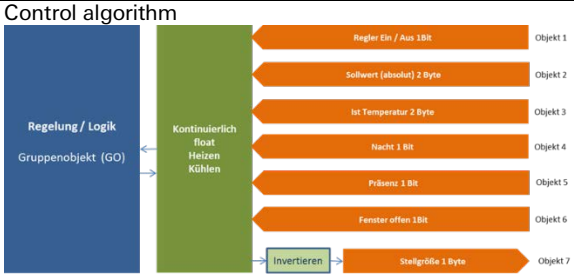
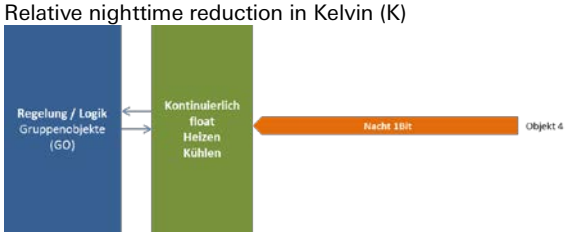
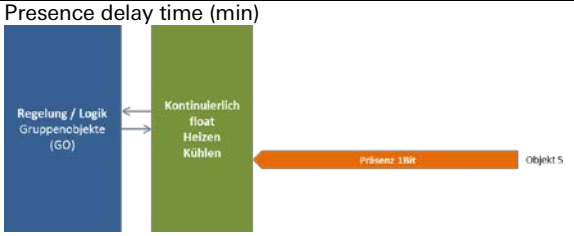
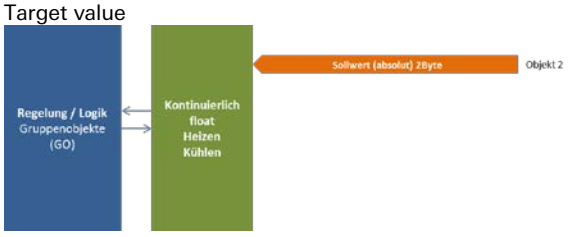
Communication objects

Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Control	Controller On/Off	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
2	Control	Target value (absolute)	9.001	Control/logic channel 1	2 byte	K	-	S	-	-
		Target value (relative)	9.002							
3	Control	Actual temperature	9.001	Control/logic channel 1	2 byte	K	-	S	-	-
4	Control	Night	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
5	Control	Presence	1.018	Control/logic channel 1	1 bit	K	-	S	-	-
6	Control	Window open	1.019	Control/logic channel 1	1 bit	K	-	S	-	-
7	Control	Correcting variable	5.001	Control/logic channel 1	1 byte	K	-	-	Ü	-

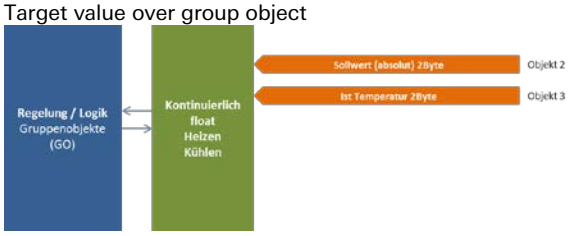
The channel uses a PI controller which operates using the settings from the Control Speed parameter and a fixed cycle time of 5 minutes.
The controller channel is active at device start. Without a known actual value, it sends the control variable 50% for heating or 0% for cooling depending on the parameterization. The channel can be disabled via the 'Controller On/Off' object. After disabling, the control variable 0% is sent. The valve is closed, and the channel will not react to any values sent via other input objects during deactivation. When the controller is enabled again, the changes to the respective input objects are processed, and the linked output sends new control variables as defined in the parameterization.

Parameter description

Continuous float

Parameter	Description
Control algorithm 	**Continuous float** The channel uses a PI controller which operates using the settings from the Control Speed parameter and a fixed cycle time of 5 minutes. The controller channel is active at device start. Without a known actual value, it sends the control variable 50% for heating or 0% for cooling depending on the parameterization.
Operating mode	The 'Operating mode' parameter can be used to determine whether the output switches off or on when the actual value is higher than the target value. Selection of the heating or cooling operating mode • **Heating** • Cooling
Relative nighttime reduction in Kelvin (K) 	When a 1 is received via the 'Night' object, the controller switches to nighttime reduction/increase. The current target value value is reduced or increased by the value specified in the parameter. The nighttime reduction can be used to set a reduction or increase in the target value temperature in the value range -128 – +127. • -128 ... **8** ... +127
Presence delay time (min) 	The delay time starts again every time a 1 is received via the 'Presence' input. The controller switches to nighttime reduction/increase at the end of the delay time. The time can be set within a range of 1…600 minutes with the Presence delay time. • 1 ... **60** ... 600
Control speed (K/h) 	The channel uses a PI controller which operates using the settings from the Control Speed parameter and a fixed cycle time of 5 minutes. • 5 ... **35** ... 60
Target value 	The target value applies when the device is restarted. The target value can be set in the following value range: • -128 ... **20** ... +127

Continuous float

Parameter	Description
Target value over group object 	The 'Target value via group object' parameter defines how a new target value via telegram is processed: • Relative: Target value from parameter +/- value from telegram • Absolute: Target value from parameter is overwritten by value from telegram Frost protection is also active in the 'Heating' operating mode: If the temperature falls below +5°C, the output sends the 50% 'Command signal' to protect the heating system. The controller returns to normal operation when the temperature exceeds +6°C with the frost protection enabled. • Relative (displacement of K) • **Absolut (°C)**
GO Target Value (absolute) GO Controller On / Off GO Actual Temperature GO Night GO Presence GO Window open	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Heat demand requirement



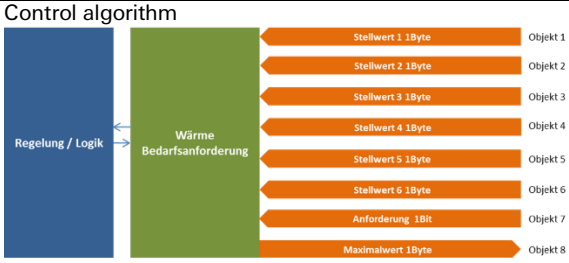
Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Control	Control value 1	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
2	Control	Control value 2	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
3	Control	Control value 3	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
4	Control	Control value 4	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
5	Control	Control value 5	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
6	Control	Control value 6	5.001	Control/logic channel 1	1 byte	K	-	S	-	-
7	Control	Request	1.002	Control/logic channel 1	1 bit	K	-	S-	-	-
8	Control	Maximum value	5.001	Control/logic channel 1	1 byte	K	-	-	Ü	-

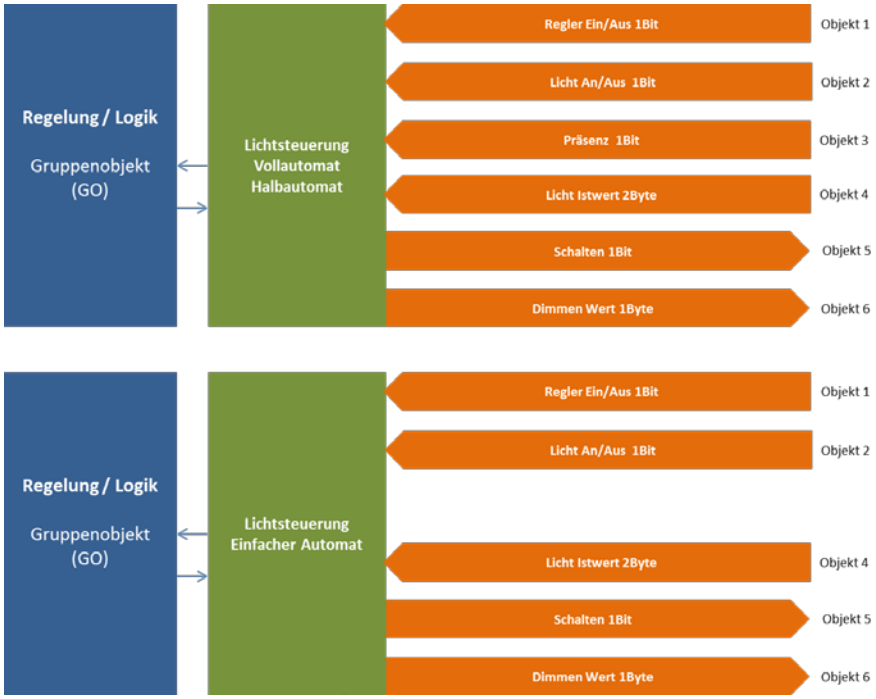
The maximum input value from the 'Control value 1-6' objects is sent to the 'Maximum value' output. In this respect, the 'Request' object sends a 1 if the maximum value >0, and a 0 if the maximum value = 0.

Parameter description

Heat demand requirement

Parameter	Description
Control algorithm 	**Heat requirement request** The maximum input value from the 'Control value 1-6' objects is sent to the 'Maximum value' output. In this respect, the 'Request' object sends a 1 if the maximum value >0, and a 0 if the maximum value = 0.
GO Target Value 1 GO Target Value 2 GO Target Value 3 GO Target Value 4 GO Target Value 5 GO Target Value 6	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Control/logic (light management control)

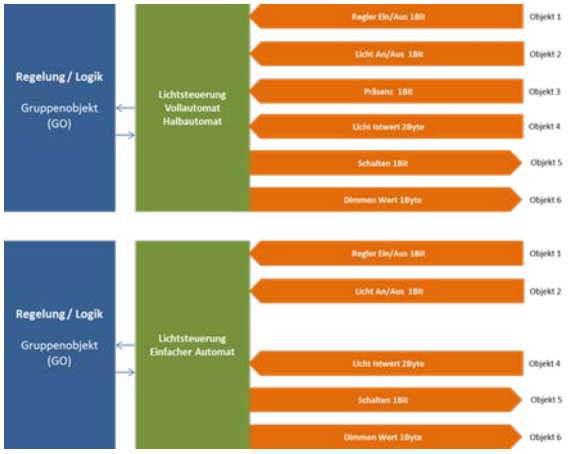


Communication objects

Channel 1			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Control	Controller On/Off	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
2	Control	Light On/Off	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
3	Control	Presence	1.018	Control/logic channel 1	1 bit	K	-	S	-	-
4	Control	Light actual value	9.004	Control/logic channel 1	2 byte	K	-	S	-	-
5	Control	Switching	1.001	Control/logic channel 1	1 bit	K	-	-	Ü	-
6	Control	Dimming value	5.001	Control/logic channel 1	1 byte	K	-	-	Ü	-

Parameter description

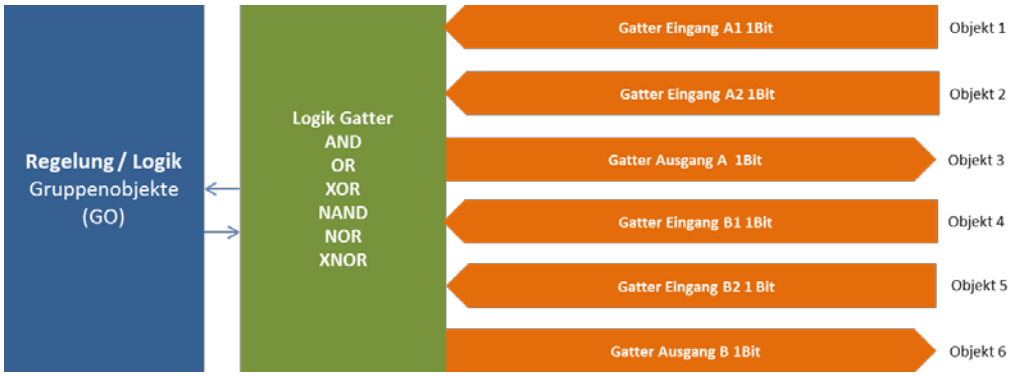
Light control

Parameter	Description
Control algorithm 	**Light control** Light control has the following states: • Disabled: The channel can be disabled via the 'Controller On/Off' object. After disabling, the 'Switch' object sends an Off telegram, and the 'Dimming value' object sends the value from the 'Dimming value low' parameter. The channel does not react to any changes via the Presence and Light value input objects during deactivation, but can be manually overridden. • Standby: The channel is in standby mode on device start and waits for Presence. The value from the 'Light Target value top' parameter is active in this respect: If the actual value exceeds the upper threshold, an Off telegram and the value from the 'Dimming value low' parameter are sent. • Automatic light control: This state is activated after Presence has been received. In addition to monitoring the upper threshold, an On telegram and the value from the 'Dimming value high' parameter are sent in the Full-automatic operating mode if the actual value falls below the lower threshold in this state. The Presence delay time is restarted each time Presence is received. The channel returns to the standby state at the end of this delay time. An Off telegram and the value from the 'Dimming value low' parameter are sent in this respect.
Control Type 	The following options are available: • **Full-automatic control** A typical application for full-automatic control is the lighting of a corridor. The light is turned on when persons are present if the current brightness value is below the threshold. The light can be switched on or off for a specified time through manual actuation. • **Semi-automatic control** Semi-automatic control allows the user or resident to turn the light on and off manually. Semi-automatic control is only active if someone obviously 'forgot' to switch the light off. A typical application is an office with several desks. The light is not switched on automatically. Semi-automatic control switches the light off if the current brightness value is above the threshold or if presence is not detected for a preset time. • **Simple automatic control** Simple automatic control only evaluates the brightness and can be used for a display window, for example. The light switches on when the brightness limit is reached.
Light target value top (LUX) 	Setting for the upper target value for the brightness of the light in the room in LUX. The following value range can be set: • 0 … **500** … 65535

Light control

Parameter	Description
Light target value bottom (LUX) 	Setting for the lower target value for the brightness of the light in the room in LUX. The following value range can be set: • 0 … **500** … 65535
Presence delay time (min) 	The delay time for an existing full- or semi-automatic control with presence detection can be set here. The following value range is possible. • 1 … **30** … 600
Delay time of manual operation 	This is an option for manual override. The delay time of manual operation is restarted each time Light On/Off is received. The processing of the light value is disabled while this delay time is active. The channel returns to the standby state at the end of this delay time. The following value range is possible: • 1 … **30** … 600
Dimming value low (%) 	A value for the minimum dimming value can be entered here. • 0 … **20** … 100
Dimming value high (%) 	A value for the maximum dimming value can be entered here. • 0 … **100**
GO Presence GO Controller On / Off GO Light On / Off GO Light Actual Value	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Logic gate
AND, OR, XOR, NAND, NOR, XNOR



Each gate of a channel has 2 input objects and 1 output object:

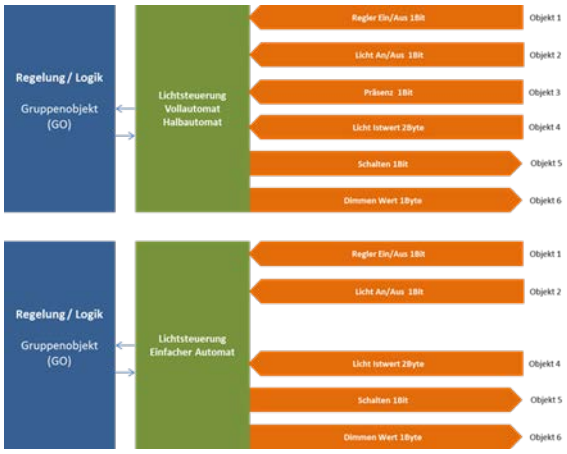
Communication objects

Channel 1			**Data Point Type**			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Logic	Gate input A1	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
2	Logic	Gate input A2	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
3	Logic	Gate output A	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-
4	Logic	Gate input B1	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
5	Logic	Gate input B2	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
6	Logic	Gate output B	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-

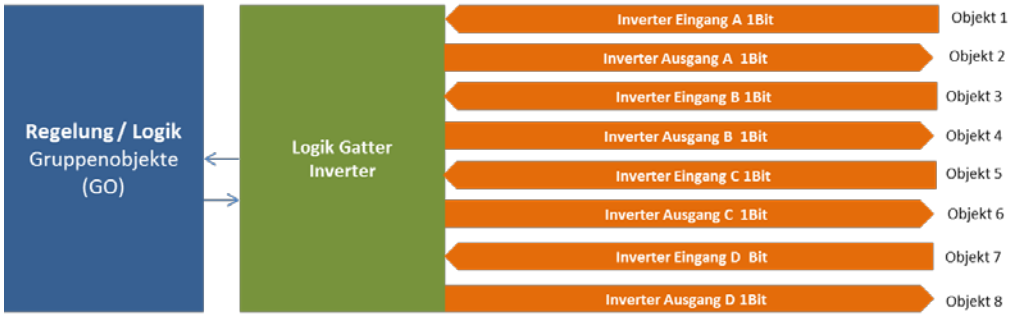
The states at the inputs are linked according to the selected logic function. The result is sent to the output with each input telegram.

Parameter description

Logic gate

Parameter	**Description**
Control algorithm 	**Gate** The states at the inputs are linked according to the selected logic function. The result is sent to the output with each input telegram. • **AND** • OR • XOR • NAND • NOR • NXOR
GO Gate A1 GO Gate A2 GO Gate B1 GO Gate B2	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Logic inverter



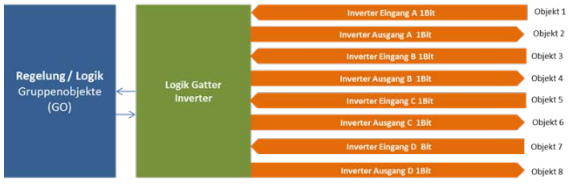
Each gate channel supports up to 4 separate inverters:

Communication objects

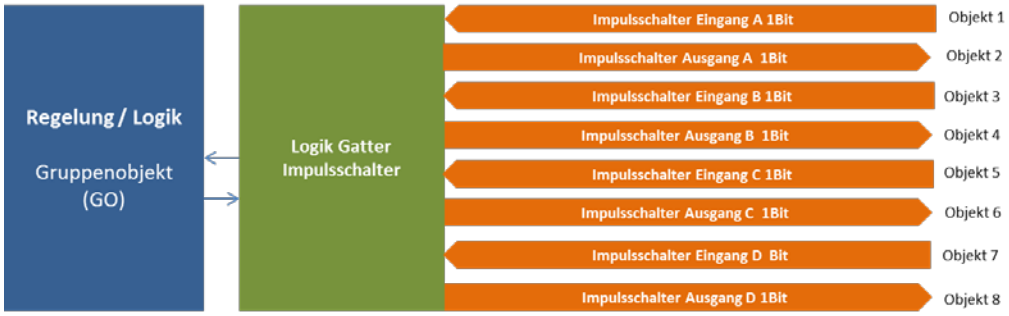
Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Logic	Inverter input A	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
2	Logic	Inverter output A	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-
3	Logic	Inverter input B	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
4	Logic	Inverter output B	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-
5	Logic	Inverter input C	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
6	Logic	Inverter output C	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-
7	Logic	Inverter input D	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
8	Logic	Inverter output D	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-

Parameter description

Logic inverter

Parameter	Description
Logic type 	**Inverter** Each gate channel supports up to 4 separate inverters. • Gate • **Inverter** • Flip-flop (toggle)
GO Inverter Input A GO Inverter Input B GO Inverter Input C GO Inverter Input D	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Logic pulse switch



Each gate channel supports up to 4 separate flip-flops.

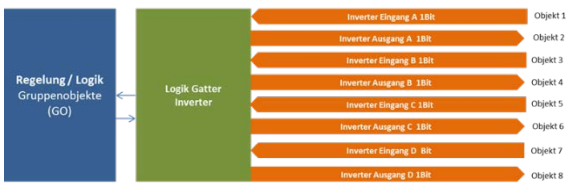
Communication objects

Channel 1			Data Point Type			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Logic	Impulse switch input A	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
2	Logic	Impulse switch output A	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-
3	Logic	Impulse switch input B	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
4	Logic	Impulse switch output B	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-
5	Logic	Impulse switch input C	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
6	Logic	Impulse switch output C	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-
7	Logic	Impulse switch input D	1.002	Control/logic channel 1	1 bit	K	-	S	-	-
8	Logic	Impulse switch output D	1.002	Control/logic channel 1	1 bit	K	-	-	Ü	-

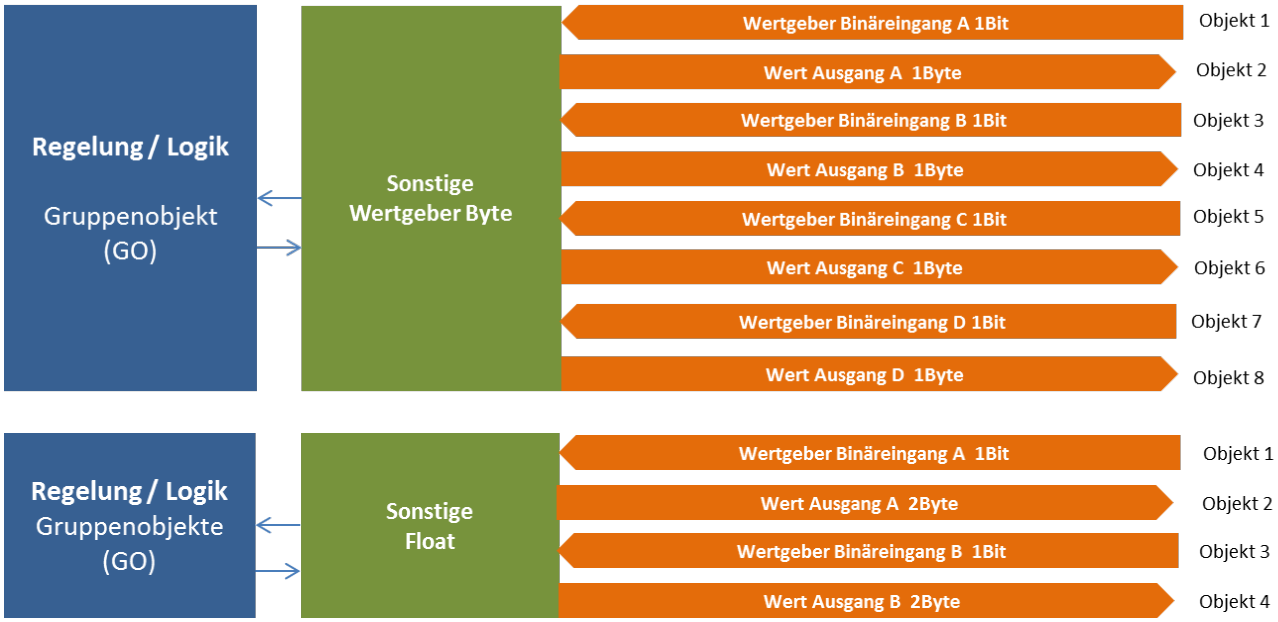
The output of the flip-flop changes (toggles) between an On and Off telegram with every On telegram at the input. The Off telegrams at the inputs are ignored.

Parameter description

Logic pulse switch

Parameter	**Description**
Logic type  	**Inverter** Each gate channel supports up to 4 separate inverters - **Gate** - **Inverter** - **Flip-flop (toggle)**
GO Flip-Flop Input A GO Flip-Flop Input B GO Flip-Flop Input C GO Flip-Flop Input D	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Other: Value transmitter Byte / Float



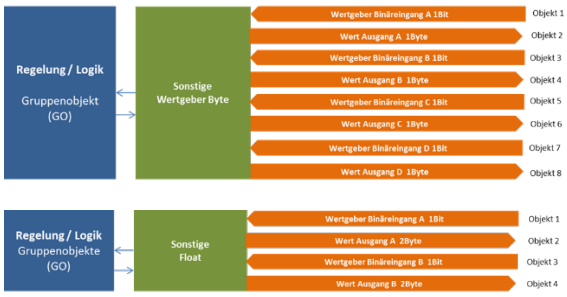
Each channel supports up to 4 value transmitters for outputting byte values, or up to 2 value transmitters for outputting 2-byte float values:

The value sent by the output object with a 0 or 1 at the input can be individually configured for each value transmitter.

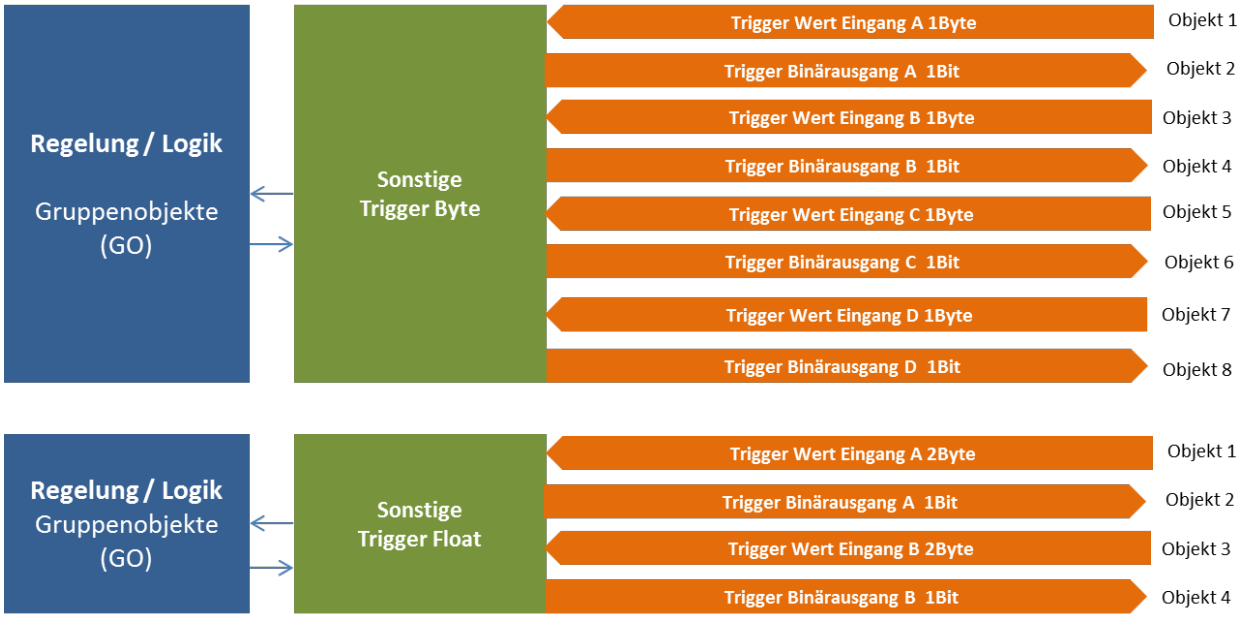
Communication objects

Channel 1			Data Point Type			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Value transmitter (byte) Value transmitter (float)	Value transmitter binary input A	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
2	Value transmitter (byte) Value transmitter (float)	Value transmitter value output A	5.* 9.*	Control/logic channel 1	1 byte 2 byte	K	-	-	Ü	-
3	Value transmitter (byte) Value transmitter (float)	Value transmitter binary input B	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
4	Value transmitter (byte) Value transmitter (float)	Value transmitter value output B	5.* 9.*	Control/logic channel 1	1 byte 2 byte	K	-	-	Ü	-
5	Value transmitter (byte)	Value transmitter binary input C	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
6	Value transmitter (byte)	Value transmitter value output C	5.*	Control/logic channel 1	1 byte	K	-	-	Ü	-
7	Value transmitter (byte)	Value transmitter binary input D	1.001	Control/logic channel 1	1 bit	K	-	S	-	-
8	Value transmitter (byte)	Value transmitter value output D	5.*	Control/logic channel 1	1 byte	K	-	-	Ü	-

Parameter description

Parameter	Description
Other types 	**Value transmitter** Each channel supports up to 4 value transmitters for outputting byte values, or up to 2 value transmitters for outputting 2-byte float values. The value sent by the output object with a 0 or 1 at the input can be individually configured for each value transmitter.
Data Type	Selection of the data type: • **Byte** • Float Each channel supports up to 4 value transmitters for outputting byte values, or up to 2 value transmitters for outputting 2-byte float values.
Byte value Output A – D Value for input value 0	The values for the outputs are parameterized here depending on the inputs. With an input value of 0 and selection of data type Byte: • **0** … 255
Float value Output A, B for input value 0	With an input value of 0 and selection of data type Float: • -32768 … **0** … 32767 • Multiplier 0,01 0,1 **1** 10 100
Byte value Output A – D Value for input value 1	The values for the outputs are parameterized here depending on the inputs. With an input value of 0 and selection of data type Byte: 0 … **255**
Float value Output A, B for input value 1	With an input value of 0 and selection of data type Float: • -32768 … **0** … 32767 • Multiplier 0,01 0,1 **1** 10 100
GO value transmitter Binary Input A – D (data type Byte)	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.
GO value transmitter Binary Input A, B (data type Float)	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Other: Trigger (Byte Float)



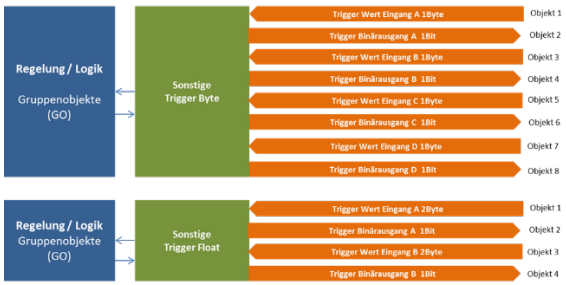
Each channel supports up to 4 triggers for evaluating byte values, or up to 2 triggers for evaluating 2-byte float values:
The threshold at the input object at which a 0 or 1 telegram is sent at the output object can be individually configured for each trigger.

Communication objects

Channel 1			Data Point Type			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Trigger byte Trigger (float)	Trigger value – input A	5.000 9.000	Control/logic channel 1	1 byte 2 byte	K	-	S	-	-
2	Trigger byte Trigger (float)	Trigger binary output A	1.001	Control/logic channel 1	1 bit	K	-	-	Ü	-
3	Trigger byte Trigger (float)	Trigger value – input B	5.000 9.000	Control/logic channel 1	1 byte 2 byte	K	-	S	-	-
4	Trigger byte Trigger (float)	Trigger binary output B	1.001	Control/logic channel 1	1 bit	K	-	-	Ü	-
5	Trigger (byte)	Trigger value – input C	5.000	Control/logic channel 1	1 byte	K	-	S	-	-
6	Trigger (byte)	Trigger binary output C	1.001	Control/logic channel 1	1 bit	K	-	-	Ü	-
7	Trigger (byte)	Trigger value – input D	5.000	Control/logic channel 1	1 byte	K	-	S	-	-
8	Value transmitter (byte)	Trigger binary output D	1.001	Control/logic channel 1	1 bit	K	-	-	Ü	-

Parameter description

Logic trigger

Parameter	Description
Other types 	**Trigger** Each channel supports up to 4 triggers for evaluating byte values, or up to 2 triggers for evaluating 2-byte float values. The threshold at the input object at which a 0 or 1 telegram is sent at the output object can be individually configured for each trigger.
Data Type	The data type 1 Byte, 2 Byte you wish to monitor is parameterized here. The following setting is possible. • **Byte (1 Byte)** • Float (2 Byte)
A – D Trigger Type (data type Byte)	The following trigger criteria can be set: • **Trigger if value > threshold** • Trigger if value >= threshold • Trigger if value < threshold • Trigger if value <= threshold
A – D Trigger Threshold (data type Byte)	The respective thresholds of the input values you wish to monitor can be defined here. The following values for the trigger thresholds are possible: • **0** … 255
GO Trigger Value Input A – D (data type Byte)	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.
A, B Trigger Type (data type Float)	The following trigger criteria can be set: • **Trigger if value > threshold** • Trigger if value < threshold
A, B Trigger Threshold (data type Float)	The respective thresholds of the input values you wish to monitor can be defined here. The following values for the trigger thresholds are possible: - -32768 … **0** … 32767
A, B Value Multiplier	Multiplier for the value of the trigger threshold - 0,01 0,1 **1** 10 100
GO Trigger Value Input A, B (data type Float)	A group object (1–256) can be assigned to an internal connection here. The default setting is no internal connection.

Other: Monitoring (Watchdog)



Communication objects

Channel 1			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
2	Monitoring	Watchdog A alarm	1.002	Control/logic channel 1	1 bit	K	-	S	Ü	-
4	Monitoring	Watchdog B alarm	1.002	Control/logic channel 1	1 bit	K	-	S	Ü	-
6	Monitoring	Watchdog C alarm	1.002	Control/logic channel 1	1 bit	K	-	S	Ü	-
8	Monitoring	Watchdog D alarm	1.002	Control/logic channel 1	1 bit	K	-	S	Ü	-

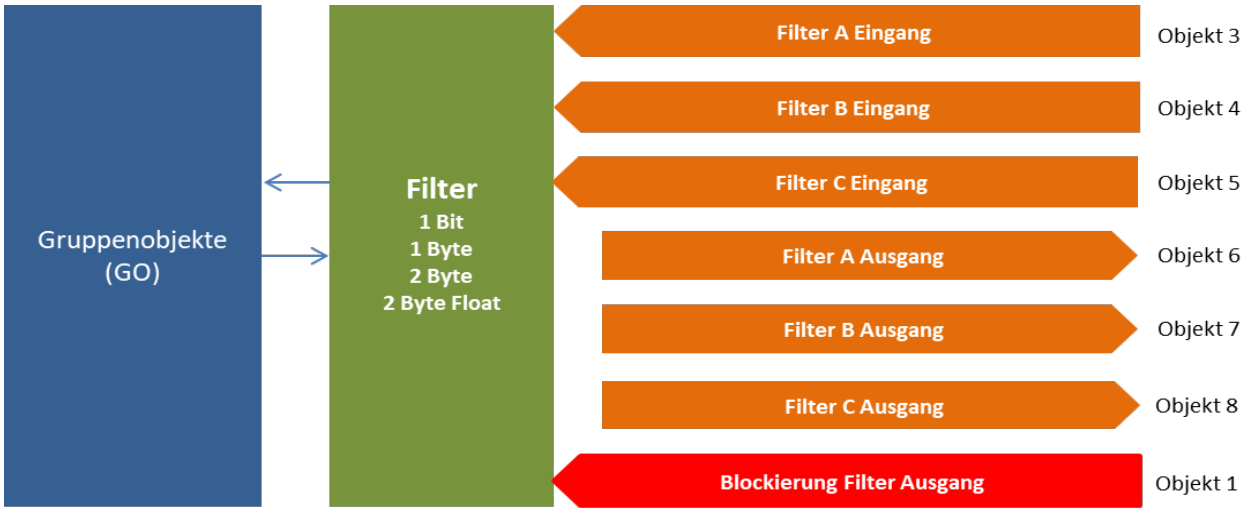
Each channel supports up to 4 functions for monitoring the sending frequency of Enocean devices:

Parameter description

Logic monitoring

Parameter	Description
Other types 	Monitoring The inputs must be internally linked to output objects of Enocean devices. The monitoring time restarts each time an Enocean telegram is received. The alarm to KNX is triggered if an Enocean telegram was not received within the monitoring time.
A – D Watchdog Time (min)	Setting of the monitoring time in minutes: • 1 … **20** … 1440
Watchdog A – D Input	Linking the inputs to an internal GO. A group object GO (1–256) must be assigned to an internal connection here. The default setting is no internal connection.

Other: Filter 1 Bit, 1 Byte, 2 Byte, 2 Byte Float



Each channel supports up to 3 filter functions. These functions are primarily intended for internal links to prevent frequent transmission to the KNX bus. The following input types can be selected:

Communication objects 1 Bit Filter

			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Filter	Blocking	1.001	Special Control	1 bit	K	-	S	-	-
3	Filter	Filter A input	1.001	Special Control	1 bit	K	-	S	-	-
4	Filter	Filter B input	1.001	Special Control	1 bit	K	-	S	-	-
5	Filter	Filter C input	1.001	Special Control	1 bit	K	-	S	-	-
6	Filter	Filter A Output	1.001	Special Control	1 bit	K	-	-	Ü	-
7	Filter	Filter B Output	1.001	Special Control	1 bit	K	-	-	Ü	-
8	Filter	Filter C Output	1.001	Special Control	1 bit	K	-	-	Ü	-

Communication objects 1 Byte Filter

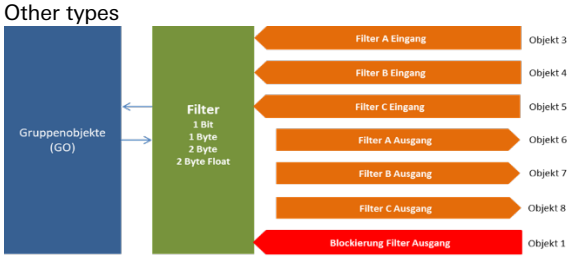
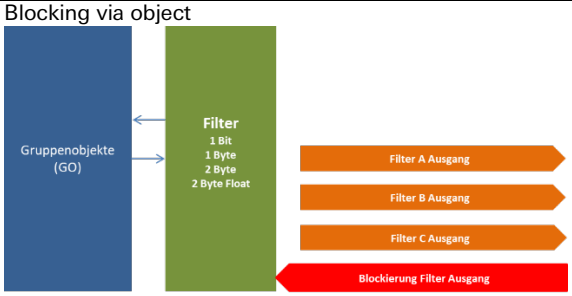
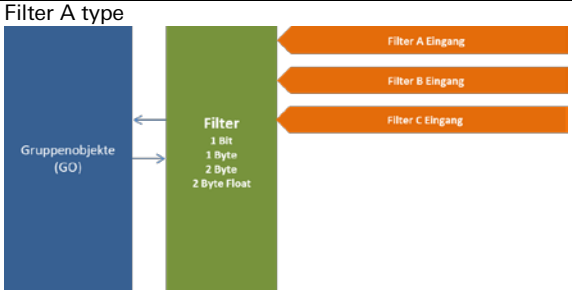
			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Filter	Blocking	1.001	Special Control	1 bit	K	-	S	-	-
3	Filter	Filter A input	5.*	Special Control	1 byte	K	-	S	-	-
4	Filter	Filter B input	5.*	Special Control	1 byte	K	-	S	-	-
5	Filter	Filter C input	5.*	Special Control	1 byte	K	-	S	-	-
6	Filter	Filter A Output	5.*	Special Control	1 byte	K	-	-	Ü	-
7	Filter	Filter B Output	5.*	Special Control	1 byte	K	-	-	Ü	-
8	Filter	Filter C Output	5.*	Special Control	1 byte	K	-	-	Ü	-

Communication objects 2 Byte Filter

			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Filter	Blocking	1.001	Special Control	1 bit	K	-	S	-	-
3	Filter	Filter A input	7.*	Special Control	2 byte	K	-	S	-	-
4	Filter	Filter B input	7.*	Special Control	2 byte	K	-	S	-	-
5	Filter	Filter C input	7.*	Special Control	2 byte	K	-	S	-	-
6	Filter	Filter A Output	7.*	Special Control	2 byte	K	-	-	Ü	-
7	Filter	Filter B Output	7.*	Special Control	2 byte	K	-	-	Ü	-
8	Filter	Filter C Output	7.*	Special Control	2 byte	K	-	-	Ü	-

Parameter description

Logic filter 1 Bit, 1 Byte, 2 Byte

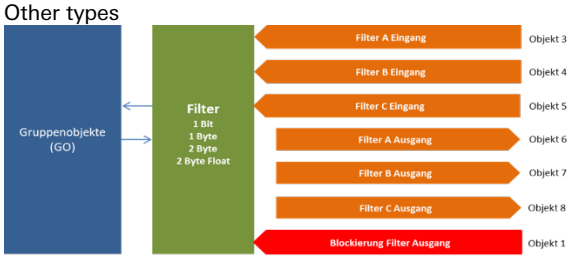
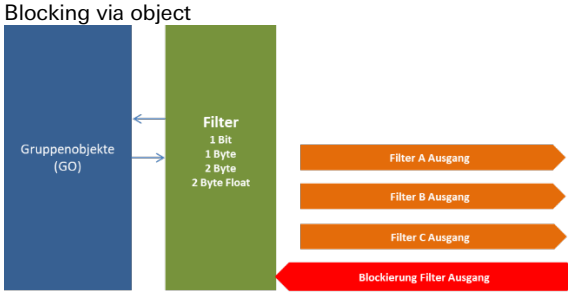
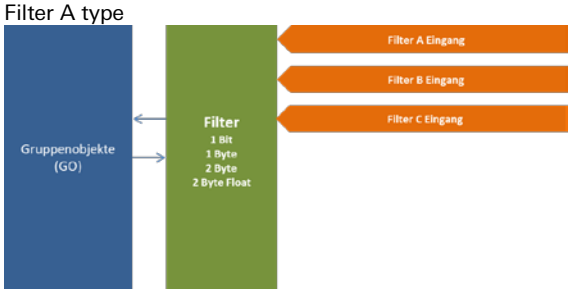
Parameter	**Description**
Other types 	**Filter (1 bit)** An output telegram is only sent for input type 1 Bit if the input value has changed. Each channel supports up to 3 filter functions. These functions are primarily intended for internal links to prevent frequent transmission to the KNX bus.
Blocking via object 	In addition, the sending of the output telegram can be completely blocked via this object. • **Off** • Possible • Possible (inverted)
Filter A type 	The filter which is suitable for the application can be selected from four different filter types here. An output telegram is only sent for input type 1 Bit, 1 and 2 Byte if the input value has changed. The minimum change in the input value at which an output telegram is sent can also be set for input type 2 Byte Float. • 1 bit • 1 byte • 2 byte • 2 byte Float
GO Filter A Input	It is possible to assign an internal group object to each input. • **No internal connection** • Internal connection to GO 1 • Internal connection to GO 256
Filter Type B	(see Filter Type A)
GO Filter B Input	(see Filter Type A)
Filter Type C	(see Filter Type A)
GO Filter C Input	(see Filter Type A)

Communication objects 2 Byte Float Filter

			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
1	Filter	Blocking	1.001	Special Control	1 bit	K	-	S	-	-
3	Filter	Filter A input	9.*	Special Control	2 byte	K	-	S	-	-
4	Filter	Filter B input	9.*	Special Control	2 byte	K	-	S	-	-
5	Filter	Filter C input	9.*	Special Control	2 byte	K	-	S	-	-
6	Filter	Filter A Output	9.*	Special Control	2 byte	K	-	-	Ü	-
7	Filter	Filter B Output	9.*	Special Control	2 byte	K	-	-	Ü	-
8	Filter	Filter C Output	9.*	Special Control	2 byte	K	-	-	Ü	-

Parameter description

Logic Filter 2 Byte Float

Parameter	**Description**
Other types 	An output telegram is only sent for input type 1 Bit, 1 Byte, 2 Byte if the input value has changed. A minimum change in the stated value at which an output is set can also be set for input type 2 Byte Float. Each channel supports up to 3 filter functions. These functions are primarily intended for internal links to prevent frequent transmission to the KNX bus. • **1 bit** • 1 byte • 2 byte • 2 byte Float
Blocking via object 	In addition, the sending of the output telegram can be completely blocked via this object. • **Off** • Possible • Possible (inverted)
Filter A type 	The filter which is suitable for the application can be selected from four different filter types here. An output telegram is only sent for input type 1 Bit, 1 and 2 Byte if the input value has changed. The minimum change in the input value at which an output telegram is sent can also be set for input type 2 Byte Float. • **1 bit** • 1 byte • 2 byte • 2 byte Float

Logic Filter 2 Byte Float

Parameter	Description
Hysteresis	Setting the minimum change in the input value after an output has been set. • > 0.01 • > 0.05 • > 0.1 • > 0.2 • > 0.5 • > 0.8 • > 1 • > 10 • >100 • > 1000
GO Filter A Input	It is possible to assign an internal group object to each input. • **No internal connection** • Internal connection to GO 1 • Internal connection to GO 256
Filter Type B	(see Filter Type A)
Hysteresis	(see above)
GO Filter B Input	(see Filter Type A)
Filter Type C	(see Filter Type A)
Hysteresis	(see above)
GO Filter C Input	(see Filter Type A)

4.4 KNX FANCOIL Aktor

General description

Product

FANCOIL actuator for 2 analog or pulse width-modulated valves, art. 83.020.0638.0 (main device) and art. 83.020.0639.0 (additional device)



Function description

The KNX FANCOIL actuator connects fan convectors to other devices via the KNX bus. The device works as an interface between the KNX bus, the global standard for building automation, and valve-driven cooling or heating devices.

The device can control the following devices:

- A fan with up to three stages
- Cooling/heating valves: A valve on the main device, a valve on the additional device
- Relay (only one on the additional device)

The device possesses two inputs:

- Input for the connection of a temperature sensor (only on the additional device)
- Digital input, can be used as a binary input or as an input for a window contact (only on the additional device)

Together with a KNX room temperature controller, the device can be used for temperature control in offices, hotel rooms, etc.

The device controls a 230 VAC fan with one, two or three fan stages. Each fan stage is switched through its own 230 VAC relay to the output.

The device transmits various items of status information for display in the application via the KNX bus. The main device must be programmed via the KNX bus and also functions without an additional device. The additional device does not function without a main device, but can be added later and without reprogramming.

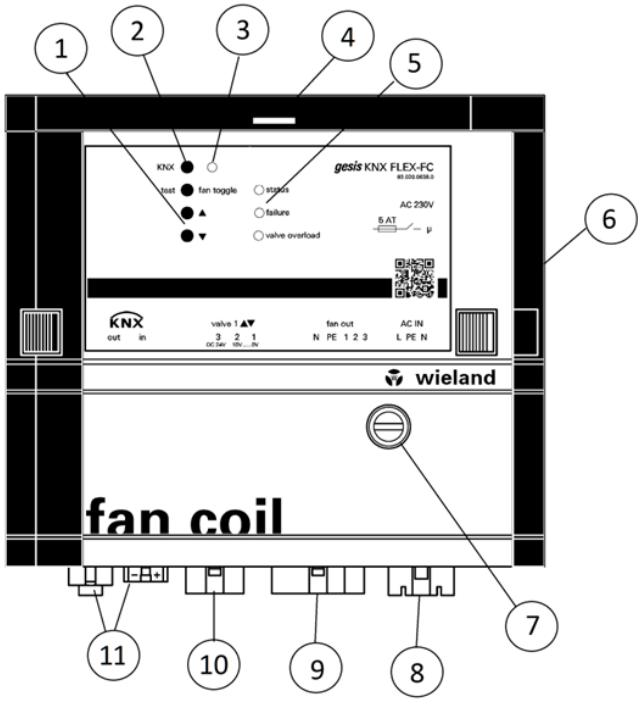
The following description is written for the combination of main and additional device. Some functions do not exist without the additional device. The installation can be checked in temporary operation, even without the KNX bus.
At least Version 4 of the ETS application is required for configured for the configuration and operation of the device.
The database can be downloaded http://www.wieland-electric.com/de/service.

⚠ DANGER
Mains voltage at the connectors poses the risk of electric shocks. The device may only be connected by trained personnel.

Operation and display elements

The operation and display elements can be used for manual operation and to display the status.

Main device



Manual control

1	'test / fan toggle' button	Long pressing > 2 s:	Activates or deactivates test operation.
		Brief press:	Changes the fan stage to the next higher level or to 0.
	▲ (up) button	Brief press:	Increases the value at the valve output.
		Long pressing:	Sets the value at the valve output to the maximum value.
	▼ (down) button	Brief press:	Reduces the value at the valve output.
		Long pressing:	Sets the value at the valve output to the minimum value.
2	'KNX' button	Brief press:	= starting the programming mode via KNX bus

Mounting

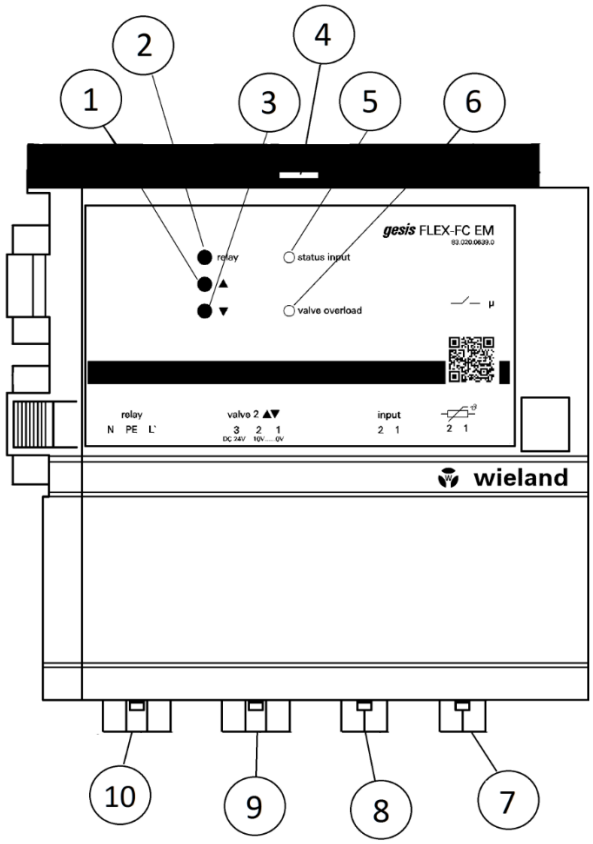
4	Locking base	Latching on the mounting rail.	
6	Right end cap	Remove the cap if an extension module is used and replace it again on the right side of the extension module (Fig.2).	
7	Fuse	Exchangeable fuse on the supply network side.	
8	Mains voltage	Connection type:	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)

9	Air control fan out	Connection for 3-stage fan motor. Connection type: GST15i5 socket (N / PE / 1 / 2 / 3)	
10	Valve 1 control	Connection for valves with 0-10 V or 24 VDC pulse width modulation (=PWM) activation.	
		Connection	PIN 1 (GND) and PIN 2
		BWS connection	PIN 1 (GND) and PIN 3 (+24 VDC)
		Connection type:	GST15i3 plug
11	KNX bus input	Connection type:	BST14i2 male connector, 2-pole, green (KNX coding), (1+ / 2-)
	KNX bus output	Connection type:	BST14i2 female connector, 2-pole, green (KNX coding), (1+ / 2-)

State indication

3	LED 'KNX''	Red:	Lights up red in programming mode.
		Flashing	KNX bus interrupted.
5	LED 'status'	Green:	Module state OK, no errors
		Slow flashing:	Test operation active.
		Blinking On Fast blinking	"Log Message is not configured"
	LED 'failure'	Red flashing:	Defective fuse or missing supply.
	'valve overload'	Red:	Valve outlet

Extension module



Manual control

1	▲ (up) button	Brief press:	Increases the value at the valve output.
		Long pressing:	Sets the value at the valve output to the maximum value.
2	"relay" button	Brief press:	In manual mode, pushing the button toggles the relay output
3	▼ (down) button	Brief press:	Reduces the value at the valve output.
		Long pressing:	Sets the value at the valve output to the minimum value.

Mounting

4	Locking base	Latching on the mounting rail.	
7	Sensor input	Connection for an NTC temperature sensor.	
8	'input'	Binary input. Optional connection of potential-free contacts.	
9	Valve 1 control	Connection for valves with 0-10 V or 24 VDC PWM activation.	
		Connection	PIN 1 (GND) and PIN 2
		BWS connection	PIN 1 (GND) and PIN 3 (+24 VDC)
		Connection type:	GST15i3 plug
10	Output	This additional 230 V AC output permits connection of additional consumers, up to a maximum load current of 5A.	

State indication

5	LED 'status'	Green:	Window contact / dew point monitor: Input is low-resistance and contact is closed.
		Off:	Window contact / dew point monitor: Input is high-resistance and contact is open.
6	'valve overload'	Red:	The LED lights up red with static overload at the valve outlet

Function of manual operation

'KNX' button

Caution! Loss of all parameters, the physical address and all group objects.
Pressing the 'KNX' button during the start operation triggers a master reset.
Do not press the 'KNX' button during the start operation.

- Pressing sets the device into programming mode.

  Programming mode is exited by restarting the device, repressing the 'KNX' button or automatically after exiting programming.

  Info:
  Only the bus voltage is required for programming. After a master reset, the device must be reprogrammed via the KNX bus.

'test / fan toggle' button

- Long press (>3 s): Activates test operation. Fan is switched to stage '0' and relay is switched off. Valve is activated with 5 V in analog operation (default) and in PWM operation with 50% (default).

  Note:
  Test operation cannot be activated after a master reset and during programming.

- Brief press: If test operation activated, changes the fan stage to the next higher level or to '0'. Changeover between the fan stages takes place according to the parameters 'Minimum dwell time in fan stage' (default: 2 seconds) and 'Minimum off time between fan stages' (default: 1 second).

  Test operation is deactivated by a new long press of the 'test / fan toggle' button or automatically after 30 seconds.

▲ (up) button

Requirement: Activated test operation

- Brief press: Increases value at the valve output by 0.625 V in analog operation or 6.25% in PWM operation up to the maximum (default: 10 V or 100%).
- Long press (>3 s): Sets value at the valve output in analog operation to the maximum (default: 10 V or 100%).

▼ (down) button

Requirement: Activated test operation

- Brief press: Reduces value at the valve output by 0.625 V (default) in analog operation or 6.25% (default) in PWM operation up to the minimum of 0 V or 0%.
- Long press (>3 s): Sets value at the valve output in analog operation to the minimum (default: 0 V or 0%).

"relay" button

Requirement: Activated test operation

- Brief press: Toggles the relay.

Status indicator function

LED 'status'	Green:	Normal operation, supply voltage available.
	Slow flashing:	Test operation is activated.
	Fast flashing:	Error on starting the device. Possible causes: • Executed master reset by actuating the 'KNX' button during the start. Reprogram the device via the KNX bus. • Executed master reset through faulty data in the internal memory. Reprogram the device via the KNX bus.
'KNX' LED (red)	Red:	Lights up red in programming mode.
	Flashing:	Interrupted bus connection. Flashing is terminated automatically on bus voltage recovery.
'valve overload'	Red:	Continuing overload at the valve output. LED goes out automatically on removing the overload. **Note:** The 'valve overload' LEDs light up briefly on a restart.
LED 'failure'	Off:	Normal operation, supply voltage available.
	Red:	Defective fuse or missing supply. Appropriate information can be transmitted to the KNX bus. **Note:** The 'failure' LED is supplied via the bus voltage. If the bus voltage fails, the 'failure' LED cannot light up. **Note:** The 'failure' LED can also light up if the fuse is intact and supply voltage is applied. In this case, please contact Customer Service, as the internal power supply unit may be defective.

Technical data

Construction type

Housing	*gesis* FLEX 130 mm with end caps on both sides
Mounting	Foot for mounting on mounting rail
Connection type	Connector

Mains connection

The device is supplied by a 230 VAC input protected with 5 A. This input supplies both the internal components and the fan and the load at the relay output. The mains voltage is used to generate the internal extra-low voltage. This then supplies the valves, the temperature sensor and the binary input / the window contact.
Only KNX communication remains intact even if there is a supply failure. If bus voltage is maintained, the supply failure is displayed by the 'failure' LED of the main device. Appropriate information can be transmitted to the bus.

Rated voltage	230 VAC
Rated frequency	50/60 Hz
Rated current	5 A
Replaceable fuse	5x20 mm, 5 A slow-blow T, 250 VAC, high switch-off capacity H, conformant with IEC 60127-2

KNX

The KNX bus is used for bi-directional communication with other subscribers. The connection with two connectors allows simple looping of the bus voltage to the next device. The KNX bus is internally insulated from the mains voltage. If the KNX bus fails, then the device can continue working in test operation or with the parameterizable standard values.

Power consumption KNX - Bus	10 mA

Binary input 8-fold

A digital contact can be connected directly to the additional device. The additional device makes 24 VDC available with up to 6 mA on the output side. For this reason, only potential-free contacts are required. Parameterization determines the action of the external contact. The input can only be polled when mains voltage exists.

contact type	Potential-free contact, deenergized open or closed
Supply from device to window contact	24 VDC, max. 6 mA (4 kΩ internal)
Wiring information	Twisted cable
Length of line	30 m

Temperature sensor

A local temperature sensor can be connected directly to the additional device. The measured temperature can be transmitted via the KNX bus to room temperature controllers or to displays.

Type:	DATEC Electronic art. 1630.03121/56XXX (XXX = Length in cm) NTC 6.8 kΩ $B_{25/100}$ = 4200 K
Measuring range	-20.0 °C to 50.0 °C
Wiring information	Twisted cable
Length of line	30 m
Supply from device to temperature sensor	24 VDC, modulated

Relay output

The additional device contains a relay which switches 230 VAC to the 'relay' output. The output is protected by the fuse of the main device.

Nominal voltage	230 VAC
Max. total of all output currents	5 A
Nominal current	10 A, 250 VAC
Contact material	$AgSnO_2$
Switching power	1250 VA
Dielectric strength	1000 VAC, 1 minute between open contacts

Valve outputs

The device is used to control heating and cooling applications and can control two valve types for regulating a heat medium:

- Analog (0–10 VDC)
  The device supplies the valve with an overload-resistant 24 VDC supply voltage. The position of the valve is controlled by a modulated 0-10 VDC signal. The voltage can assume values between 0 and 10 VDC in a 255-step resolution.
- PWM (24 VDC)
  The device supplies the valve with an overload-resistant 24 VDC supply voltage. The position of the valve is controlled by the pulse width ratio. The pulse width ratio can assume values between 0% (always off) and 100% (always on) in a 255-step resolution.

The current of the 24 VDC cable is continually monitored, irrespective of the valve type. If there is a continuing overload or brief short overload, the valve supply voltage is interrupted and, after a short time, reconnected automatically and monitored. This reduces the overheating of the device due to overloads or wiring errors.

Note:
The overload restriction is operation-dependent. In heating operation, more overloads on the heating valve are tolerated and less at the cooling valve. In cooling operation, more overloads on the cooling valve are tolerated and less at the heating valve.

Nominal voltage	0–10 VDC, modulated or 24 VDC PWM	
Supply from device to valve	24 VDC, max. 4.5 VA nominal, overload and short-circuit-resistant	
Valve type	0–10 VDC, modulated or 24 VDC PWM	
Output restriction	Active mode	10 W
	Inactive mode	5 W
0-10 V output, modulated	0–10 VDC, max. 10 mA	
Resolution	255 steps	
5 to 24 VDC	0–100%	
Period PWM 24 VDC	15 s – 60 min	
Length of line	30 m	

EMC requirements

Fulfills EN 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-11

Reliability

Failure rate 1540 fit (at 40 °C)

Fire resistance (housing)

UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load

Basic device with end plates approx. 2 kWh
Extension module approx. 1.8 kWh

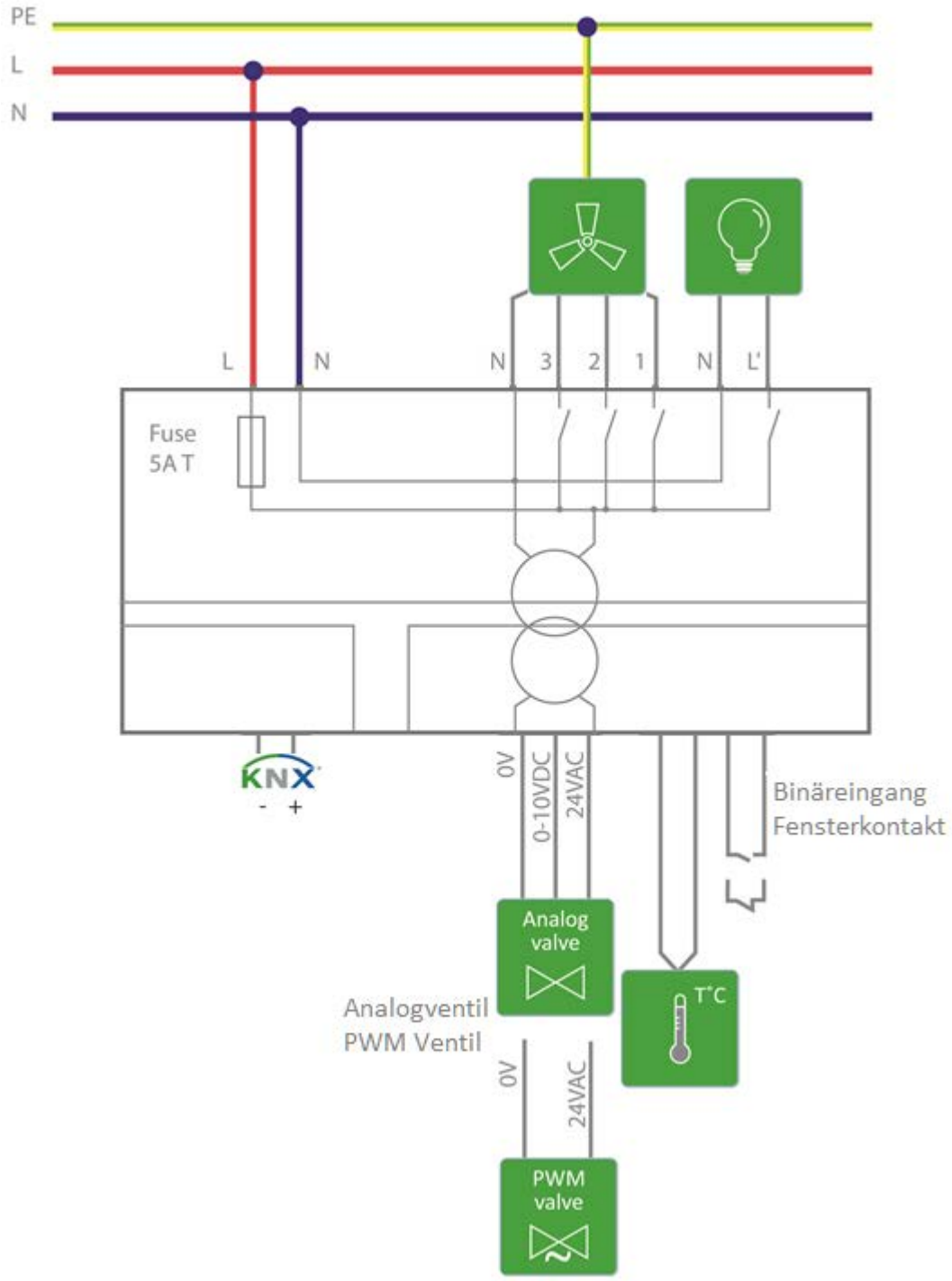
Weight

Basic device with end plates 350 g
Extension module 247 g

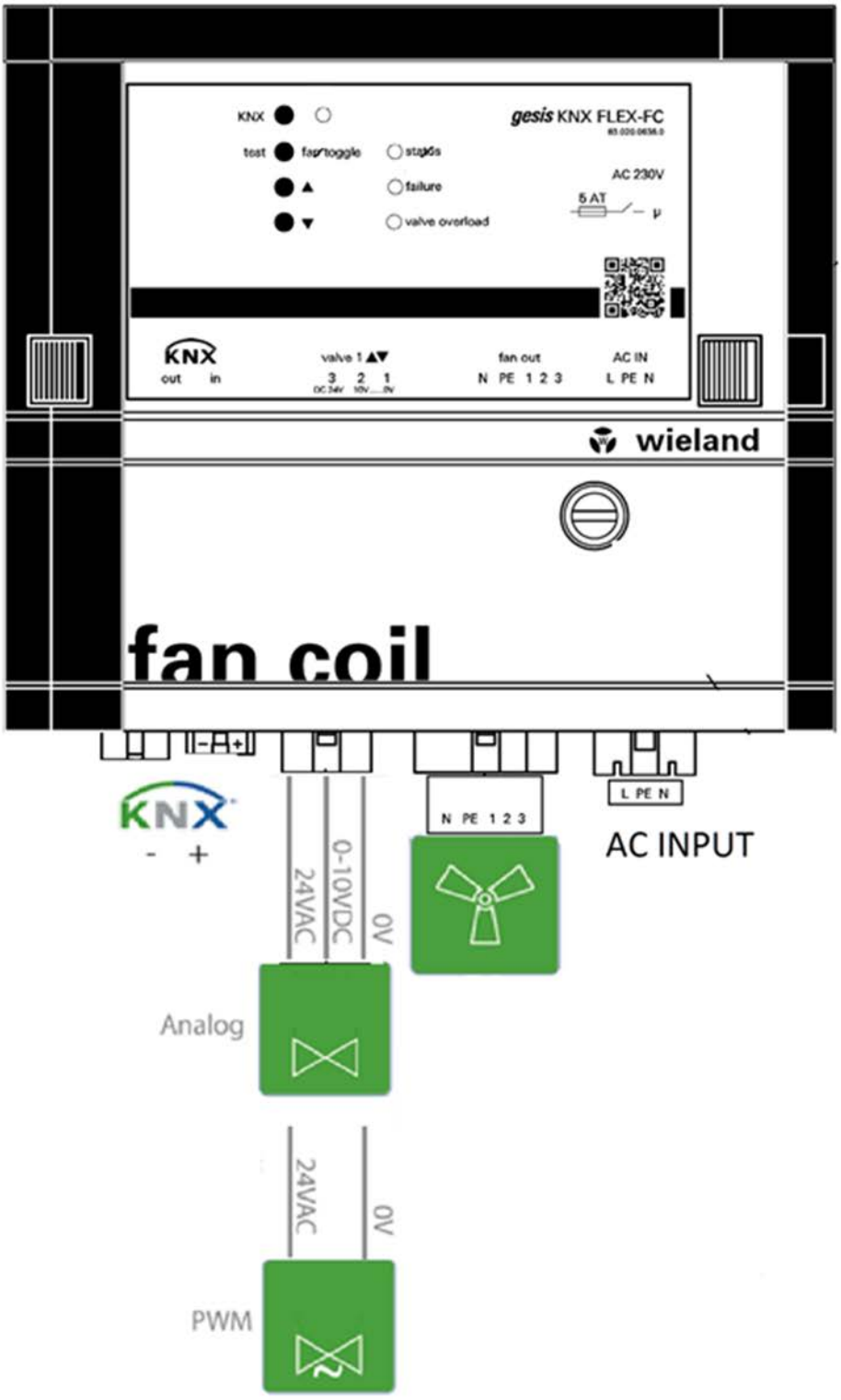
Dimensions	Basic device (with end plates)	Width: 160 mm
	Basic device with extension module (incl. End plates)	Width: 291 mm Length: 149 mm Height: 44 mm
CE marking	In accordance with EMC Directive (for residential and non-residential buildings), Low-Voltage Directive	

Mounting

Connection diagram



In-/outputs



Application description

Operating modes

Priority	Mode	Features

1	Test operation	Allows manual device operation. Functions without KNX programming or bus voltage. Is deactivated by a new long press of the 'test / fan toggle' push-button, a device restart or automatically after 30 seconds.
2	Priority control	Sets the device to a predefined state. Deactivated by a device restart.
3	window open 1bit	Allows reaction by the device to changes in the environment through an opened window. Deactivated by closing the global window contact and a device restart.
4	Manual operation	Allows manual setting of the device using individual communication objects. Deactivated if, after the delay for reverting to automatic operation has elapsed, a '0' is received at communication object 23, a '1' is received at communication object 21 or after a device restart.
5	Automatic operation	Controls the device automatically using the set threshold values and the communication objects no. 11 '0-100% cooling' and 16 '0-100% heating'. Deactivated by activating a different operating mode.

When activated, operating modes with a higher priority override operating modes with a lower priority.

		Communication object no. 22 'Status automatic operation'	
		0	1
Communication object no. 24 'Status manual operation'	0	Mode	Automatic operation
	1	Manual operation	-

The values of communication objects no. 22 and no. 24 specify in which operating mode the device can be.

Measuring temperature ranges

Local temperature sensor

	Maximum output value	**Maximum output value**
Measuring temperature range	-20 °C	0 … 50 °C
Temperature correction range	-5 °C	+5 °C
Wide temperature range	-25.0 °C	+55.0 °C

For measured values outside these ranges, 0x7FFh is used to describe invalid data.

KNX temperature sensor

	Maximum output value	**Maximum output value**
Measuring temperature range	-30 °C	+60 °C
Temperature correction range	-5 °C	+5 °C
Wide temperature range	-35.0 °C	+65.0 °C

For measured values outside these ranges, 0x7FFh is used to describe invalid data.

Communication objects and parameter KNX

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General data

Parameter description

Parameter	Description
Send	**Note:** The parameters named here can be set for almost any communication objects. • **Transmit** The parameters in the 'Transmit' tab control the transmission behavior of the device for each individual communication object. In so doing, the device behaves as follows, depending on the setting: 'Never': The device never transmits this communication object to the bus. 'On restart': The device transmits this communication object after each device restart, after programming actions or after a recovered bus connection. 'On restart + cyclically': The device transmits this communication object after each device restart, after programming actions or after a recovered bus connection. Communication objects, which are additionally parameterized for cyclical transmission, are all transmitted together at defined intervals. 'On restart + on change': The device transmits this communication object after each device restart, after programming actions or after a recovered KNX bus connection. A communication object, which is additionally parameterized to transmit on changes, is transmitted independently of others when its value is changed. **Note:** The device either does not transmit the communication object no. 0 'Status device operation' at all or either with the value 1. For this reason, the option 'On restart + on change' is not available. Setting the option 'On restart + cyclically' allows the detection of a defective device through the non-reception of the communication object no. 0. • **Limit transmit rate** This setting specifies how frequently the device can transmit the communication object to the KNX bus. Communication objects, whose values change rapidly and which are parameterized for transmission on changes, can overload the KNX bus. With a set transmit rate limit, a communication object is not transmitted again before this time has elapsed, irrespective of changes to its value.
Check	**Note:** The option 'Check & refresh' appears in the tabs 'Fan', 'Cooling valve', 'Heating valve' and 'Relay' after changes are made. • **Check & refresh** The display of the changed values is refreshed. The program checks and corrects the entered values automatically, so that they correspond to the rules of parameterization of the appropriate tabs. However, the corrected values are not displayed automatically but must be refreshed manually.

Type 1: General

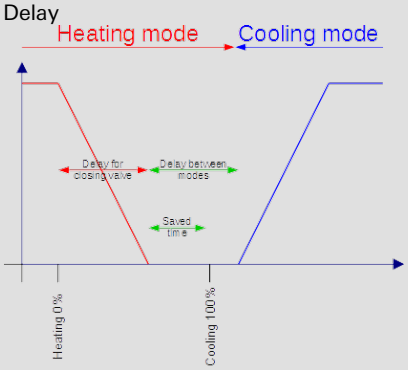
Communication objects

Note:

- Depending on the parameterization, some of the described communication objects are invisible.

Channel			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
0	Status	Not active	1.011	Status device operation	1bit	K	-	-	Ü	-
		Active	1.011							
	Object no. 0 displays whether the device is operational ('1') or not (object is not transmitted).									
1	Status	Not active	1.011	Status mains voltage error	1bit	K	-	-	Ü	-
		Active	1.011							
	Object no. 1 displays whether there is mains voltage present ('0') or not ('1'). Mains voltage is continuously monitored internally after the power supply unit. If a mains voltage error or a fuse defect occurs, then the valves, fan, relay and the temperature sensor are no longer supplied with voltage and the binary input is not read. After the mains voltage error or fuse defect has been eliminated, the named components are automatically supplied with voltage again.									

Parameter description

Parameter	Description
Device use	• **Use additional device** This setting specifies whether an additional device is connected to the main device. • **Use device for** This setting specifies whether the device is used for heating, cooling or heating and cooling equally. **Note:** If the device is used for heating and cooling equally, then you must state whether it is a 2-pipe (one valve) or 4-pipe system (two valves). • **Standard operating mode** This setting specifies whether the device should run in cooling or heating mode on a restart.
Delay 	• **Delay between heating and cooling operation after closing the valve** This setting specifies a delay time between the 'Heating' and 'Cooling' operating modes. This avoids oscillations of the room temperature and wasted energy. **Note:** The delay time elapses after the closing of the previous valve. In so doing, the parameter 'Time to close valve' is taken into account. If the valve has already been closed for long enough, the operating changeover can take place immediately. • **Transmit delay after restart** This setting sets a delay time between each device start and the transmission of communication objects. This avoids excess traffic on the KNX bus when multiple devices are restarted. Before this delay has elapsed, no status communication objects are transmitted independently of the parameterized transmission behavior. **Note:** The processor itself requires around three seconds to start. • **Delay for cyclical transmission** This setting sets a delay time between each device start and the transmission of communication objects which are parameterized for cyclical transmission. This avoids excess traffic on the KNX bus when multiple devices are restarted. Before this delay has elapsed, no communication objects are transmitted which are parameterized for cyclical transmission. With the setting 'No cyclical transmission', cyclical transmission of all communication objects is deactivated.

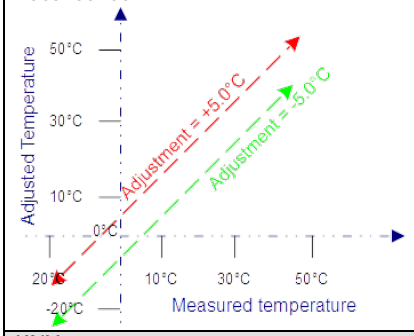
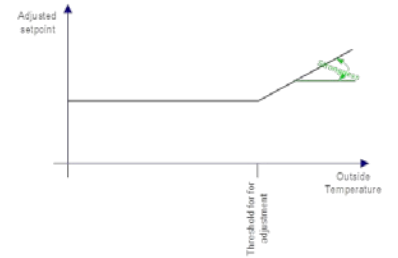
Type 2: Temperature
Communication objects

Info:

- Depending on the parameterization, some of the described communication objects and parameters are invisible.
- The coding for communication objects nos. 2 to 7 is as follows: MEEEEMMM MMMMMMMM Float Value = (0.01*M)*2^{E} 'E = (0…15) M = (-2048…2047), notation as twos complement 7FFFh for invalid data

Channel			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
2	Temperature [°C]	Temperature [°C]	9.001	Status display: Local sensor	2 byte	K	-	-	Ü	-
	Object no. 2 displays the temperature measured by the local sensor in 0.5°C steps. The value is calculated with a hysteresis of 0.5°C. This prevents continuous changeover. The value is therefore suitable for displays. Without temperature correction, values between -20.0°C and +50.0°C are transmitted.									
3	Temperature [°C]	Temperature [°C]	9.001	Controller status: Local sensor	2 byte	K	-	-	Ü	-
	Object no. 3 displays the temperature measured by the local sensor in 0.1°C steps. The value is calculated without hysteresis and is thus only suitable for control purposes. Without temperature correction, values between -20.0°C and +50.0°C are transmitted.									
4	Temperature [°C]	Temperature [°C]	9.001	KNX sensor	2 byte	K	-	S	-	-
	Object no. 4 displays the temperature measured by the KNX sensor. Without temperature correction, values between -30.0°C and 60.0°C are transmitted or otherwise considered invalid.									
5	Temperature [°C]	Temperature [°C]	9.001	Status display: KNX sensor	2 byte	K	-	-	Ü	-
	Object no. 5 displays the temperature measured by the KNX sensor in 0.5°C steps. The value is calculated with a hysteresis of 0.5°C. This prevents continuous changeover. The value is therefore suitable for displays. Without temperature correction, values between -30.0°C and 60.0°C are transmitted.									
6	Temperature [°C]	Temperature [°C]	9.001	Controller status: KNX sensor	2 byte	K	-	-	Ü	-
	Object no. 6 displays the temperature measured by the KNX sensor in 0.1°C steps. The value is calculated with a hysteresis of 0.1°C and is thus only suitable for control purposes. Without temperature correction, values between -30.0°C and 60.0°C are transmitted.									
7	Temperature [°C]	Temperature [°C]	9.001	temperature / setpoint	2 byte	K	-	-	Ü	-
	Depending on the parameterization, object no. 6 displays the calculated desired value or the calculated desired value offset in 0.1°C steps.									

Parameter description

Parameter	Description
Local sensor 	• **Use local temperature sensor** This setting specifies whether a local temperature sensor is connected to the main device. • **Temperature correction of local temperature sensor** This setting specifies whether the device should carry out temperature correction for the local temperature sensor. This allows temperature deviations to be corrected through adding or subtraction of a fixed value between -5.0°C and +5.0°C. **Info:** The corrected temperature can be transmitted to the bus with communication objects 2 and 3. If the corrected values are outside the range -25.0°C and +55.0°C, then 0x7FFFh is used to describe invalid data.
KNX sensor	• **dew point/temperature sensor** This setting specifies whether a KNX temperature sensor is connected via the KNX bus and is used. • **Temperature correction, KNX temperature sensor** This setting specifies whether the device should carry out temperature correction for the KNX temperature sensor. This allows temperature deviations to be corrected through adding or subtraction of a fixed value between -5.0°C and +5.0°C. **Info:** The corrected temperature can be transmitted to the bus with communication objects 5 and 6. If the corrected values are outside the range -35.0°C and +65.0°C, then 0x7FFFh is used to describe invalid data.
Desired value shift 	• **Desired value shift slope** This setting specifies how strongly the external temperature is tracked. External temperature tracking can only be activated in cooling operation. This limits the difference between the internal and external temperature by adjusting the desired value of the internal temperature according to the external temperature. • **Sensor to be used for desired value shift** This setting specifies which sensor is to be used for the desired value shift. This must record the external temperature. • **Threshold for desired value shift** This setting specifies from which external temperature the desired value shift should take effect. • **Basis temperature for desired value shift** This setting specifies whether the device calculates a replacement desired value or only transmits the desired value shift to the room temperature controller. If only the desired value shift is transmitted, then it must be possible to specify the basic desired value on the room temperature controller and the room temperature controller must be able to receive the desired value shift via the KNX bus. If the room temperature controller is only to receive the new desired value, then the parameter specifies which basis temperature is to be used for the desired value shift.

Type 3: Priority control
Communication objects

Note:

- Depending on the parameterization, some of the described parameters are invisible.

Channel			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
8	Released	before switch-off	1.003	operation mode / parameter	1bit	K	-	S	-	-
		Released	1.003							
	Object no. 8 is used to specify the priority control.									

Parameter description

Parameter	Description
Behavior	• **Fan stage in priority control** This setting specifies which fan stage is used in priority control. The fan reacts to the settings as follows: 'Off': The fan is switched off. '1', '2' or '3': The fan switches to the corresponding fan stage. 'No influence': The fan ignores priority control. • **Relay state in priority control** This setting specifies how the relay behaves in priority control. In priority control, the relay reacts to the settings as follows: 'Relay cannot be priority-controlled': No reaction. 'Priority relay control on': Relay is switched on. 'Priority relay control off': Relay is switched off. • **Valve can be priority-controlled** This setting specifies how the valve behaves in priority control. Each valve is controlled by a separate parameter. In priority control, the valves react to the settings as follows: 'Cannot be priority-controlled': No reaction. 'Can be priority-controlled': Valve reacts according to the parameter 'Valve output in priority control'. • **Output value in priority control** This setting specifies which valve the value output has in priority control. **Note:** Both valves can be priority-opened simultaneously. The priority control of the valves depends upon whether the device is in cooling or heating mode.

Type 4: Mode
Communication objects

Channel			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
9	Heating/cooling	Cooling	1,100	Heating/cooling	1bit	K	-	S	-	-
		Heating	1,100							
	Object no. 9 is used to activate cooling operation (‘0’) or heating operation (‘1’).									
10	Heating/cooling	Cooling	1,100	Status heating/cooling	1bit	K	-	-	Ü	-
		Heating	1,100							
	Object no. 10 displays whether cooling operation ('0') or heating operation ('1') is active.									

Type 5: Cooling
Communication objects

Note:

- Depending on the parameterization, some of the described communication objects and parameters are invisible.

Channel			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
11	Plus percentage	(0 to100%)	5.001	0-100% cooling	8bit	K	-	S	-	-
	Object no. 11 is used to specify the desired cooling power. The link of a room temperature controller to object no. 11 allows the valves to control the cooling valve, the fan and the relay, depending on the parameterization. If no value is received, '0' is preset.									
12	Plus percentage	(0 to100%)	5.001	Status 0-100% cooling	8bit	K	-	-	Ü	-
	Object no. 12 specifies the current cooling power. The object specifies the relative position between the positions 'Valve closed' and 'Valve open'. This means that the value is independent of the operating state and better suited to displays than object no. 16.									

Parameter description

Parameter	**Description**
Behavior	• **Valve for cooling** This setting specifies which valve is used for cooling operation.

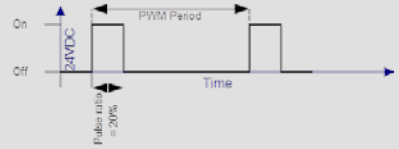
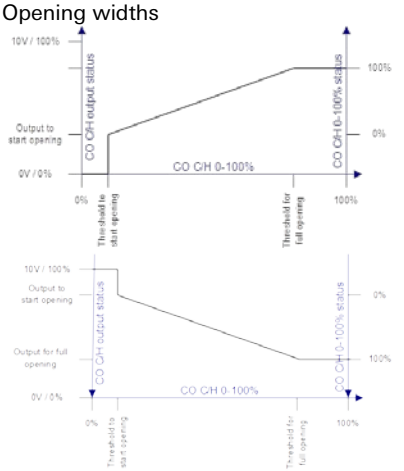
Type 6: Valve
Communication objects

Note:

- Depending on the parameterization, some of the described communication objects are invisible.

Channel			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
13	Plus percentage	(0 to 100%)	5.001	Status cooling output Status cooling/heating output	8bit	K	-	-	Ü	-
	Object no. 13 displays the current voltage (0 VDC - 10 VDC) for analog cooling valves or the pulse width modulation (0%-100%) for pulse width-modulated cooling valves. This means that the value is independent of the operating status and the valve type and is suitable for maintenance or planning purposes. If the device is set for 'Cooling & heating 2-pipe', then the object specifies the control value in cooling and heating operation.									
14	alarm	(no alarm)	1.005	Status 24 VDC cooling overload Status 24 VDC cooling/heating overload	1bit	K	-	-	Ü	-
		alarm	1.005							
	Object no. 14 displays the overload status on the cooling valve or the cooling and heating valve. The overload status is time-filtered. Filtering is displayed by the 'valve overload' LED. This prevents a continuous change of the overload status. If the device is set for 'Cooling & heating 2-pipe', then the object specifies the overload status in cooling and heating operation.									
15	Counting pulses (0…255)	value (0…255)	5.010	Status 24 VDC cooling power Status 24 VDC cooling/heating power	8bit	K	-	-	Ü	-
	Object no. 15 displays the power at the cooling valve or the cooling and heating valve. The power details are proportional from 0 (0 VA) to 255 (31.875 VA). The gradation is in 0.125 VA stages. The continuous power limitation is active in heating mode from 40 (5 VA) and, in cooling mode, from 80 (10 VA). If the device is set for 'Cooling & heating 2-pipe', then the object specifies the output in cooling and heating operation.									
18	Plus percentage	(0 tot 100%)	5.001	Status, heating output	8bit	K	-	-	Ü	-
	Object no. 18 displays the current voltage (0 VDC - 10 VDC) for analog heating valves or the pulse width modulation (0%-100%) for pulse width-modulated heating valves. This means that the value is independent of the operating status and the valve type and is suitable for maintenance or planning purposes.									
19	alarm	(no alarm)	1.005	Status 24 VDC heating overload	1bit	K	-	-	Ü	-
		alarm	1.005							
	Object no. 19 displays the overload status on the cooling valve or the cooling and heating valve. The overload status is time-filtered. Filtering is displayed by the 'valve overload' LED. This prevents a continuous change of the overload status. If the device is set for 'Cooling & heating 2-pipe', then the object specifies the overload status in cooling and heating operation.									
20	Counting pulses (0…255)	(0…255)	5.010	Status 24 VDC heating power	8bit	K	-	-	Ü	-
	Object no. 15 specifies the current power at the heating valve. The power details are proportional from 0 (0 VA) to 255 (31.875 VA). The gradation is in 0.125 VA stages. The continuous power limitation is active in cooling mode from 40 (5 VA) and, in heating mode, from 80 (10 VA).									

Parameter description

Parameter	Description
Standard value	• **Monitoring time before transition in standard** This setting specifies for how long the device waits after non-reception of the communication objects to the valve control before replacing them with predefined standard values. These communication objects are used for valve control in normal operation. If the communication objects no. 11 '0-100% cooling' or no. 16 '0-100% heating' cannot be received, then the device cannot open or close the valves. Replacement of the missing communication values with standard values causes the valves also to be controlled with a faulty room temperature controller, which does not transmit these communication objects. This prevents frost damage or overheating. **Note:** In cooling or heating mode, only the appropriate monitoring time elapses. • **Standard value** This setting specifies the value used for valve control instead of the missing communication objects.
Output 	• **0-10 V or pulse width-modulated output** This setting specifies which valve type is used in the system. Depending on the setting, the device reacts as follows: 'Analog 0-10 V': The device outputs a modulated control signal of 0-10 VDC at the connector and switches on the supply voltage of 24 VDC. 'Pulse width-modulated': The device switches on the supply voltage of 24 VDC with pulse width modulation. The pulse width is between 0% (always off) and 100% (always on). • **Pulse width modulation period** This setting specifies which period should be used for the pulse width-modulated output. The period defines the time period between consecutive pulses and must be adapted to the valve.
Opening widths 	**Note:** The values for the opening widths can be set manually. The settings must fulfill the following rules: 'Value for starting valve opening' ≤ 'Value for max. valve opening' 'Output for starting valve opening' ≤ 'Output for max. valve opening'
	• **Value for starting valve opening** This setting specifies from which value of the valve control communication objects the valves open. This prevents a continuous flow of the heat medium, thus saving energy. • **Value for max. valve opening** This setting specifies from which value of the valve control communication objects the valves open to the maximum. This allows a maximum flow rate of the heat medium even before the corresponding signal of the room temperature controller and the reactivity of the system. • **Output for starting valve opening** This setting specifies the value the valves assume on the smallest opening. This value represents the smallest possible flow rate. This allows a significant volume of heating medium to flow at the beginning of control and an increase in system reactivity. • **Output for max. valve opening** This setting specifies from which value of the communication objects for the valve control the valve no longer opens further. This allows limitation of the output signal and the maximum valve flow rate.
Valve specification	• **Time to close valve** This setting specifies the maximum time the valves need to close. At least this time is waited after the closing of one valve until the opening of another valve. This prevents both valves from being open simultaneously. • **Valve action** This setting specifies the action of the valves. The settings should be made as follows: 'Deenergized open' for valves, which are open without a supply voltage and which can be closed when the supply voltage is applied. 'Deenergized closed' for valves, which are closed without a supply voltage and which can be opened when the supply voltage is applied.

Type 7: Heating

Communication objects

Note:

- Depending on the parameterization, some of the described communication objects and parameters are invisible.

Channel			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
16	Plus percentage	(0 to 100%)	5.001	0-100% heating	8bit	K	-	S	-	-
	Object no. 16 is used to specify the desired heating power. The link of a room temperature controller to object no. 16 allows the valves to control the heating valve, the fan and the relay, depending on the parameterization. If no value is received, '0%' is preset.									
17	Plus percentage	(0 to 100%)	5.001	Status 0-100% heating	8bit	K	-	-	Ü	-
	Object no. 17 specifies the current heating power. The object specifies the relative position between the positions 'Valve closed' and 'Valve open'. This means that the value is independent of the operating state and better suited to displays than object no. 16.									

Parameter description

Parameter	**Description**
Behavior	• **Valve for heating** This setting specifies which valve is used for heating operation.

Type 8: Fan
Communication objects

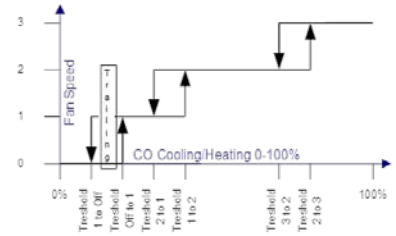
Info:

- Depending on the parameterization, some of the described communication objects and parameters are invisible.
- The fan stages can only be controlled individually.

Channel			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
21	Released	before switch-off	1.003	Automatic operation	1bit	K	-	S	-	-
		Released	1.003							
22	Status	Not active	1.011	Status automatic operation	1bit	K	-	-	Ü	-
		Active	1.011							
23	Released	before switch-off	1.003	Manual operation	1bit	K	-	S	-	-
		Released	1.003							
24	Status	Not active	1.011	Status manual operation	1bit	K	-	-	Ü	-
		Active	1.011							
25	Plus percentage	0-100	5.001	0-100% fan stage, manual mode	8bit	K	-	S	-	-
	Object no. 25 is used to specify a fan speed.									
26	Count pulses	value (0…255)	5.010	Counter, fan stage, manual mode	8bit	K	-	S	-	-
	Object no. 26 is used to specify a fan stage. The value and the fan stages are specified as follows: '0%' corresponds to stage 0, '1%' corresponds to stage 1, '2%' corresponds to stage 2, '3%' corresponds to stage 3 and '4%' or greater corresponds to stage 4.									
27	Step	Reduce	1.007	Change fan stage, manual mode	1bit	K	-	S	-	-
		Increase	1.007							
	Object no. 27 is used for staged changes of the fan stage. Fan stage can be reduced to '0' ('0') or increased to the maximum fan stage (default: 3, can be parameterized) ('1').									
28	Released	before switch-off	1.003	Fan stage manual operation 1	1bit	K	-	S	-	-
		Released	1.003							
	Object no. 28 is used to activate fan stage 1 ('1') or switch off the fan ('0').									
29	Released	before switch-off	1.003	fan stage	1bit	K	-	S	-	-
		Released	1.003							
	Object no. 29 is used to activate fan stage 2 ('1') or switch off the fan ('0').									
30	Released	before switch-off	1.003	fan stage	1bit	K	-	S	-	-
		Released	1.003							
	Object no. 30 is used to activate fan stage 3 ('1') or switch off the fan ('0').									
31	Count pulses	value (0…255)	5.010	fan stage	8bit	K	-	-	Ü	-
	Object no. 31 specifies the fan stage status. The off time is not taken into account. The status before the off time remains active during the off time.									
32	Status	Not active	1.011	fan stage	1bit	K	-	-	Ü	-
		Active	1.011							
	Object no. 32 displays whether the fan is off ('1') or not ('0'). The off time is not taken into account. The status before the off time remains active during the off time.									
33	Status	Not active	1.011	fan stage	1bit	K	-	-	Ü	-
		Active	1.011							
	Object no. 33 displays whether the fan is in Stage 1 ('1') or not ('0'). The off time is not taken into account. The status before the off time remains active during the off time.									
34	Status	Not active	1.011	fan stage 2	1bit	K	-	-	Ü	-
		Active	1.011							
	Object no. 34 displays whether the fan is in Stage 2 ('1') or not ('0'). The off time is not taken into account. The status before the off time remains active during the off time.									
35	Status	Not active	1.011	fan stage 3	1bit	K	-	-	Ü	-
		Active	1.011							
	Object no. 35 displays whether the fan is in Stage 3 ('1') or not ('0'). The off time is not taken into account. The status before the off time remains active during the off time.									

Parameter description

Parameter	Description
Fan stages	• **Number of fan stages** This setting specifies how many fan stages are used. • **Minimum dwell time in fan stage** This setting specifies the minimum time the device remains in a fan stage. The start-up current of the fan after a change to another fan stage is considerably higher than the current during normal operation. Specifying a minimum dwell time prevents switch-off of the relay for fan supply during the increased current consumption. This places less stress on the relay. Specifying a minimum dwell time also avoids a load through frequent changing of the fan stage. **Note:** The minimum dwell time is also not undershot in priority control. • **Minimum off time between fan stages** This setting specifies for how long the device waits after exiting a fan stage before switching on the next fan stage. After a fan stage, the fan continues to turn for a certain period of time. Specifying a minimum off time prevents switch-on of the relay for fan supply when the fan is rotating. This places less stress on the relay. Specifying a minimum off time also avoids a load through frequent changing of the fan stage. **Note:** The minimum off time is also not undershot in priority control.

Parameter	Description
Threshold values 	**Note:** The threshold values can be set manually The settings must fulfill the following rules: 'Switch-on threshold fan stage 1' ≤ 'Switch-on threshold fan stage 2' ≤ 'Switch-on threshold fan stage 3' 'Switch-off threshold fan stage 1' ≤ 'Switch-off threshold fan stage 2' ≤ 'Switch-off threshold fan stage 3' 'Switch-off threshold fan stage 1' ≤ 'Switch-on threshold fan stage 1' 'Switch-off threshold fan stage 2' ≤ 'Switch-on threshold fan stage 2' 'Switch-off threshold fan stage 3' ≤ 'Switch-on threshold fan stage 3' A large difference reduces the operating cycles of the fan. This avoids a load through frequent changing of the fan stage. • **Switch-on threshold fan stage 1** This setting specifies which value the control value for the fan must at least have for the fan to switch on. The control value is conveyed through one of the following communication objects: Communication object no. 11 '0-100% cooling' Communication object no. 16 '0-100% heating' Communication object no. 25 '0-100% fan stage manual mode' This prevents a load through frequent switch-on of the fan on small control outputs of the room temperature controller. • **Switch-on threshold fan stage 2** This setting specifies which value the control value for the fan must at least have for the device to switch to fan stage 2. The control value is conveyed through one of the following communication objects: Communication object no. 11 '0-100% cooling' Communication object no. 16 '0-100% heating' Communication object no. 25 '0-100% Fan stage manual mode' • **Switch-on threshold fan stage 3** This setting specifies which value the control value for the fan must at least have for the device to switch to fan stage 3. The control value is conveyed through one of the following communication objects: Communication object no. 11 '0-100% cooling' Communication object no. 16 '0-100% heating' Communication object no. 25 '0-100% Fan stage manual mode' • **Switch-off threshold fan stage 3** This setting specifies which value the control value for the fan must at least have for the device to remain in fan stage 3. The control value is conveyed through one of the following communication objects: Communication object no. 11 '0-100% cooling' Communication object no. 16 '0-100% heating' Communication object no. 25 '0-100% Fan stage manual mode' • **Switch-off threshold fan stage 2** This setting specifies which value the control value for the fan must at least have for the device to remain in fan stage 2. The control value is conveyed through one of the following communication objects: Communication object no. 11 '0-100% cooling' Communication object no. 16 '0-100% heating' Communication object no. 25 '0-100% Fan stage manual mode' • **Switch-off threshold fan stage 1** This setting specifies which value the control value for the fan must at least have for the fan to switch on. The control value is conveyed through one of the following communication objects: Communication object no. 11 '0-100% cooling' Communication object no. 16 '0-100% heating' Communication object no. 25 '0-100% Fan stage manual mode'
Automatic operation	• **Delay for return to automatic operation** This setting specifies for how long the device waits until the automatic change to automatic mode. In automatic mode, the fan stage is calculated by the communication objects 11 '0-100% cooling' and 16 '0-100% heating'. In manual mode, the fan stage is controlled by the communication objects no. 25 to 30. The delay begins again after each action via communication objects no. 25 to 30, the transmission of a '0' to communication object no. 21 or a '1' to communication object no. 23. **Info:** The device immediately switches to automatic mode if a '0' is sent to communication object no. 23 or a '1' is transmitted to communication object no. 21. The automatic change to automatic mode can also be deactivated with this setting. In this case, there is a risk of inefficient temperature control through longer-term manual operation. After a device restart, automatic mode is preset. • **Fan run-on time in cooling mode** This setting specifies for how long the fan should run on after switch-off. For this, the device automatically changes to fan stage 1. After the cooling valve has closed, the heat exchanger remains cold for a certain amount of time. Condensation water collects on the cold surface and mold may form. The running on of the fan tempers the surface of the heat exchanger. • **Fan run-on time in heating mode** This setting specifies for how long the fan should run on after switch-off. For this, the device automatically changes to fan stage 1. After the heating valve has closed, the heat exchanger remains hot for a certain amount of time. The heat exchanger can overheat and there may be a smell of burnt dust. The running on of the fan tempers the surface of the heat exchanger.

Type 9: Binary input 9-fold window contact
Communication objects

Info:

- Depending on the parameterization, some of the described communication objects and parameters are invisible.
- The digital input of the additional device can either be used as a binary input or as an input for a window contact. In addition, the device can use communication object no. 37 to receive the status of a KNX window contact to calculate the status of the global window contact.

Channel			**D**ata **P**oint **T**ype			**Flags**				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
36	Status	Not active	1.011	Input	1bit	K	-	-	Ü	-
		Active	1.011							
	Object no. 36 specifies the status of the binary input.									
37	Window 2	Closed	1.019	Window contact	1bit	K	-	S	-	-
		Open	1.019							
	Object no. 37 displays whether the KNX window contact is closed ('0') or open ('1'). If no value is received, closed is preset.									
38	Status	Not active	1.011	window open 1bit	1bit	K	-	-	Ü	-
		Active	1.011							

Parameter description

Parameter	**Description**
Input	• **Local input** This setting specifies how the digital input signal is used. The input signal is used in the settings as follows: 'Used as binary input': The input signal is looped to the bus and does not influence the device. 'Used as local window contact': The input signal is used to determine the global window contact. 'Not used': The input signal is ignored. • **Binary inputs** This setting specifies the action of the binary input. Depending on the setting, the device transmits the following signals to the bus: '0 = Contact open / 1 = Contact closed': The device transmits a 1 when the contact is closed a 0 when the contact is open. '0 = Contact closed / 1 = Contact open': The device transmits a 0 when the contact is closed a 1 when the contact is open. **Note:** Communication object no. 36 'Status input' represents the status of the binary input. • **Action of local window contact** This setting specifies the action of the local window contact. Depending on the setting, the device assumes the following states: 'Contact closed = Window open / Contact open = Window closed': When the contact is closed, the device assumes that the window is open and, when the contact is open, that the window is closed. 'Contact closed = Window closed / Contact open = Window open': When the contact is closed, the device assumes that the window is closed and, when the contact is open, that the window is open. **Note:** Communication object no. 36 'Status input' represents the status of the local window contact.

Parameter	Description
Window contact	• **1BS Window contact** This setting specifies whether a KNX window contact is used. **Info:** If a KNX window contact is used, its signal can be used to determine the global window contact. The KNX window contact must be linked with the communication object no. 37 'Window contact KNX'. • **window open 1bit** This setting specifies when the global window contact is considered as open. Depending on the setting, the device calculates the global window contact as follows: 'Both KNX and local window opened': The device recognizes the global window input as open as soon as both window contacts signal an open window. 'At least KNX or local window opened': The device recognizes the global window input as open as soon as one of the two window contacts signals an open window. Window open operation can be used to set the device to a predefined status. **Info:** If a KNX window contact is used, its signal can be used to determine the global window contact. The KNX window contact must be linked with the communication object no. 37 'Window contact KNX'. Communication object no. 38 'Status window open operation' represents the status of open window operation.
Delay	• **Delay after global window opening** This setting specifies for how long the device waits after detecting an open global window contact before switching to "Window open" mode. This avoids the triggering of a mode change by brief opening of a window. **Note:** Communication object no. 38 'Status window open operation' represents the status of open window operation. • **Delay after global window closing** This setting specifies for how long the device waits after detecting a closed global window contact before switching to "Window closed" mode. This avoids the triggering of a mode change by brief closing of a window. **Note:** Communication object no. 38 'Status window open operation' represents the status of open window operation.
Behavior	• **Relay behavior in window open operation** This setting specifies how the relay behaves in open window mode. Depending on the setting, the relay reacts to open window mode as follows: 'Switch relay off': The relay is switched off. 'Switch relay on': The relay is switched on. 'No influence': The relay ignores open window mode. • **Fan stage in open window mode** This setting specifies how the fan behaves in open window mode. Depending on the setting, the fan reacts to open window mode as follows: 'Off': The fan is switched off. '1', '2' or '3': The fan switches to the corresponding fan stage. 'No influence': The fan ignores open window mode. **Note:** This parameter can be specified for both cooling and heating mode. • **Valve behavior in open window mode** This setting specifies how the valve behaves in open window mode. Depending on the setting, the valve reacts to open window mode as follows: 'No influence': The valve ignores open window mode. 'Close valve when window open': The valve is closed. **Note:** This parameter can be specified for both cooling and heating mode.

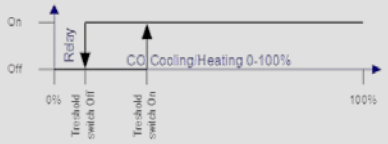
Type 10: Relay
Communication objects

Note:

- Depending on the parameterization, some of the described communication objects and parameters are invisible.

Channel			Data Point Type			Flags				
Obj. No.	**Type**	**Object function**	**DPT**	**Object name**	**Length**	**K**	**L**	**S**	**Ü**	**A**
39	Switching	Off	1.001	Switch on/off	1bit	K	-	S	-	-
		On	1.001							
	Object no. 39 is used to control the relay. This communication object can be hidden using parameters. The relay is then controlled by the set switching thresholds.									
40	Status	Not active	1.011	State input, switching	1bit	K	-	-	Ü	-
		Active	1.011							
	Object no. 40 displays whether there relay is switched on ('1') or not ('0').									

Parameter description

Parameter	Description
Control	• **Relay control** This setting specifies how the relay is controlled. Depending on the setting, the relay behaves as follows: 'Relay controlled via comm. obj. switch on/off': The relay behaves like a switching output. The reception of a 1 on communication object no. 31 'Switch on/off' closes the relay and the reception of a 0 opens the relay. 'Relay controlled via automatic value cooling': The relay switches depending on the value of communication object no. 11 '0-100% cooling'. 'Relay controlled via automatic value heating': The relay switches depending on the value of communication object no. 16 '0-100% heating'. 'Relay controlled via automatic values heating and cooling': The relay switches depending on the values of communication object no. 11 '0-100% cooling' and communication object no. 16 '0-100% heating'.
Threshold values 	**Note:** The threshold values can be set manually The settings must fulfill the following rules: 'Relay switch-off threshold in cooling mode' ≤ 'Relay switch-on threshold in cooling mode' 'Relay switch-off threshold in heating mode' ≤ 'Relay switch-on threshold in heating mode' A large difference reduces the switching frequency. This places less stress on the relay.
	• **Relay switch-on threshold in cooling mode** This setting specifies at least which value communication object no. 11 '0-100% cooling' must have for the relay to be switched on. • **Relay switch-off threshold in cooling mode** This setting specifies at least which value communication object no. 11 '0-100% cooling' must have for the relay to remain switched on. • **Relay switch-on threshold in heating mode** This setting specifies at least which value communication object no. 16 '0-100% heating' must have for the relay to be switched on. • **Relay switch-off threshold in heating mode** This setting specifies at least which value communication object no. 16 '0-100% heating' must have for the relay to remain switched on.

Replacing the fuse

The device itself, the fan outputs and the relay output are protected by a shared fuse. If the fuse is defective, then the 'failure' LED turns red.

⚠ DANGER
Mains voltage at the fuse poses the risk of electric shocks. Before starting work, remove the connectors for mains voltage, the relay output and fan.

Caution! Using unsuitable fuses poses the risk of damage to the electrical system. Only replace the fuse with the same type.

The fuse can be accessed from the top side of the device and is of type 5x20 mm, 5 A slow-blow T, 250 VAC, high switch-off capacity H and conforms to IEC 60127-2.

4.5 Devices of the SMI family

5 Devices in the *gesis* FLEX Add-on family

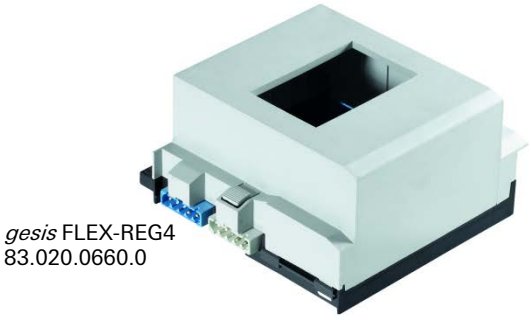
The modular room automation system in the flat housing is supplemented by additional functions. In the *gesis* FLEX Add-on area, you can find a system-conforming empty housing for integrating DIN rail-mounted devices.

5.1 *gesis* FLEX-REG4 (V/D/DV) REG module housing

General description

Products

gesis FLEX-REG4 (V/D/DV) / System housing for DIN rail-mounted devices (4 sub-units)



gesis FLEX-REG4
83.020.0660.0



gesis FLEX-REG4 V
83.020.0661.0



gesis FLEX-REG4 D
83.020.0662.0



gesis FLEX-REG4 DV
83.020.0663.0

Function description

The REG modules are system-conforming for the flat *gesis* FLEX module system to be mounted on DIN rails. They can accommodate rail-mounted devices according to VIN 43880 with 4 sub-units. The mains and bus supply is routed from the upstream module to the next module. The mains can be tapped internally via a GST15 connection.
The module can be obtained without adaptation (83.020.0600.0), with cable leads (83.020.0661.0, 83.020.0663), or with a hinged lid (83.020.0662, 83.020.0663).

Technical data

Construction type

Housing	*gesis* FLEX REG 4TE 130 mm
Mounting	Foot for mounting on mounting rail
Connection type	Plug connector (connecting to the array of system modules)

Internal module bus

The internal data bus of the system is routed through the *gesis* FLEX REG module to the output of the internal bus; additional *gesis* FLEX extension or feed modules can be connected to it. The data bus with these types of modules is not used within the module.

Connection type, int. bus input	GST15i5 male connector, 5-pole, light blue data bus (internal bus/4 GND/+12 V)
Connection type, int. bus output	GST15i5 female connector, 5-pole, light blue data bus (internal bus/4 GND/+12 V)

Mains connection

The feed on the power voltage feed takes place by connecting to a *gesis* FLEX basic or feed module or to an extension module, which is already being supplied by a basic or feed module. The power supply can be 1-phase or 3-phase. This depends on the feed of the base or feed module connected upstream. The voltage is routed through the module to the mains output, to which the additional *gesis* FLEX extension or feed modules can be connected. The module has a tap available for the individual conductors of the main power supply. This tap can be used for internal wiring of the module.

⚠ DANGER
The internal tap can only be used as a tap and not as a feed point.

Connection type, mains input	GST15i5 male connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection type, mains output	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
Connection, internal tap	GST15i5 female connector, 5-pole, black, (3 / 2 / 1 / PE / N)
M20 Cable gland	2 x M20; 1 x M16 only for module 83.020.0661.0 and 83.020.0663.0
Hinged lid	Only for module 83.020.0662.0 and 83.020.0663.0
Rated voltage	230/400 VAC (-15% / +10%)
Rated frequency	50/60 Hz
Rated current	16 A
Internal power consumption	Depends on the respective equipment
Recommended fuse protection	1-pole or 3-pole circuit breaker B16A

Electric safety

Protection class	I
Protection class	IP20
Pollution degree	2
Overvoltage category	III
Rated insulation voltage	250 V Phase conductor to N or PE 400 V Phase conductor to phase conductor (internal basic insulation, doubled externally or reinforced insulation)
Galvanic isolation (internal bus/mains)	Clearance and creepage distances > 5.5 mm, isolation voltage 4 kV AC / 6 kV impulse
Protective conductor resistance	Approx. 3.2 mΩ (mains input to mains output

Environmental conditions

Usage area	For permanent surface installation, indoors in dry rooms, weather-protected, unregulated
Climate resistance	As per EN 50491-2, class 3K5
Ambient operating temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Relative humidity	5% to 93%
Condensation	Not permitted
Altitude	No more than 2000 m above sea level (without negatively affecting performance and function)

Mounting

Mounting method	Ceiling, floor, wall assembly; permanent installation; surface-mounted, on flat surface, DIN rail TH35, assembly frame
Installation position	Operator definable
Minimum clearances	none
Additional insulation	Not required

Housing material

Plastic, halogen-free light gray

Fire resistance (housing)

UL 94 V-2 (passes glow-wire test at 960°C as per IEC 695-2-1)

Fire load

Approx. 2 kWh

Weight

Approx. 200 g

Dimensions

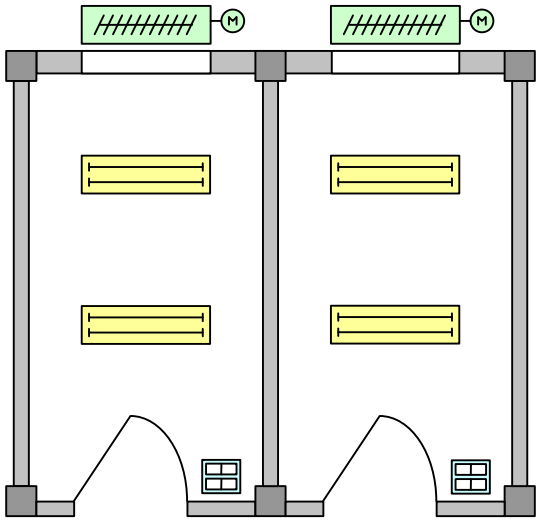
Width:	149 mm in the direction of the DIN rails, 130 mm installed in rows in the group:
Length:	149 mm at right angles to DIN rail
Height	80 mm without DIN rail and without hinged lid 83 mm with DIN rail and without hinged lid; 94 mm with hinged lid and without DIN rail; 97 mm with hinged lid and DIN rail

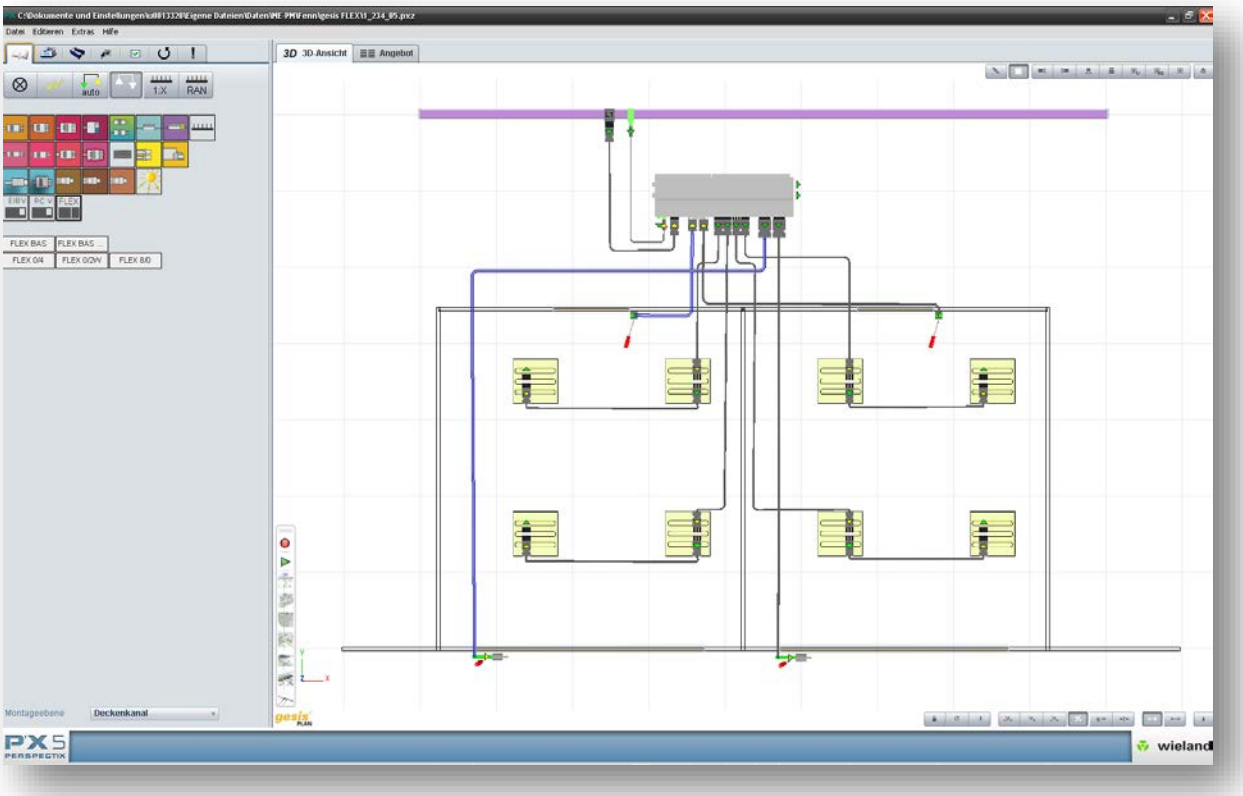
Mounting

Section 7, in the appendix to this manual, contains mounting instructions for this module.

6 Application examples

Application example 1: Simple office with operation via conventional button





Requirements for installation

In order to emphasize the environmental awareness of the company using the products, the stated goal of the owner is to achieve certification according to LEED or DGNB. The sustainable construction should have a positive effect on the visibility of the company.

Function description

Individual offices with 2 connected illumination groups and one shutter drive each are to be integrated into the KNX building automation. For cost reasons, operation is to be implemented via conventional buttons on the door.

Note: Of course, with this application, the use of a presence sensor is mandatory. However, this is not part of the *gesis* FLEX manual.

Solution proposal

In order to implement the desired goals/functions, a *smart* installation solution with the *gesis* FLEX automation system is ideal:

- The decentralized installation of the building automation components (in the ceiling area of the hallway in this case) with a three-phase power supply up to shortly before the consuming units reduces the cable expense and the resulting drop in voltage.
- The modular construction of the *gesis* FLEX system reduces the required number of KNX components and thus also the number of system components while keeping the system as flexible as possible at the same time. Furthermore, the combining of the control units and actuators on one *gesis* FLEX combo-unit offers increased reliability, because the on-site operation of the lighting is also possible in the event of a bus malfunction.
- The compact design of the system enables installation, e.g. underneath the cable routes; thus, no additional installation space is required for the building automation.
- Finally, the plug-in capacity leads to a quick and trouble-free installable, sustainable overall system that can also be adapted or supplemented at any time, even during the usage phase, without extensive work. The reusability of all components also supports the desired green building approach.
- The shutter drives are also controlled from a central location, depending on the weather, in order to minimize primary energy needs for the building. In winter, the shutters are open when the sun is shining in order to support the heating system. In summer on the other hand, they are closed when the sun is shining to support the air-conditioning system. The user can suppress this automatic mode using the operation of the shutters on the buttons in the room for a configurable time.

Required components:

***gesis* ELECTRONIC**

• 1 × *gesis* KNX FLEX basic module	*gesis* KNX FLEX-BAS SP	83.020.0601.0
• 1 × *gesis* FLEX 8x binary input	*gesis* FLEX-8/0 (12)	83.020.0622.0
• 1 × *gesis* FLEX 4x switch actuator	*gesis* FLEX-0/4	83.020.0623.0
• 1 × *gesis* FLEX 2x shutter actuator	*gesis* FLEX-0/2W	83.020.0624.0

***gesis* CON**

*LL in the order number stands for the line length in decimeters, in 1 m steps

• 1 × feed line, mains	GST18i3 B/S SW	92.232.LL00.1
• 1 × feed line, KNX	BST14i2 B/S SW/GN	94.425.LL00.7
• 4 × connection line for lights	GST18i3 B/S WS	92.232.LL00.2
• 2 × connection line for drives	GST18i4 B/S SW	92.207.LL00.1
• 2 × connection line for buttons	GST15i5 S/- LB	91.257.LL00.6

The connection to the mains and KNX infrastructure of the building is done with a *gesis* round cable via a T-piece (distributor blocks with 1 input and 2 outputs) and with a flexible *gesis* flat cable via the corresponding flat cable adapter.

Options/versions
Depending on the installation location, floor plan, and required flexibility, a combination of 6 extension modules may be useful on a basic module. Subsequently, 4 rooms or even corner rooms with additional shutters can be supplied with a *gesis* FLEX system. However, this can lead to longer cables for consuming units and to reduced flexibility with respect to future expansions. In this case, it is recommended that an additional feed module be used in order to split the rooms into two fuse circuits.

Parameterization/communication objects

Parameterization **Binary input**:
For the previously described application, binary input channels 1-4 and channels 5-8 are each routed to a button combination, next to the access doors. In doing so, the two illumination groups should be actuated separately via buttons 1 and 2 (channel 1+2 or 5+6). The glare protection is operated via buttons 3 and 4 (channel 3+4 or 7+8).
Accordingly, the function of channels 1, 2, 5, and 6 must be configured as "Switch/button". The de-bounce time depends on the button used; normally, the default value of 50 ms is sufficient; the "Switch" object type can also be retained. "Reaction after short button press" must be set at "Toggle", because the illuminated button is used as a simple button with a contact for "On/Off". A long button press can be dispensed with in this case. The "Send cyclically", "Reaction on lock", and "Reaction on bus voltage recovery" functions will also remain unused in most cases.
The function of channels 3, 4, 7, and 8 must be configured as "Shutter control". With respect to the de-bounce time, the same thing applies as described previously. One of the two channels must be configured for operation of the shutters with "Up" while the other is configured with "Down". In order to differentiate between a short button press (short drive time, step mode) and a long button press (travel to the end position), a time must be defined. In this case as well, the "Reaction on lock" and "Reaction on bus voltage recovery" functions usually remain unused.

Parameterization **Switch actuator**:
Because there are no particular requirements for the application described previously, the necessary parameterization is very easy.
In the "Basic settings" area, the operating mode can remain at the standard "Switch (On/Off) value. State messages should generally be used to enable corresponding evaluations, for example, from Facility Management. All other functions in this case remain unused or are configured to the standard value. The bus behavior in the event of a bus voltage failure and bus voltage recovery can be adapted to the project requirements. "Switch-off warnings" are dispensed with in office operations and the state messages should be sent "On change or delay after voltage recovery".

Parameterization **Shutter actuator**:
The adaptation of the shutter parameterization to the application is also not particularly extensive.
With the basic functions, the operating mode can also remain at the standard shutter value in this case. At least one alarm (wind) is always used with outside shutters; therefore, shutter alarms must be used; in addition, state messages should be provided for Facility Management. In this case as well, the bus behavior in the event of a bus voltage failure and bus voltage recovery can be adapted to the project requirements.
The drive time of the glare protection can be measured according to local conditions "via stopwatch" and configured or determined automatically by the module. The automatic measurement, however, can only be used if the drives are connected directly (without coupling relays). The additional parameters of the shutter settings must be configured according to the hardware used and the company requirements.
State messages should be sent "On change or delay after voltage recovery".

Communication objects

For light control, the "Switch on/off" communication objects of the binary input must be connected to the "On/Off" communication objects of the switch output via a group address (e.g. 2, 102). The shutter control runs via the "Up", "Down" communication objects on the binary input or "Up", "Down" on the shutter output (e.g. 9, 12, 203) as well as "Louver/stop" at both modules (e.g. 8, 11, 204).

Number	Name	Object function	Group address
2	EM-1 Input 1 - Switch	Switch on/off	1.1.1
102	EM-2 Output 1	on/off	
5	EM-1 Input 2 - Switch	Switch on/off	1.1.2
115	EM-2 Output 2	on/off	
9	EM-1 Input 3 - Shutter	up	1.2.1
12	EM-1 Input 4 - Shutter	down	
203	EM-3 Shutter output 1	up/down	
8	EM-1 Input 3 - Shutter	louver/stop	1.3.1
11	EM-1 Input 4 - Shutter	louver/stop	
204	EM-3 Shutter output 1	louver/stop	
14	EM-1 Input 5 - Switch	Switch on/off	1.1.3
128	EM-2 Output 3	on/off	
17	EM-1 Input 6 - Switch	Switch on/off	1.1.4
141	EM-2 Output 4	on/off	
21	EM-1 Input 7 - Shutter	up	1.2.2
24	EM-1 Input 8 - Shutter	down	
225	EM-3 Shutter output 2	up/down	
20	EM-1 Input 7 - Shutter	louver/stop	1.3.2
23	EM-1 Input 8 - Shutter	louver/stop	
226	EM-3 Shutter output 2	louver/stop	

7 Appendix: Installation instructions

The following pages contain the installation instructions for all of the *gesis* FLEX modules described in this manual.

7.1 *gesis* KNX FLEX-BAS

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis KNX FLEX-BAS

KNX-Basismodul mit AC-Einspeisung / KNX base module with AC power supply

3-phasig / 3-phase	83.020.0600.0
1-phasig (SP) / 1-phase (SP)	83.020.0601.0

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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Das KNX-Basismodul im flachen, tragschienenmontierbaren AP-Gehäuse zum dezentralen Einbau unterstützt 6 Erweiterungsmodule. Sie verfügen über alle gängigen Ein-/Ausgänge und ermöglichen mit nur einer physikalischen Adresse eine umfassende Raumautomation. Die Handbedienebene erlaubt Funktionstests ohne vorherige Systemintegration. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'Config'	• Tastendruck > 3s: Vergibt Moduladressen und Parameter. • Kurzer Tastendruck: Vergibt Parameter erneut. (Voraussetzung: Moduladressen wurden bereits vergeben.)
②	LED 'Status'	Signalisiert den Systemstatus. • Grün: Fehlerfreier Betrieb • Rot: Fehlermeldung
③	Netzeingang	• Modul 83.020.0600.0: Stecker GST18i5 • Modul 83.020.0601.0: Stecker GST18i3 (Montage: siehe Rückseite, Abbildung 3)
④	Eingang KNX-Bus	Buchse BST14i2, 2-polig, grüne Codierung (Montage: Abbildung 3)
⑤	Ausgang KNX-Bus	Stecker BST14i2, 2-polig, grüne Codierung (Montage: Abbildung 3)
⑥	Taster 'KNX'	Startet den Programmiermodus für die physikalischen Adressen. Details: siehe Handbuch
⑦	LED 'KNX''	Leuchtet im Programmiermodus rot.
⑧	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene aufsetzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken. Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Basismodul Bus- und Netzkabel stecken (Abbildung 1):
④ Ausgang KNX-Bus (grün) ⑤ Eingang KNX-Bus (grün), ③ Netzeingang (schwarz)
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Leitungen mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Bemessungsspannung 1-phasig (83.020.0601.0) 3-phasig (83.020.0600.0)	 230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3) 230 V / 400 VAC, -15 % / +10 %, 50/60 Hz (GST18i5)
Bemessungsstrom	16 A je Phase
Empfohlene Absicherung	1/3-poliger Leitungsschutzschalter B16A
KNX-Busanschluss	
Busspannung	24 VDC (-10 % / + 20 %)
Stromaufnahme (KNX-Bus)	Maximal 5 mA
Topologie	Twisted Pair TP1
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, feste Installation, Aufputz, auf ebene Fläche, Tragschiene TH35-7,5, Montagerahmen
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten Brandlast Abmessungen (B, H, L)	UL94 V-2 ca. 2 kWh 95*)mm, 149 mm, 44 mm *)117mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
KNX	KNX zertifiziert
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
  http://eshop.wieland-electric.com/product/83.020.0600.0
  http://eshop.wieland-electric.com/product/83.020.0601.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The KNX base module in the flat AP housing, which can be fitted on DIN rails for decentralised installation, supports 6 extension modules. They have all the common inputs and outputs, and they provide extensive room automation with only one physical address. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.
Note: Function tests directly after installation are possible on the devices with the manual operation level and without programming.

Operating and functional elements (see back page, figure 1)

①	'Config' button	• Pressing the button > 3s: Allocates module addresses and parameters. • Pressing the button briefly: Allocates the parameters again. (Precondition: The module addresses have already been allocated.)
②	LED for 'Status'	Signals the system status. • Green: Fault-free operation • Red: Fault message
③	Mains input	• Module 83.020.0600.0: plug GST18i5 • Module 83.020.0601.0: plug GST18i3 (installation: see back page, figure 3)
④	Input for KNX bus	Socket BST14i2, 2-pole, green coding (installation: figure 3)
⑤	Output for KNX bus	Plug BST14i2, 2-pole, green coding (installation: figure 3)
⑥	'KNX' button	Starts the programming mode for the physical addresses. Details: See handbook
⑦	LED for 'KNX'	Lights up red in programming mode.
⑧	Resting foot	Locking mechanism for installing on DIN rail/mounting frame

Installation (see back page, figure 2)

Step 1: **Plugging in modules**

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place additional modules in the desired sequence on the right of the base module and latch them into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on DIN rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules on the DIN rail.
2.3 Press the resting foot on every module downwards with a screwdriver. The modules are now fastened on the DIN rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in the bus cable and mains cable to the base module (figure 1):
④ Output for KNX bus (green), ⑤ Input for KNX bus (green), ③ input Mains (black)
3.2 Plug in cables to all further modules (see installation instructions).
Important: Ensure that all plug-in connections are securely seated.
3.3 In the case of a mounting frame: Fasten cables with cable ties to the mounting frame.

Technical data

Mains connection	
Rated voltage 1-phase (83.020.0601.0) 3-phase (83.020.0600.0)	 230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3) 230 V / 400 VAC, -15 % / +10 %, 50/60 Hz (GST18i5)
Rated current	16 A each phase
Recommended fuse protection	1/3-phase circuit breaker B16A
Connection for KNX bus	
Bus voltage	24 VDC (-10 % / + 20 %)
Current consumption (KNX bus)	Maximum 5 mA
Topology	Twisted Pair TP1
Ambient conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation, surface-mounted, on level surface, DIN rail TH35-7.5, mounting frame
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire Fire load Dimensions (W, H, L)	UL94 V-2 approx. 2 kWh 95*) mm, 149 mm, 44 mm *) 117mm with left end cap
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Overvoltage category	III
Approvals	
KNX	KNX certified
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
  http://eshop.wieland-electric.com/product/83.020.0600.0
  http://eshop.wieland-electric.com/product/83.020.0601.0

gesis KNX FLEX-BAS

KNX-Basismodul mit AC-Einspeisung / KNX base module with AC power supply

3-phasig / 3-phase 83.020.0600.0
1-phasig (SP) / 1-phase (SP) 83.020.0601.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

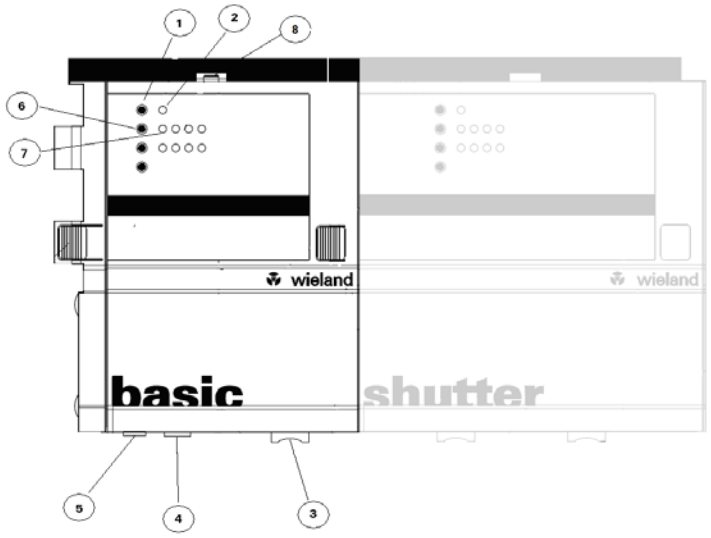


Abbildung 2: Montage
Figure 2: Installation

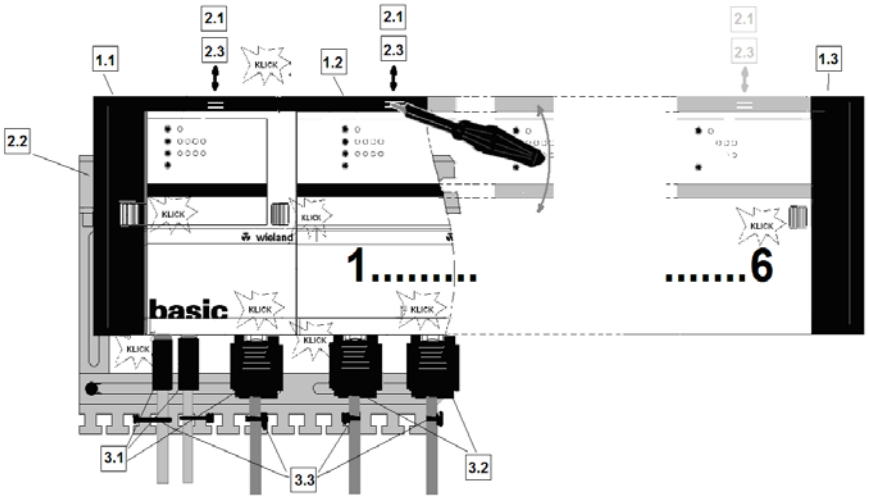
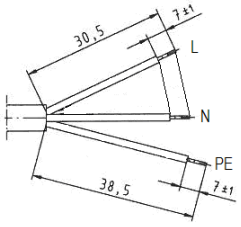


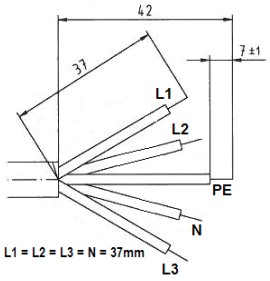
Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

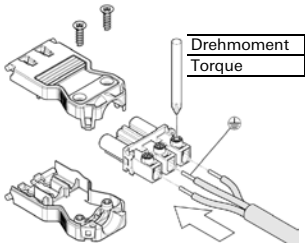
Netzanschluss / Mains connection

GST18i3 (92.923.3035.1)



GST18i5 (92.953.4053.1)

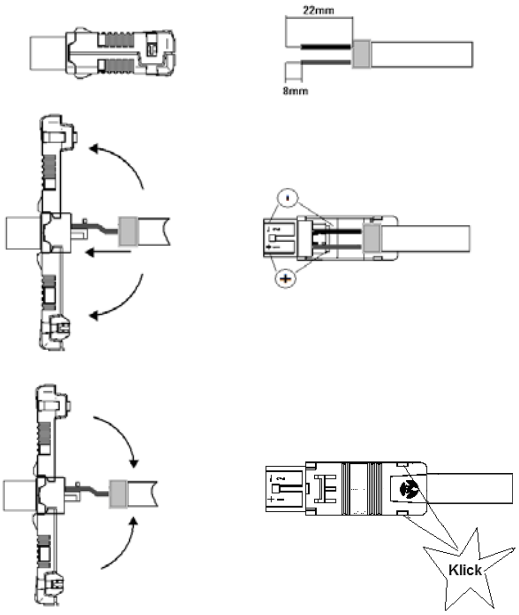




Drehmoment	0,5 … 0,7 Nm
Torque	4,4 … 6,2 lb-in

KNX-Anschluss / KNX connection

BST14i2 (93.422.0553.1)



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis KNX FLEX-BAS

Module de base KNX avec alimentation CA / Modulo base KNX con alimentazione AC

triphasé / trifase 83.020.0600.0
monophasé (SP) / monofase (SP) 83.020.0601.0

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wieland

FR

⚠ Danger

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

Le module de base KNX dans le boîtier plat en saillie pour montage décentralisé prend en charge 6 modules d'extension. Ils disposent de toutes les entrées/sorties et permettent une automatisation complète de l'espace avec seulement une adresse physique. Le niveau de commande manuelle permet d'effectuer des tests de fonctionnement sans intégration préalable au système. Les raccords électriques enfichables selon CEI 61535 pour capteurs et consommateurs séparent l'automatisation et l'installation.
Remarque : la réalisation des tests de fonctionnement directement après le montage selon les conditions du site sur les appareils est possible sans programmation.

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'Config'	• Appui sur le bouton > 3 s : distribue les adresses de module et les paramètres. • Appui court sur la touche : redistribue les paramètres. (Condition préalable : les adresses de modules ont déjà été affectées.)
②	LED 'Status'	Signale l'état du système du système. • Vert : fonctionnement sans erreur • Rouge : message d'erreur
③	Entrée de réseau	• Module 83.020.0600.0 : connecteur GST18i5 • Module 83.020.0601.0 : connecteur GST18i3 (Montage : voir verso, figure 3)
④	Entrée du bus KNX	Prise BST14i2, bipolaire, codage vert (montage : figure 3)
⑤	Sortie du bus KNX	Connecteur BST14i2, bipolaire, codage vert (montage : figure 3)
⑥	Bouton 'KNX'	Démarre le mode de programmation pour les adresses physiques. Détails : voir la notice
⑦	LED 'KNX'	S'allume en rouge dans le mode de programmation.
⑧	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage

Montage (voir verso, figure 2)

Étape 1 : **raccordement du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **option de fixation sur rail porteur ou cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pour le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module.
Les modules sont fixés sur le rail porteur.

Étape 3 : **raccorder et sécuriser le câble**

3.1 Raccorder le câble de bus et de réseau sur le module de base (figure 1) :
④ Sortie du bus KNX (vert) ⑤ Entrée du bus KNX (vert), ③ Entrée de réseau (noir)
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage).
Important : s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension nominale monophasée (83.020.0601.0) triphasée (83.020.0600.0)	 230 VCA, -15 % / +10 %, 50/60 Hz (GST18i3) 230 V / 400 VAC, -15 % / +10 %, 50/60 Hz (GST18i5)
Intensité nominale	16 A par phase
Fusible recommandé	Disjoncteur 1/3 pôles B16A
Raccordement de bus KNX	
Tension du bus	24 VCC (-10 % / + 20 %)
Courant absorbé (bus KNX)	Maximal 5 mA
Topologie	Paire torsadée TP1
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol et au mur ; installation fixe, en saillie, sur une surface plane, rail porteur TH35-7,5, cadre de montage
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2 kWh 95*) mm,149 mm, 44 mm *)117 mm avec capuchon d'extrémité
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
KNX	certifié KNX
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via QR ou :
http://eshop.wieland-electric.com/product/83.020.0600.0
http://eshop.wieland-electric.com/product/83.020.0601.0

IT

⚠ Pericolo

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

Il modulo base KNX in custodia piatta da parete su guida di supporto per installazione decentrata supporta 6 moduli di espansione dotati di tutti gli ingressi e le uscite necessari a permettere, con un solo indirizzo fisico, un'automazione completa dell'ambiente. Il comando manuale permette di testare le funzioni senza dover integrare il sistema. I collegamenti elettrici a innesto con i sensori e le utenze, a norma IEC 61535, separano automazione e installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi senza alcuna programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'Config'	• Premendo il tasto per > 3s si assegnano gli indirizzi dei moduli e i parametri. • Premendo brevemente il tasto si riassegnano i parametri (a condizione che gli indirizzi dei moduli siano già stati assegnati).
②	LED 'Stato'	Segnala lo stato del sistema. • Verde: funzionamento senza errori • Rosso: segnalazione di errore
③	Ingresso rete	• Modulo 83.020.0600.0: connettore GST18i5 • Modulo 83.020.0601.0: connettore GST18i3 (montaggio: vedere dietro, figura 3)
④	Ingresso bus KNX	Presa BST14i2, 2 poli, codifica verde (montaggio: figura 3)
⑤	Uscita bus KNX	Connettore BST14i2, 2 poli, codifica verde (montaggio: figura 3)
⑥	Tasto 'KNX'	Avvia la modalità di programmazione per gli indirizzi fisici. Per informazioni dettagliate, consultare il manuale
⑦	LED 'KNX''	Nella modalità di programmazione LED rosso.
⑧	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto/telaio di montaggio

Montaggio (vedere a tergo, figura 2)

Passo 1: **inserimento dei moduli**

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2: opzionale**: fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite.
I moduli sono ora fissati alla guida di supporto.

Punto 3: **inserimento e fissaggio dei cavi**

3.1 Inserire il cavo di rete e bus sul modulo di base (figura 1):
④ Uscita bus KNX (verde) ⑤ Ingresso bus KNX (verde), ③ Ingresso di rete (nero)
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio).
Importante: assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Tensione nominale monofase (83.020.0601.0) trifase (83.020.0600.0)	 230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3) 230 V / 400 VAC, -15 % / +10 %, 50/60 Hz (GST18i5)
Corrente nominale	16 A per fase
Protezione consigliata	Interruttore magnetotermico 1/3 fase B16A
Connessione bus KNX	
Tensione bus	24 VDC (-10 % / + 20 %)
Corrente assorbita (bus KNX)	Max. 5 mA
Topologia	Twisted Pair TP1
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5 °C ... +45 °C
Temperatura di stoccaggio	-25 °C ... +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa, a vista, su superficie piana, guida di supporto TH35-7,5, telaio di montaggio
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2 kWh 95*) mm, 149 mm, 44 mm *)117 mm con cappuccio terminale
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
KNX	Certificazione KNX
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
http://eshop.wieland-electric.com/product/83.020.0600.0
http://eshop.wieland-electric.com/product/83.020.0601.0

Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis KNX FLEX-BAS

Module de base KNX avec alimentation CA / Modulo base KNX con alimentazione AC

triphasé / trifase	83.020.0600.0
monophasé (SP) / monofase (SP)	83.020.0601.0

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Internet: www.wieland-electric.com
Email: info@wieland-electric.com

Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

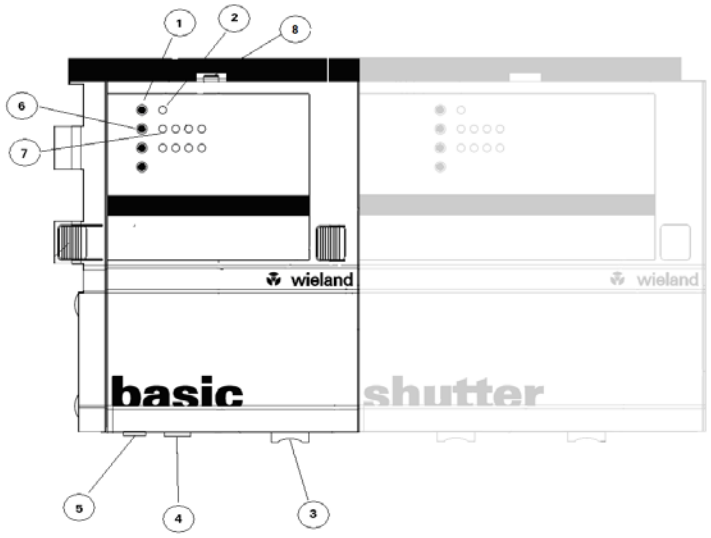


Figure 2: Montage
Figura 2: Montaggio

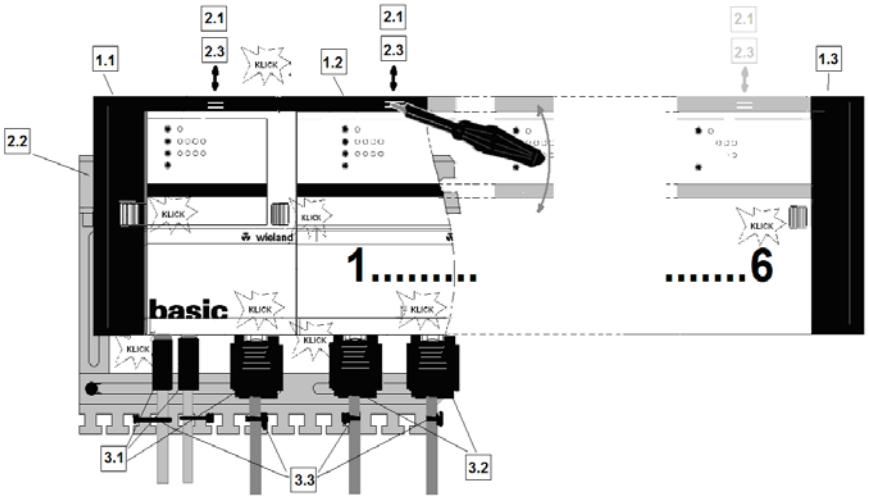
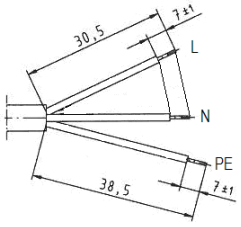


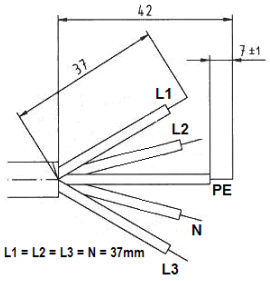
Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

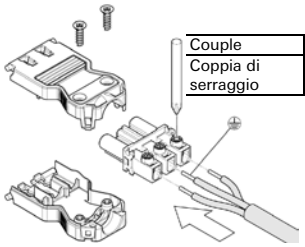
Raccordement secteur / Collegamento di rete

GST18i3 (92.923.3035.1)



GST18i5 (92.953.4053.1)

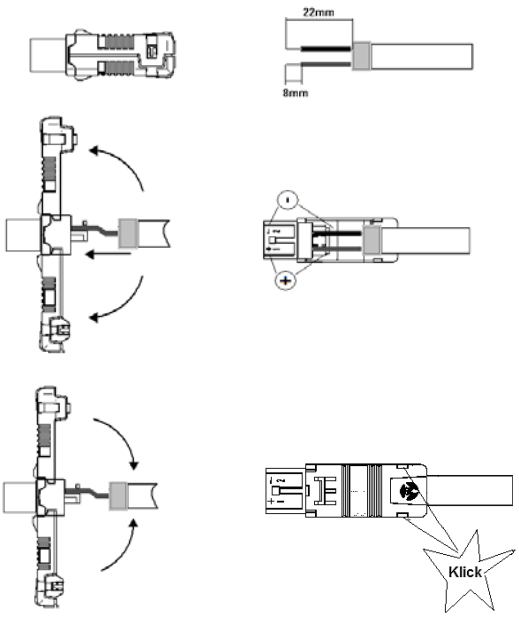




Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in

Raccordement KNX / Collegamento KNX

BST14i2 (93.422.0553.1)



7.2 *gesis* FLEX-MS AC feed-in module

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-MS

AC-Einspeisemodul / AC power supply module

3-phasig / 3-phase	83.020.0610.0
1-phasig (SP) / 1-phase (SP)	83.020.0611.0

Wieland Electric GmbH
Brennerstraße 10-14
96052 Bamberg
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Fax: +49 (951) 9324-198
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wieland

DE

⚠ GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Das 3- oder 1-phasige Einspeisemodul im flachen, tragschienenmontierbaren AP-Gehäuse zum dezentralen Einbau erlaubt innerhalb des modularen Systemaufbaus eine vom Basismodul getrennte Netzeinspeisung. Damit können die Ausgangslasten auf verschiedene Sicherungskreise aufgeteilt werden. Es kann beliebig oft im System integriert werden. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Netzeingang	• Modul 83.020.0610.0: Stecker GST18i5 • Modul 83.020.0611.0: Stecker GST18i3 (Montage: siehe Rückseite, Abbildung 3)
②	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene aufsetzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Netzkabel ① an Einspeisemodul stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Leitungen mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Bemessungsspannung 1-phasig (83.020.0601.0) 3-phasig (83.020.0600.0)	 230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3) 230 V / 400 VAC, -15 % / +10 %, 50/60 Hz (GST18i5)
Bemessungsstrom	16 A je Phase
Empfohlene Absicherung	1/3-poliger Leitungsschutzschalter B16A
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, feste Installation, Aufputz, auf ebene Fläche, Tragschiene TH35-7,5, Montagerahmen
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten Brandlast Abmessungen (B, H, L)	UL94 V-2 ca. 2 kWh 95 mm, 149 mm, 44 mm
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0610.0
http://eshop.wieland-electric.com/product/83.020.0611.0

EN

⚠ DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 3-phase or 1-phase power supply module in the flat AP housing, which can be fitted on DIN rails for decentralised installation, allows a mains supply separate from the base module within a modular system construction. This means that the output loads can be split over different fuse circuits. It can be integrated in the system as often as required. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.

Operating and functional elements (see back page, figure 1)

①	Mains input	• Module 83.020.0610.0: plug GST18i5 • Module 83.020.0611.0: plug GST18i3 (installation: see back page, figure 3)
②	Resting foot	Locking mechanism for installing on carrier rail/mounting frame

Installation (see back page, figure 2)

Step 1: Plugging in modules

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place additional modules in the desired sequence on the right of the base module and latch them into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: Optional: Fastening on DIN rail or mounting frame

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules on the DIN rail.
2.3 Press the resting foot on every module downwards with a screwdriver.
The modules are now fastened on the DIN rail.

Step 3: Plugging in cables and securing them

3.1 Plug in mains cable ① to power supply module.
3.2 Plug in the cables to all further modules (see installation instructions)
Important: Ensure that all plug-in connections are securely seated.
3.3 In the case of a mounting frame: Fasten the cables with cable ties to the mounting frame.

Technical data

Mains connection	
Rated voltage 1-phase (83.020.0601.0) 3-phase (83.020.0600.0)	 230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3) 230 V / 400 VAC, -15 % / +10 %, 50/60 Hz (GST18i5)
Rated current	16 A each phase
Recommended fuse protection	1/3-phase circuit breaker B16A
Ambient conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation, surface-mounted, on level surface, DIN rail TH35-7.5, mounting frame
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire Fire load Dimensions (W, H, L)	UL94 V-2 approx. 2 kWh 95 mm, 149 mm, 44 mm
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Overvoltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0610.0
http://eshop.wieland-electric.com/product/83.020.0611.0

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-MS

AC-Einspeisemodul / AC power supply module

3-phasig / 3-phase	83.020.0610.0
1-phasig (SP) / 1-phase (SP)	83.020.0611.0

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Email: info@wieland-electric.com

Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements



Abbildung 2: Montage
Figure 2: Installation

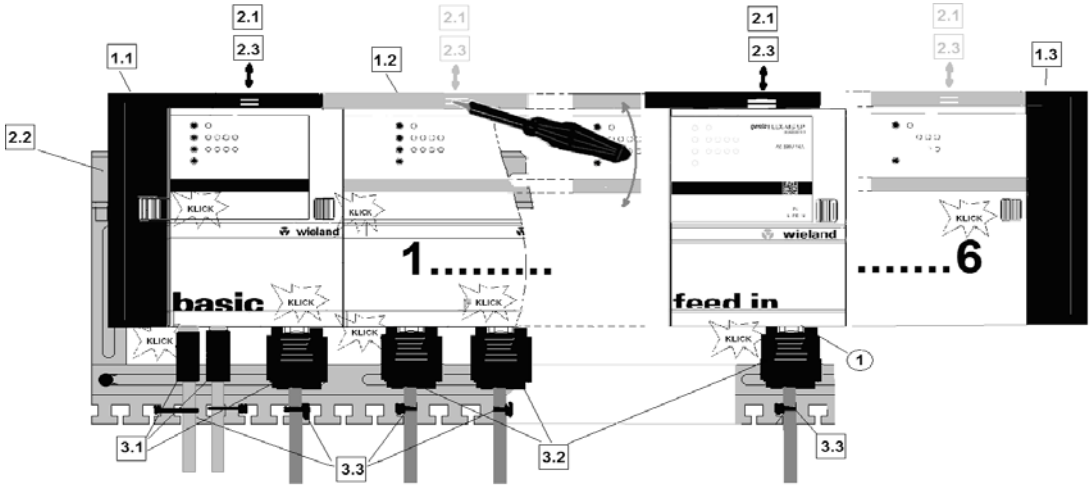
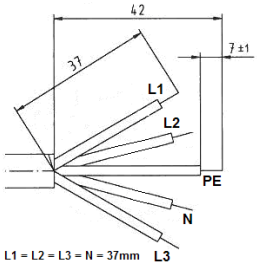
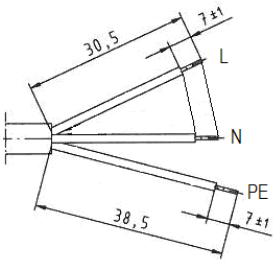


Abbildung 3: Montage Netzanschluss
Figure 3: Installation of the mains connection

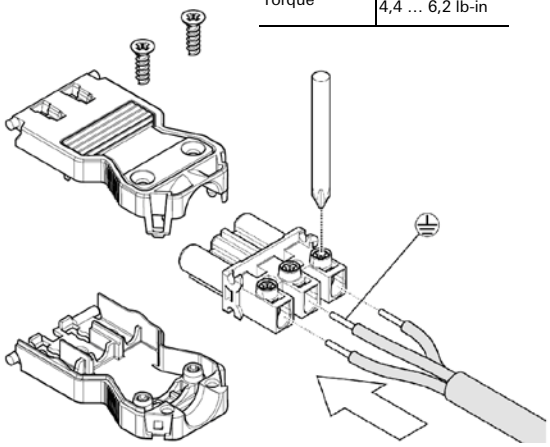
GST18i5 (92.953.4053.1)



GST18i3 (92.931.3053.1)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-MS

Module d'alimentation CA / Modulo di alimentazione AC

triphasé / trifase	83.020.0610.0
monophasé / monofase (SP)	83.020.0611.0

Wieland Electric GmbH
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Internet: www.wieland-electric.com
Email: info@wieland-electric.com

wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

Le module d'alimentation triphasé ou monophasé dans le boîtier plat en saillie pour le montage décentralisé sur rail porteur, permet une alimentation séparée du module de base à l'intérieur de la structure de système modulaire. Les charges initiales peuvent ainsi être réparties sur différents circuits de sécurité. Il peut être intégré dans le système autant de fois que souhaité. Les raccords électriques enfichables selon CEI 61535 séparent l'automatisation et l'installation.

Éléments de commande et de fonction (voir verso, figure 1)

①	Entrée de réseau	• Module 83.020.0610.0 : connecteur GST18i5 • Module 83.020.0611.0 : connecteur GST18i3 (Montage : voir verso, figure 3)
②	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage

Montage (voir verso, figure 2)

Étape 1 : **raccordement du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **option de fixation sur rail porteur ou cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pour le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module. Les modules sont fixés sur le rail porteur.

Étape 3 : **raccorder et sécuriser le câble**

3.1 Raccorder le câble de réseau ① au module d'alimentation.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage). **Important :** s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension nominale monophasée (83.020.0601.0) triphasée (83.020.0600.0)	230 VCA, -15 % / +10 %, 50/60 Hz (GST18i3) 230 V / 400 VCA, -15 % / +10 %, 50/60 Hz (GST18i5)
Intensité nominale	16 A par phase
Fusible recommandé	Disjoncteur 1/3 pôles B16A
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol et au mur ; installation fixe, en saillie, sur une surface plane, rail porteur TH35-7,5, cadre de montage
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2 kWh 95 mm, 149 mm, 44 mm
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via QR ou :
  http://eshop.wieland-electric.com/product/83.020.0610.0
  http://eshop.wieland-electric.com/product/83.020.0611.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

Il modulo di alimentazione trifase o monofase in custodia piatta da parete su guida di supporto per installazione decentrata consente un'alimentazione di rete separata dal modulo base all'interno della struttura modulare del sistema. Ciò consente di ripartire i carichi in uscita su diversi circuiti di sicurezza. All'occorrenza, l'apparecchio può essere integrato nel sistema. I collegamenti elettrici a innesto a norma IEC 61535 separano automazione e installazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Ingresso rete	• Modulo 83.020.0610.0: connettore GST18i5 • Modulo 83.020.0611.0: connettore GST18i3 (montaggio: vedere dietro, figura 3)
②	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto/telaio di montaggio

Montaggio (vedere a tergo, figura 2)

Passo 1: **inserimento dei moduli**

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2: opzionale**: fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite. I moduli sono ora fissati alla guida di supporto.

Punto 3: **inserimento e fissaggio dei cavi**

3.1 Inserire il cavo di rete ① nel modulo di alimentazione.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio). **Importante:** assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Tensione nominale monofase (83.020.0601.0) trifase (83.020.0600.0)	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3) 230 V / 400 VAC, -15 % / +10 %, 50/60 Hz (GST18i5)
Corrente nominale	16 A per fase
Protezione consigliata	Interruttore magnetotermico 1/3 fase B16A
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5 °C ... +45 °C
Temperatura di stoccaggio	-25 °C ... +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa, a vista, su superficie piana, guida di supporto TH35-7,5, telaio di montaggio
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2 kWh 95 mm, 149 mm, 44 mm
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
  http://eshop.wieland-electric.com/product/83.020.0610.0
  http://eshop.wieland-electric.com/product/83.020.0611.0

Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-MS

Module d'alimentation CA / Modulo di alimentazione AC

triphasé / trifase 83.020.0610.0
monophasé / monofase (SP) 83.020.0611.0

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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali



Figure 2: Montage
Figura 2: Montaggio

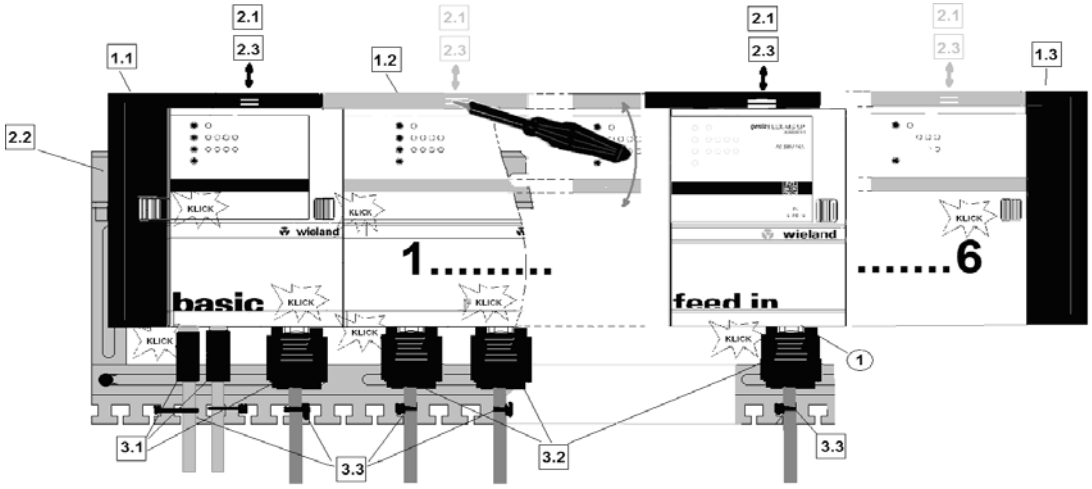
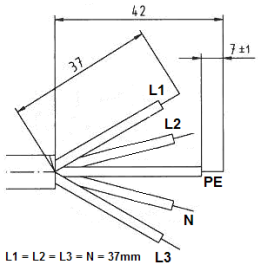
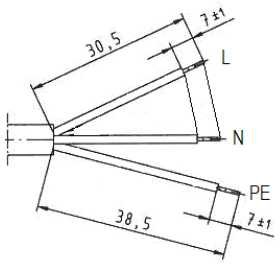


Figure 3: Montage raccordement secteur
Figura 3: Montaggio collegamento di rete

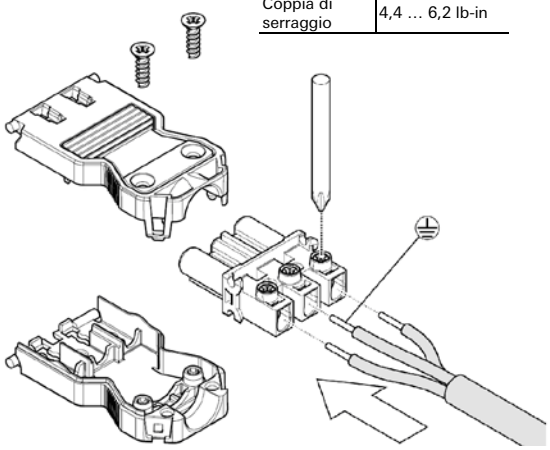
GST18i5 (92.953.4053.1)



GST18i3 (92.931.3053.1)



Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.3 *gesis* FLEX-8/0 (12) 8x binary input

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX - 8/0 (12)

8-fach Binäreingang (83.020.0622.0)
8-fold binary input (83.020.0622.0)

Wieland Electric GmbH
Brennerstraße 10-14
96052 Bamberg
Tel.: +49 (951) 9324-0
Fax: +49 (951) 9324-198
Internet: www.wieland-electric.com
Email: info@wieland-electric.com

wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der Binäreingang 8-fach 12 VDC (SELV) zum Anschluss potentialfreier Kontakte, im flachen, tragschienenmontierbaren AP-Gehäuse zum dezentralen Einbau, wird vom Basismodul verwaltet. Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die Handbedienebene erlaubt Funktionstests ohne vorherige Systemintegration. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'Select'	Wählt einen Eingang. Der gewählte Eingang beginnt zu blinken. Der Eingang ist aktiv, sobald die dazugehörige LED ③ statisch leuchtet.
②	Taster 'On/Off'	• Vor Parametrierung: Wechselt die Eingangsinformation des gewählten Eingangs zwischen 0 und 1. • Nach Parametrierung: Führt die für 0 bzw. 1 hinterlegte Funktion aus.
③	LED Eingang 1 - 8	Signalisiert für jeden Eingang den aktuellen Status. • 'Aktiv': LED leuchtet (nicht selektiert) oder blitzt lang auf (selektiert). • 'Inaktiv': LED aus (nicht selektiert) oder blitzt kurz auf (selektiert).
④	LED 'Status'	Signalisiert den Systemstatus des Moduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung
⑤	Eingang 1 - 4	Stecker GST15i5 (Montage: Abbildung 3) Steckerbelegung: • PIN 5: DC 12 V Ausgang (Schaltspannung) • PIN 4: Eingang 1 / PIN 3: Eingang 2 PIN 2: Eingang 3 / PIN 1: Eingang 4
⑥	Eingang 5 - 8	Stecker GST15i5 (Montage: Abbbildung 3) Steckerbelegung: • PIN 5: DC 12 V Ausgang (Schaltspannung) • PIN 4: Eingang 5 / PIN 3: Eingang 6 PIN 2: Eingang 7 / PIN 1: Eingang 8
⑦	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene aufsetzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Stecker ⑤ und ⑥ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Leitungen mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Netzversorgung AC	Über internen Versorgungsbus
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz
Signalspannung Eingang	12 V SELV (wird vom Modul zur Verfügung gestellt)
Einschaltdauer	100%
Leitungslänge am Eingang	max. 100m
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5°C bis +45°C
Lagertemperatur	-25°C bis +75°C
Montageart	Decken-, Boden-, Wandmontage, feste Installation, Aufputz, auf ebene Fläche, Tragschiene TH35-7,5, Montagerahmen
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2 kWh
Abmessungen (B, H, L)	95*)mm, 149 mm, 44 mm *)105 mm mit Endkappe
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0622.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 8-fold binary input 12 VDC, for connecting potential-free contacts, in a flat AP housing whichh can be fitted on DIN rail for decentralised installation, is managed by the base module. It receives mains and bus supply from the upstream module. The parameter set enables different automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.
Note: Function tests directly after installation are possible on the devices with the manual operation level and without programming.

Operating and functional elements (see back page, figure 1)

①	'Select' button	Selects an input. The selected input begins to flash. The input is active, as soon as the associated LED ③ lights up permanently.
②	'On/Off' button	• Before parametrisation: Changes the input information of the selected input between 0 and 1. • After parametrisation: Performs the function which is stored for 0 or 1.
③	LED for inputs 1 - 8	Signals the current status for each input. • 'Active': LED lights up (not selected) or flashes with long flashes (selected). • 'Inactive': LED off (not selected) or flashes with short flashes (selected).
④	LED for 'Status'	Signals the system status of the module. • Green: Module ready to function (no fault). • Red: Fault message
⑤	Inputs 1 - 4	Plug GST15i5 (installation: figure 3) Pin allocation: • PIN 5: DC 12 V output (switching voltage) • PIN 4: Input 1 / PIN 3: Input 2 PIN 2: Input 3 / PIN 1: Input 4
⑥	Inputs 5 - 8	Plug GST15i5 (installation: figure 3) Pin allocation: • PIN 5: DC 12 V output (switching voltage) • PIN 4: Input 5 / PIN 3: Input 6 PIN 2: Input 7 / PIN 1: Input 8
⑦	Resting foot	Locking mechanism for installing on DIN rail/mounting frame

Installation (see back page, figure 2)

Step 1: Plugging in modules

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place additional modules in the desired sequence on the right of the base module and latch them into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: Optional: Fastening on DIN rail or mounting frame

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules on the DIN rail.
2.3 Press the resting foot on every module downwards with a screwdriver.
The modules are now fastened on the DIN rail.

Step 3: Plugging in cables and securing them

3.1 Plug in plugs ⑤ and ⑥ to the module.
3.2 Plug in cables to all further modules (see installation instructions).
Important: Ensure that all plug-in connections are securely seated.
3.3 In the case of a mounting frame: Fasten lines with cable ties to the mounting frame.

Technical data

Mains connection	
Mains supply AC	Via internal supply bus
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz
Signal voltage of input	12 V SELV (is provided by the module)
Duty cycle	100%
Line length at the input	max. 100 metres
Ambient conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation, surface-mounted, on level surface, DIN rail TH35-7.5, mounting frame
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2 kWh
Dimensions (W, H, L)	95*) mm, 149 mm, 44 mm *) 105 mm with end cap
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Overvoltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0622.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

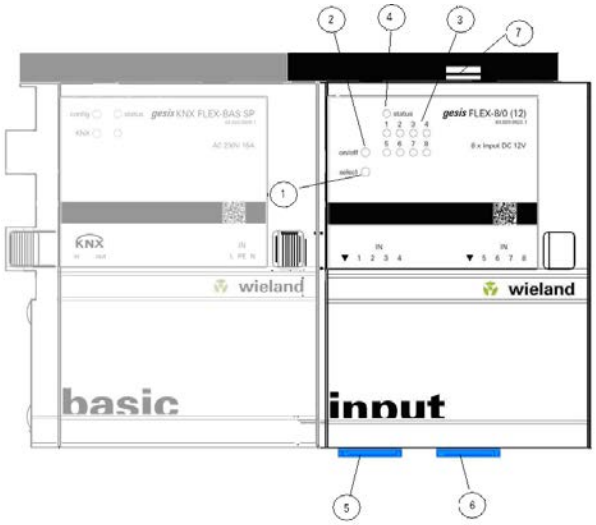


Abbildung 2: Montage
Figure 2: Installation

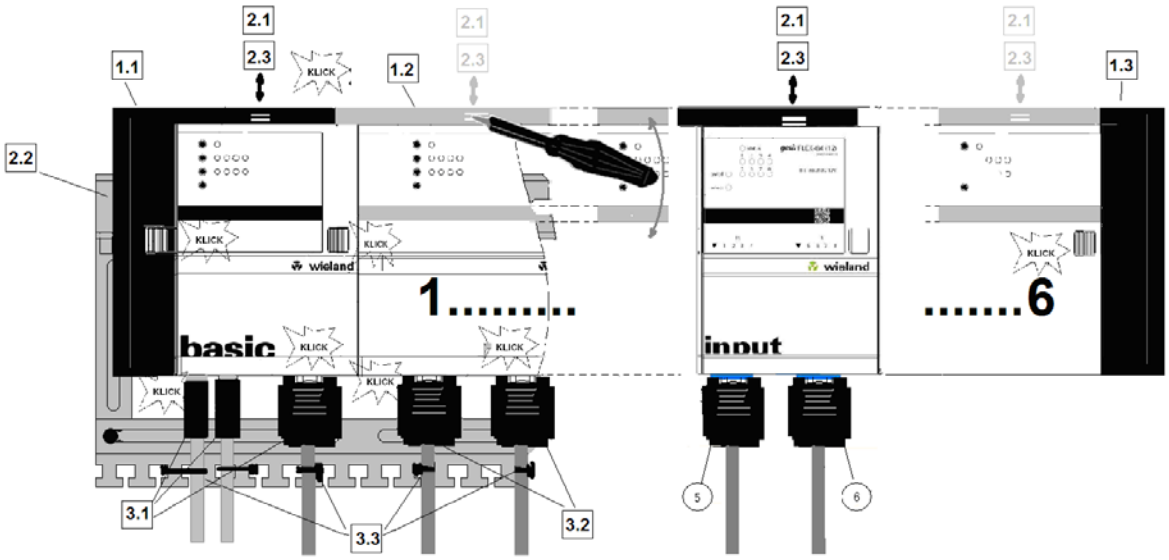
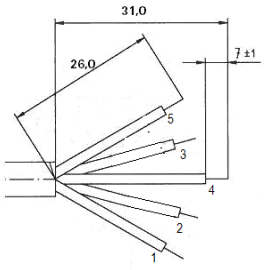
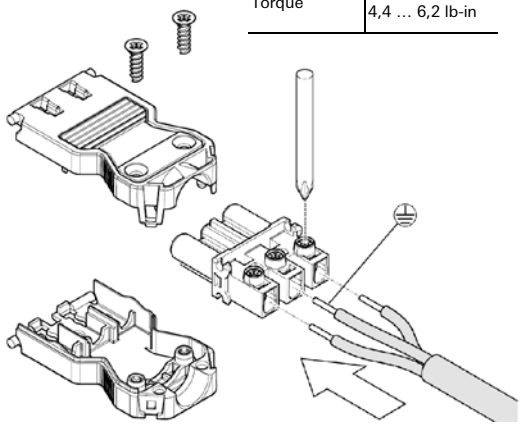


Abbildung 3: Montage Stecker
Figure 3: Installation of the plugs

GST15i5 (91.952.3353.0)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX - 8/0 (12)

Entrée binaire 8 postes (83.020.0622.0)
Ingresso binario a 8 canali (83.020.0622.0)

Wieland Electric GmbH
Brennerstraße 10-14
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wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

L'entrée binaire 8 postes 12 VDC (TBTS) pour racc. des contacts sans potentiel, dans le boîtier plat en saillie pour montage décentr. sur rail, est gérée par le module de base. L'alim. réseau et bus de cette entrée est assurée par le module monté en amont. Le bloc de param. compl. permet diff. fct d'autom. Le niveau de cde man. permet d'effectuer des tests de fonct. sans intégr. préalable au système. Les raccords élec. enfichables selon CEI 61535 séparent l'automatisation et l'installation.
Remarque : la réalisation des tests de fonctionnement directement après le montage selon les conditions du site sur les appareils est possible sans programmation.

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'Select'	Sélectionner l'entrée. L'entrée sélectionnée commence à clignoter. L'entrée est activée dès que la LED correspondante ③ s'allume et reste statique.
②	Bouton 'On/Off'	• Avant le paramétrage : Commute l'information d'entrée de l'entrée sélectionnée en 0 et 1. • Après le paramétrage : Exécute la fonction programmée pour 0 ou 1.
③	LED Entrée 1 - 8	Signale l'état actuel pour chaque entrée. • 'Actif' : la LED s'allume (non sélectionnée) ou flashe longuement (sélectionnée). • 'Inactif' : la LED s'éteint (non sélectionnée) ou flashe brièvement (sélectionné).
④	LED 'Status'	Signale l'état du système du module. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : message d'erreur
⑤	Entrées 1 - 4	Connecteur GST15i5 (Montage : figure 3) Affectation des connecteurs : • BROCHE 5 : sortie DC 12 V (tension de commutation) • BROCHE 4 : entrée 1 / BROCHE 3 : entrée 2 BROCHE 2 : entrée 3 / BROCHE 1 : entrée 4
⑥	Entrées 5 - 8	Connecteur GST15i5 (Montage : figure 3) Affectation des connecteurs : • BROCHE 5 : sortie DC 12 V (tension de commutation) • BROCHE 4 : entrée 5 / BROCHE 3 : entrée 6 BROCHE 2 : entrée 7 / BROCHE 1 : entrée 8
⑦	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage

Montage (voir verso, figure 2)

Étape 1 : **raccordement du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **option de fixation sur rail porteur ou cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pour le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module.
Les modules sont fixés sur le rail porteur.

Étape 3 : **raccorder et sécuriser le câble**

3.1 Enficher les connecteurs ⑤ et ⑥ sur le module.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage).
Important : s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension secteur CA	Via le bus d'alimentation interne
Tension nominale	230 VCA, -15 % / +10 %, 50/60 Hz
Tension de signal - Entrée	12 V TBTS (mis à disposition par le module)
Durée d'enclenchement	100%
Longueur de câble à l'entrée	max. 100 m
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol et au mur ; installation fixe, en saillie, sur une surface plane, rail porteur TH35-7,5, cadre de montage
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu	UL94 V-2
Charge d'incendie	env. 2 kWh
Dimensions (l, H, L)	95*)mm, 149 mm, 44 mm *)105 mm avec capuchon d'extrémité
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou :
http://eshop.wieland-electric.com/product/83.020.0622.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'ingresso binario a 8 canali 12 VDC (SELV) per contatti a potenziale zero, in custodia piatta da parete su guida per installazione decentrata è gestito dal modulo base. L'alimentazione di rete e bus proviene dal modulo a monte. L'ampia gamma di parametri impostabili consente di realizzare diverse funzioni di automazione. Il comando manuale permette di testare le funzioni senza dover integrare il sistema. I collegamenti elettrici a innesto a norma IEC 61535 separano automazione e installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi, senza alcuna programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'Seleziona'	Consente di selezionare un ingresso. L'ingresso selezionato inizia a lampeggiare. L'ingresso è attivo non appena il rispettivo LED ③ si accende fisso.
②	Tasto 'On/Off'	• Prima della parametrizzazione: serve per commutare le informazioni in ingresso dell'ingresso selezionato tra 0 e 1. • Dopo la parametrizzazione: esegue la funzione abbinata a 0 o 1.
③	LED Ingresso 1 - 8	Segnala lo stato corrente di ogni ingresso. • 'Attiva': LED acceso (non selezionato) oppure emette lampeggi lunghi (selezionato). • 'Inattiva': LED spento (non selezionato) oppure emette lampeggi brevi(selezionato).
④	LED 'Stato'	Segnala lo stato del sistema del modulo. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: segnalazione di errore
⑤	Ingresso 1 - 4	Connettore GST15i5 (montaggio: figura 3) Piedinatura: • PIN 5: uscita DC 12 V (tensione di commutazione) • PIN 4: ingresso 1 / PIN 3: ingresso 2 PIN 2: ingresso 3 / PIN 1: ingresso 4
⑥	Ingresso 5 - 8	Connettore GST15i5 (montaggio: figura 3) Piedinatura: • PIN 5: uscita DC 12 V (tensione di commutazione) • PIN 4: ingresso 5 / PIN 3: ingresso 6 PIN 2: ingresso 7 / PIN 1: ingresso 8
⑦	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto/telaio di montaggio

Montaggio (vedere a tergo, figura 2)

Passo 1: **inserimento dei moduli**

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2: opzionale: **fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite.
I moduli sono ora fissati alla guida di supporto.

Punto 3: **inserimento e fissaggio dei cavi**

3.1 Inserire il connettore ⑤ e ⑥ sul modulo.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio).
Importante: assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Alimentazione di rete AC	Mediante bus di alimentazione interno
Tensione nominale	230 VAC, -15 % / +10 %, 50/60 Hz
Tensione di segnale ingresso	12 V SELV (fornita dal modulo)
Tempo di inserzione	100%
Lunghezza cavo sull'ingresso	max. 100 m
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5°C ... +45°C
Temperatura di stoccaggio	-25°C ... +75°C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa, a vista, su superficie piana, guida di supporto TH35-7,5, telaio di montaggio
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco	UL94 V-2
Carico comburente	ca. 2 kWh
Dimensioni (LxHxL)	95*)mm, 149 mm, 44 mm *)105 mm con cappuccio terminale
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
http://eshop.wieland-electric.com/product/83.020.0622.0

Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX - 8/0 (12)

Entrée binaire 8 postes (83.020.0622.0)
Ingresso binario a 8 canali (83.020.0622.0)

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Email: info@wieland-electric.com

Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

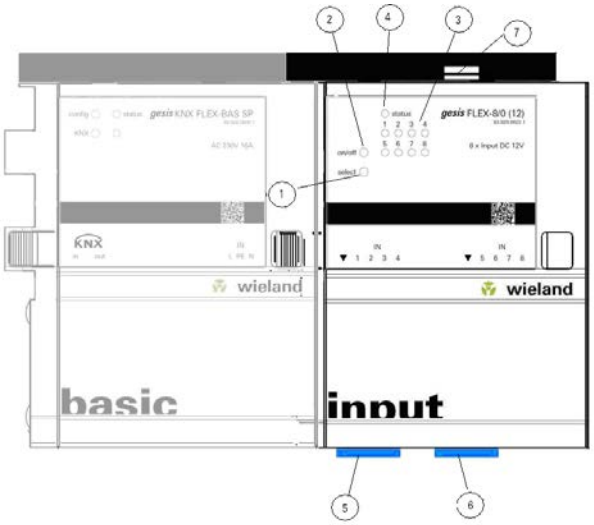


Figure 2: Montage
Figura 2: Montaggio

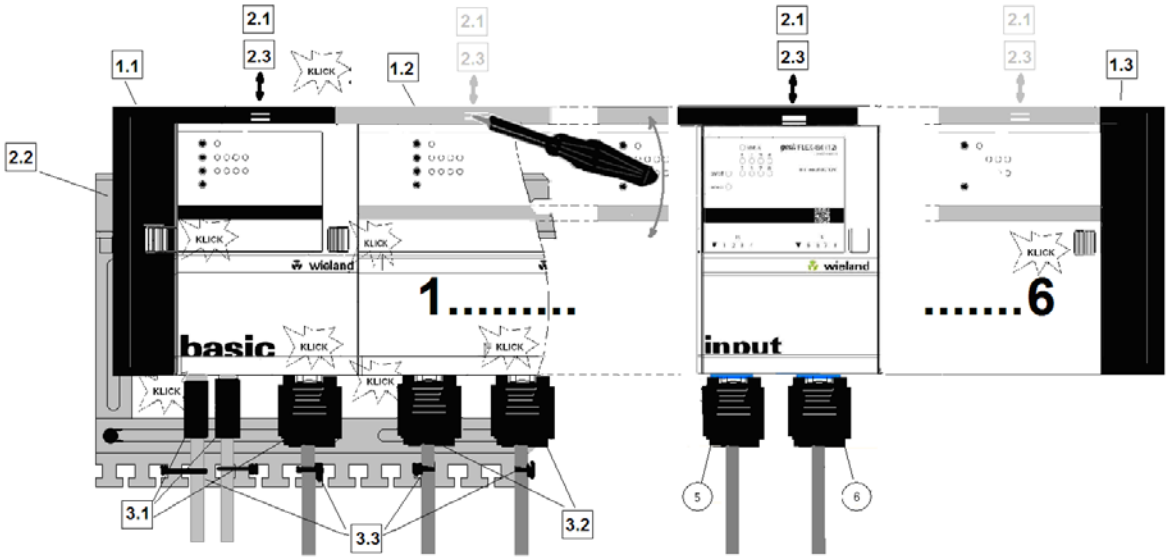
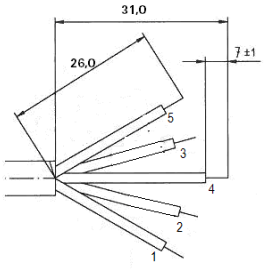
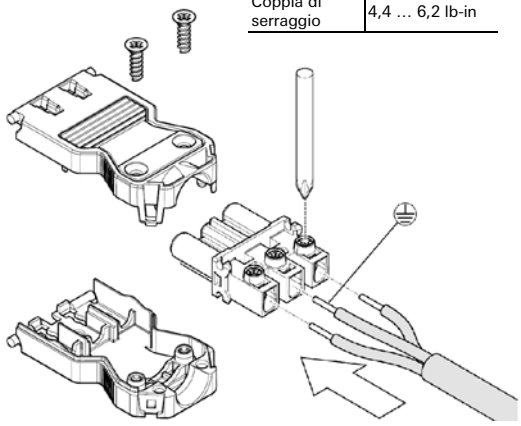


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST15i5 (91.952.3353.0)



Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.4 *gesis* FLEX-0/4 standard 4x relay switching outputs

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX - 0/4

4-fach Schaltausgang (83.020.0623.0)
4-fold switching output (83.020.0623.0)

Wieland Electric GmbH
Brennerstraße 10-14
96052 Bamberg
Tel.: +49 (951) 9324-0
Fax: +49 (951) 9324-198
Internet: www.wieland-electric.com
Email: info@wieland-electric.com

wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der Relaisausgang 4-fach 230 V/16 A im flachen, tragschienenmontierbaren AP-Gehäuse zum dezentralen Einbau wird vom Basismodul verwaltet. Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die Handbedienebene erlaubt Funktionstests ohne vorherige Systemintegration. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'Select'	Wählt einen Ausgang. Der gewählte Ausgang beginnt zu blinken.
②	Taster 'On/Off'	• Vor Parametrierung: Wechselt die Ausgangsinformation des gewählten Ausgangs zwischen 0 und 1. • Nach Parametrierung: Führt die für 0 bzw. 1 hinterlegte Funktion aus.
③	LED 'Ausgang Status'	Signalisiert für jeden Ausgang den aktuellen Status. • 'Aktiv': LED leuchtet (nicht selektiert) oder blitzt lang auf (selektiert). • 'Inaktiv': LED aus (nicht selektiert) oder blitzt kurz auf (selektiert).
④	LED 'Status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung
⑤	Anschlüsse Ausgang 1 - 4	• Stecker GST18i3 (Montage: siehe Rückseite, Abbildung 3)
⑥	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene setzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑤ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3)
Bemessungsstrom max.	16 A je Ausgang und Phase (ohmsche Last)
Empfohlene Absicherung	1/3-poliger Leitungsschutzschalter B16A
Spitzeneinschaltstrom	200 A max. 50 ms (C-Last)
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,5 kWh
Abmessungen (B, H, L)	130*)mm, 149 mm, 44 mm *)140 mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0623.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 4-fold relay output 230 V/16 A in the flat AP housing, which can be fitted on DIN rails for decentralised installation, is managed by the base module. It receives its mains supply and bus supply from the upstream module. The extensive parameter set enables different automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.
Note: Function tests directly after installation are possible on the devices with on-site operation and without programming

Operating and functional elements (see back page, figure 1)

①	'Select' button	Selects an output. The selected output begins to flash.
②	'On/Off' button	• Before parametrisation: Changes the output information of the selected output between 0 and 1. • After parametrisation: Performs the function which is stored for 0 or 1.
③	LED for 'Output status'	Signals the current status for each output. • 'Active': LED lights up (not selected) or flashes with long flashes (selected). • 'Inactive': LED off (not selected) or flashes with short flashes (selected).
④	LED for 'Status'	Signals the operating status of the extension module. • Green: Module ready to function (no fault). • Red: Fault message
⑤	Output connections 1 - 4	• Plug GST18i3 (installation: see back page, figure 3)
⑥	Resting foot	Locking mechanism for installing on DIN rail/mounting frame

Installation (see back page, figure 2)

Step 1: **Plugging in modules**

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place additional modules in the desired sequence on the right of the base module and latch them into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on DIN rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules on the DIN rail.
2.3 Press the resting foot on every module downwards with a screwdriver.
The modules are now fastened on the DIN rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in cable 5 to the module.
3.2 Plug in cables to all further modules (see installation instructions).
Important: Ensure that all plug-in connections are securely seated.
3.3 In the case of a mounting frame: Fasten cables with cable ties to the mounting frame.

Technical data

Mains connection	
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3)
Rated current max.	16 A each output and phase (ohmic load)
Recommended fuse protection	1/3-pin circuit breaker B16A
Peak inrush current	200 A max. 50 ms (C load)
Ambient conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation on level mounting surface, surface-mounted, DIN rail TH35-7.5
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2.5 kWh
Dimensions (W, H, L)	130*) mm, 149 mm, 44 mm *)140 mm with left end cap
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Overvoltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0623.0

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX - 0/4

4-fach Schaltausgang (83.020.0623.0)
4-fold switching output (83.020.0623.0)

Wieland Electric GmbH
Brennerstraße 10-14
96052 Bamberg
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Fax: +49 (951) 9324-198
Internet: www.wieland-electric.com
Email: info@wieland-electric.com

Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

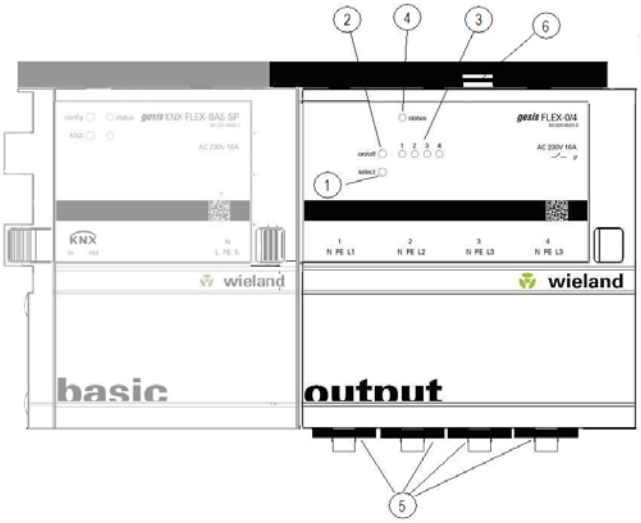


Abbildung 2: Montage
Figure 2: Installation

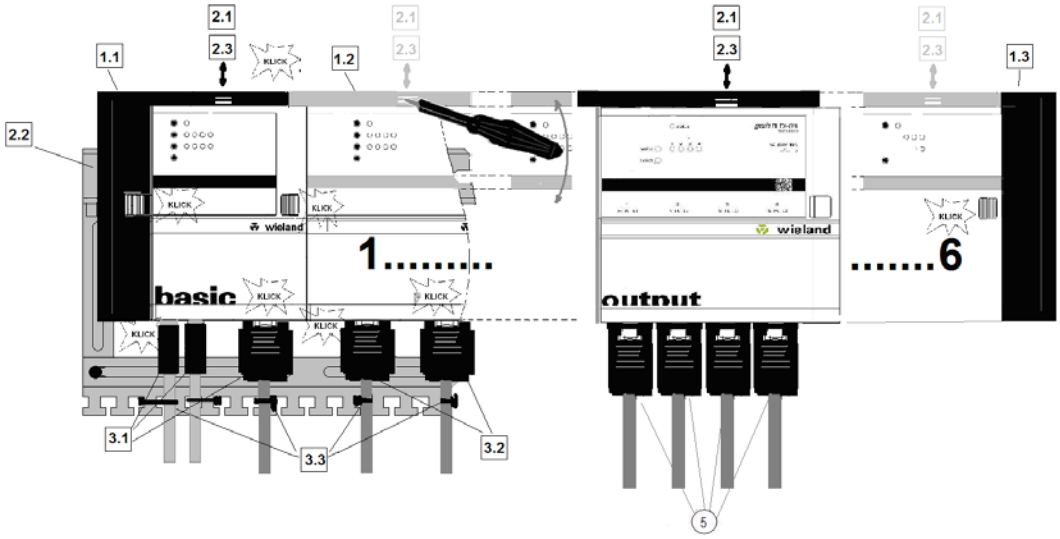
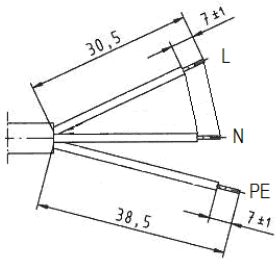
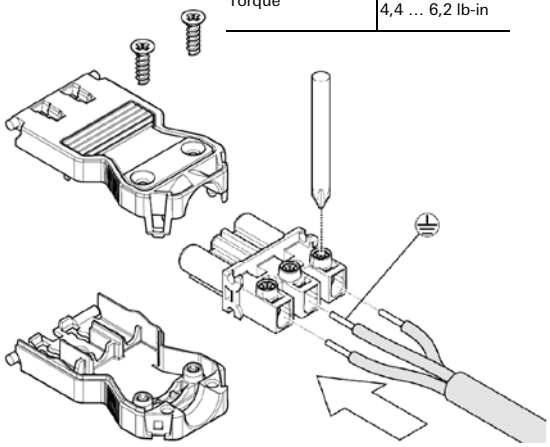


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST18i3 (92.932.3053.1)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX - 0/4

Sortie de commutation 4 postes (83.020.0623.0)
Uscita di commutazione a 4 canali (83.020.0623.0)

Wieland Electric GmbH
Brennerstraße 10-14
96052 Bamberg
Tel.: +49 (951) 9324-0
Fax: +49 (951) 9324-198
Internet: www.wieland-electric.com
Email: info@wieland-electric.com

wieland

FR

⚠ DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

La sortie de relais 4 postes 230 V/16 A dans le boîtier plat en saillie pour le montage décentr. sur rail, est gérée par le module de base. L'alim. réseau et bus de cette entrée est assurée par le module monté en amont. Le bloc de param. compl. permet diff. fonctions d'automatisation. Le niveau de cde manuelle permet d'effectuer des tests de fonct. sans intégration préalable au système. Les raccords électriques enfichables selon CEI 61535 séparent l'automatisation et l'installation.
Remarque : la réalisation des tests de fonctionnement directement après le montage selon les conditions du site sur les appareils est possible sans programmation.

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'Select'	Sélectionne la sortie. La sortie sélectionnée commence à clignoter.
②	Bouton 'On/Off'	• Avant le paramétrage : Commute l'information de sortie de la sortie sélectionnée en 0 et 1. • Après le paramétrage : Exécute la fonction programmée pour 0 ou 1.
③	LED 'État de la sortie'	Signale l'état actuel pour chaque sortie. • 'Actif' : la LED s'allume (non sélectionnée) ou flashe longuement (sélectionnée). • 'Inactif' : la LED s'éteint (non sélectionnée) ou flashe brièvement (sélectionné).
④	LED 'État'	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : message d'erreur
⑤	Raccordements des sorties 1 - 4	• Connecteur GST18i3 (Montage : voir verso, figure 3)
⑥	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage

Montage (voir verso, figure 2)

Étape 1 : **raccordement du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **option de fixation sur rail porteur ou cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pour le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module. Les modules sont fixés sur le rail porteur.

Étape 3 : **raccorder et sécuriser le câble**

3.1 Raccorder le câble ⑤ au module.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage). **Important :** s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension nominale	230 VCA, -15 % / +10 %, 50/60 Hz (GST18i3)
Intensité nominale max.	16 A par sortie et phase (sans charge ohmique)
Fusible recommandé	Disjoncteur 1/3 pôles B16A
Courant d'enclenchement de pointe	200 A max. 50 ms (charge C)
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol, au mur, sur surface de montage plane ; installation fixe, en saillie, rail porteur TH35-7,5
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu	UL94 V-2
Charge d'incendie	env. 2,5 kWh
Dimensions (l, H, L)	130*)mm, 149 mm, 44 mm *)140 mm avec capuchon d'extrémité
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou : http://eshop.wieland-electric.com/product/83.020.0623.0

IT

⚠ PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita relè a 4 canali 230 V/16 A in custodia piatta da parete su guida di supporto per installazione decentrata è gestita dal modulo base. L'alimentazione di rete e bus proviene dal modulo inserito a monte. L'ampia gamma di parametri impostabili consente di realizzare diverse funzioni di automazione. Il comando manuale permette di testare le funzioni senza dover integrare il sistema. I collegamenti elettrici a innesto a norma IEC 61535 separano automazione e installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi, senza alcuna programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'Seleziona'	Consente di selezionare un'uscita. L'uscita selezionata inizia a lampeggiare.
②	Tasto 'On/Off'	• Prima della parametrizzazione: serve per commutare le informazioni di uscita dell'uscita selezionata tra 0 e 1. • Dopo la parametrizzazione: esegue la funzione abbinata a 0 o 1.
③	LED 'Stato uscita'	Segnala lo stato corrente di ogni uscita. • 'Attiva': LED acceso (non selezionato) oppure emette lampeggi lunghi (selezionato). • 'Inattiva': LED spento (non selezionato) oppure emette lampeggi brevi (selezionato).
④	LED 'Stato'	Segnala le condizioni di esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: segnalazione di errore
⑤	Collegamenti uscita 1 - 4	• Connettore GST18i3 (montaggio: vedere dietro, figura 3)
⑥	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto/telaio di montaggio

Montaggio (vedere dietro, figura 2)

Passo 1: **inserimento dei moduli**

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2**: opzionale: fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite. I moduli sono ora fissati alla guida di supporto.

Punto 3: **inserimento e fissaggio dei cavi**

3.1 Inserire il cavo ⑤ sul modulo.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio). **Importante:** assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Tensione nominale	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3)
Corrente nominale max.	16 A per uscita e fase (carico ohmico)
Protezione consigliata	Interruttore magnetotermico 1/3 fase B16A
Corrente di picco all'inserzione	200 A max. 50 ms (carico C)
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5 °C ... +45 °C
Temperatura di stoccaggio	-25 °C ... +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa su superficie piana, a vista, su guida di supporto TH35-7,5
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco	UL94 V-2
Carico comburente	ca. 2,5 kWh
Dimensioni (LxHxL)	130*)mm, 149 mm, 44 mm *)140 mm con cappuccio terminale
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o: http://eshop.wieland-electric.com/product/83.020.0623.0

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Email: info@wieland-electric.com

Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

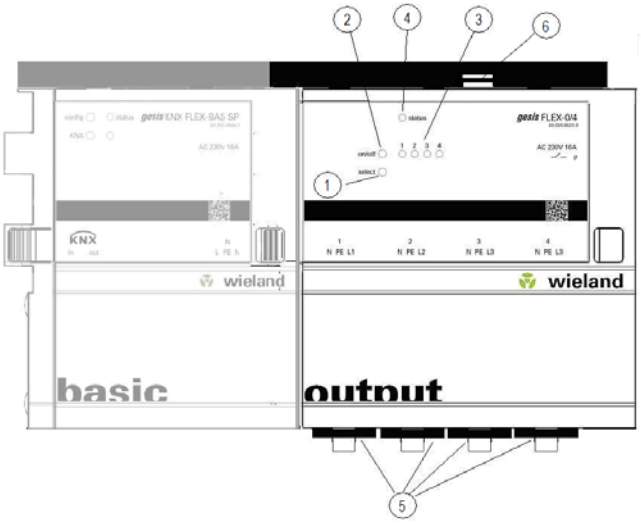


Figure 2: Montage
Figura 2: Montaggio

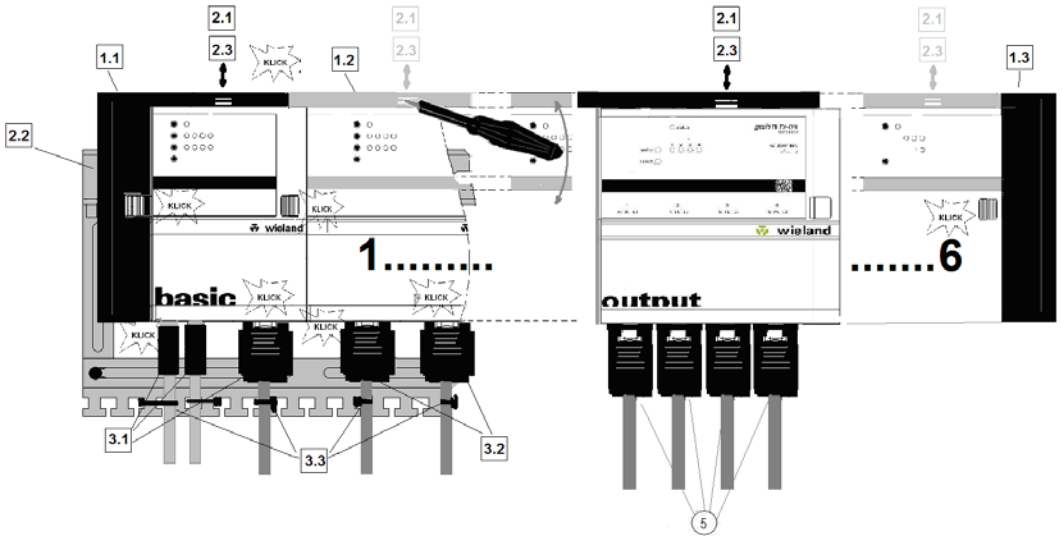
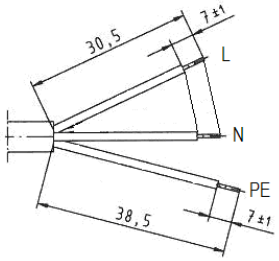
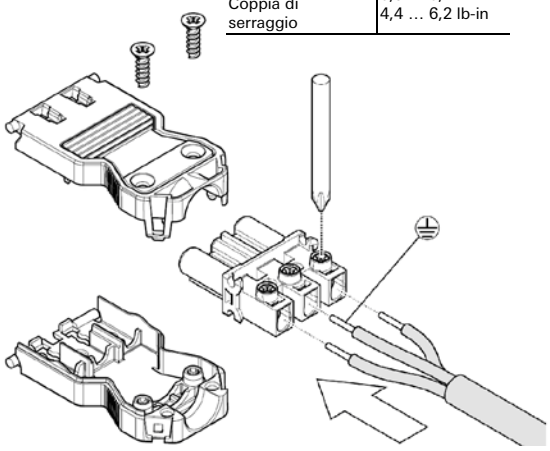


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST18i3 (92.932.3053.1)



Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.5 *gesis* FLEX-0/4P C-Load 4x binary switching output

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/4P

C-Last-Relaisausgang 4-fach (83.020.0626.0)
C-load relay output 4-fold (83.020.0626.0)

Wieland Electric GmbH
Brennerstraße 10-14
96052 Bamberg
Tel.: +49 (951) 9324-0
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Email: info@wieland-electric.com

wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der C-Last-Relaisausgang 4-fach 230 V/16 A *gesis* FLEX-0/4P im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau, wird vom Basismodul verwaltet. Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Wählt einen Ausgang. Der gewählte Ausgang beginnt zu blinken.
②	Taster 'on/off'	• Vor Parametrierung: Wechselt die Ausgangsinformation des gewählten Ausgangs zwischen 0 und 1. • Nach Parametrierung: Führt die für 0 bzw. 1 hinterlegte Funktion aus.
③	LED 1 - 4	Signalisiert für jeden Ausgang den aktuellen Status. • 'Aktiv': LED leuchtet oder leuchtet und erlischt kurz (selektiert). • 'Inaktiv': LED aus oder kurzes blinken (selektiert).
④	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung
⑤	Anschlüsse Ausgang 1 - 4	• Stecker GST18i3 (Montage: siehe Rückseite, Abbildung 3)
⑥	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene setzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑤ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3)
Bemessungsstrom max.	16 A je Außenleiter L1, L2, L3 (ohmsche Last)
Empfohlene Absicherung	1/3-poliger Leitungsschutzschalter B16A
Spitzenschaltstrom, Dauer (EN60669-1)	200 A, 20 ms 320 A, 1,2 ms
Schaltleistung	4000 VA Glühlampen $220A_{Peak}$ 2×10^4 Schaltspiele 140µF 16A cosf 0,9 gemäß EN 60669-1
Mindestlast	2,5 VA
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,5 kWh
Abmessungen (B, H, L)	130* [1]mm, 149 mm, 44 mm *[1]140 mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0626.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 4-fold C-load relay output 230 V/16 A *gesis* FLEX-0/4P in the flat AP housing, which can be fitted on carrier rails for decentralised installation, is administered by the base module. It receives mains and bus supply from the upstream module. The extensive parameter set enables different automation functions. The electrical connections, which are pluggable as per IEC 61535, separate automation and installation.
Note: Function tests directly after installation are possible on the devices with on-site operation and without programming.

Operating and functional elements (see back page, figure 1)

①	'select' button	Selects an output. The selected output begins to flash.
②	'on/off' button	• Before parametrisation: Changes the output information of the selected output between 0 and 1. • After parametrisation: Performs the function which is stored for 0 or 1.
③	LED 1 - 4	Signals the current status for each output. • 'Active': LED lights up lights up and extinguishes briefly (selected). • 'Inactive': LED off or short flashes (selected).
④	LED 'status'	Signals the operating status of the extension module. • Green: Module ready to function (no fault). • Red: Fault message
⑤	Output connections 1 - 4	• Plug GST18i3 (installation: see back page, figure 3)
⑥	Resting foot	Locking mechanism for installing on carrier rail/mounting frame

Installation (see back page, Figure 2)

Step 1: **Plugging in modules**

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place the additional module in the desired order on the right of the base module and latch it into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on carrier rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules onto the carrier rail.
2.3 Press the resting foot on every module downward with a screwdriver.
The modules are now fastened on the carrier rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in cable ⑤ at the module.
3.2 Plug in cables at all other modules (see: installation instructions).
Important: Ensure that all plug-in connections are securely seated.
3.3 For mounting frames:
fix to mounting frame with cable binders.

Technical Data

Mains connection	
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3)
Rated current max.	16 A per outer conductor L1, L2, L3 (ohmic load)
Recommended fuse protection	1/3-pin circuit breaker B16A
Peak switching current, duration (EN60669-1)	200 A, 20 ms 320 A, 1.2 ms
Switching power	4000 VA incandescent bulb $220A_{Peak}$ 2×10^4 switching play 140µF 16A cosf 0.9 according to EN 60669-1
Minimum load	2.5 VA
Environmental conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation on level solid mounting surface, surface-mounted, carrier rail TH35-7.5
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2.5 kWh
Dimensions (W, H, L)	130* [1]mm, 149 mm, 44 mm *[1]140 mm with left end cap
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Over-voltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0626.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

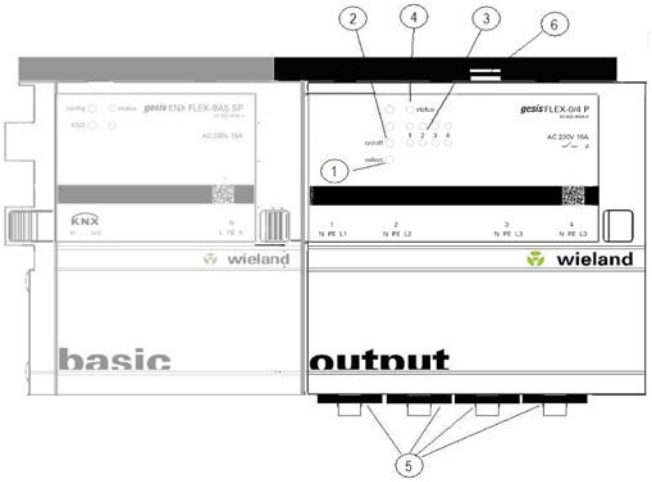


Abbildung 2: Montage
Figure 2: Installation

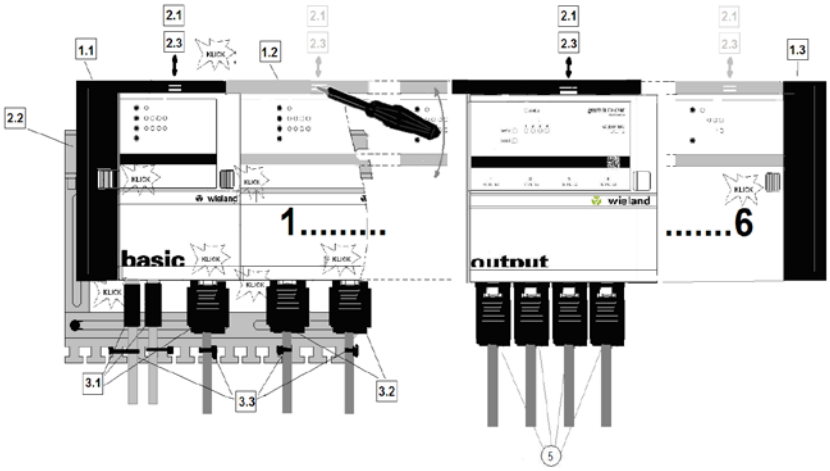
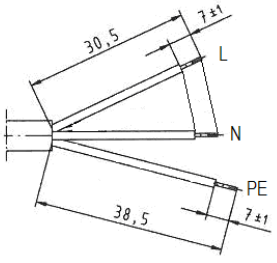
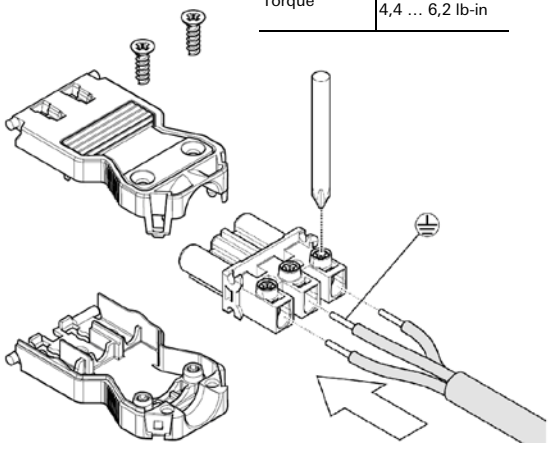


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST18i3 (92.932.3053.1)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/4P

Sortie de commutation 4 postes (83.020.0626.0)
Uscita di commutazione a 4 canali (83.020.0626.0)

Wieland Electric GmbH
Brennerstraße 10-14
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Internet: www.wieland-electric.com
Email: info@wieland-electric.com

wieland

FR

⚠ DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

La sortie de relais à charge C 230 V/16 A *gesis* FLEX-0/4P en boîtier plat en saillie, à monter sur rail porteur pour le montage décentralisé, est géré par le module de base. L'alimentation réseau et bus est transférée du module monté en amont vers le module suivant. Le bloc de paramètres complet permet différentes fonctions d'automatisation. Les raccords électriques enfichables selon CEI 61535 séparent l'automatisation et l'installation.
Remarque: les tests de fonctionnement sont possibles directement après le montage avec la commande sur site des appareils sans nécessiter de programmation.

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'select'	Sélectionne la sortie. La sortie sélectionnée commence à clignoter.
②	Bouton 'on/off'	• Avant le paramétrage : Commute l'information de sortie de la sortie sélectionnée en 0 et 1. • Après le paramétrage : Exécute la fonction programmée pour 0 ou 1.
③	LED 1 - 4	Signale l'état actuel pour chaque sortie. • 'Actif' : la LED est allumée ou est allumée et s'éteint brièvement (sélectionnée). • 'Inactif' : la LED est éteinte ou clignote brièvement (sélectionnée).
④	LED 'status'	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : message d'erreur
⑤	Raccordements des sorties 1 - 4	• Connecteur GST18i3 (Montage : voir verso, figure 3)
⑥	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage

Montage (voir verso, figure 2)

Étape 1 : **Enfichage du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **En option : fixation sur un rail porteur ou un cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pousser le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module. Les modules sont fixés sur le rail porteur.

Étape 3 : **Enfichage du câble et fixation**

3.1 Raccorder le câble ⑤ au module.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage).
Important : s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension nominale	230 VCA, -15 % / +10 %, 50/60 Hz (GST18i3)
Intensité nominale max.	16 A par conducteur extérieur L1, L2, L3 (sans charge ohmique)
Fusible recommandé	Disjoncteur 1/3 pôles B16A
Courant de commutation de pointe, durée (EN60669-1)	200 A, 20 ms 320 A, 1,2 ms
Puissance de commutation	Lampes halogènes 4000 VA 220 A_{Peak} 2 x 10^4 commutations 140µF 16A cosf 0,9 selon EN 60669-1
Charge minimale	2,5 VA
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol, au mur, sur surface de montage plane ; installation fixe, en saillie, rail porteur TH35-7,5
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2,5 kWh 130*)mm, 149 mm, 44 mm *)140 mm avec capuchon d'extrémité gauche
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou : http://eshop.wieland-electric.com/product/83.020.0626.0

IT

⚠ PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici. che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita relè carico C a 4 canali 230 V/16 A *gesis* FLEX-0/4P in custodia da parete piatta su guida di supporto per installazione decentrata è gestita dal modulo base. L'alimentazione di rete e bus proviene dal modulo a monte. L'ampia gamma di parametri impostabili consente di realizzare diverse funzioni di automazione. I collegamenti elettrici a innesto a norma IEC 61535 separano automazione e installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi senza programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'select'	Consente di selezionare un'uscita. L'uscita selezionata inizia a lampeggiare.
②	Tasto 'on/off'	• Prima della parametrizzazione: serve per commutare le informazioni di uscita dell'uscita selezionata tra 0 e 1. • Dopo la parametrizzazione: esegue la funzione abbinata a 0 o 1.
③	LED 1 - 4	Segnala lo stato corrente di ogni uscita. • 'Attiva': LED acceso oppure si accende e spegne rapidamente (selezionato). • 'Inattiva': LED spento oppure emette lampeggi brevi (selezionato).
④	LED 'status'	Segnala le condizioni di esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: segnalazione di errore
⑤	Collegamenti uscita 1 - 4	• Connettore GST18i3 (montaggio: vedere a tergo, figura 3)
⑥	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto/telaio di montaggio

Montaggio (vedere a tergo, figura 2)

Passo 1: inserimento dei moduli

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2: opzionale: fissaggio su guida di supporto o telaio di montaggio

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite. I moduli sono ora fissati alla guida di supporto.

Punto 3: inserimento e fissaggio dei cavi

3.1 Inserire il cavo ⑤ sul modulo.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio).
Importante: assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Tensione nominale	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i3)
Corrente nominale max.	16 A per conduttore di fase L1, L2, L3 (carico ohmico)
Protezione consigliata	Interruttore magnetotermico 1/3 poli B16A
Corrente di manovra di picco, permanente (EN60669-1)	200 A, 20 ms 320 A, 1,2 ms
Potere di apertura	4000 VA Lampade a incandescenza 220A_{Peak} 2 x 10^4 manovre 140µF 16A cosf 0,9 secondo EN 60669-1
Carico minimo	2,5 VA
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5 °C ... +45 °C
Temperatura di stoccaggio	-25 °C ... +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa su superficie piana, a vista, su guida di supporto TH35-7,5
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2,5 kWh 130*)mm, 149 mm, 44 mm *)140 mm con cappuccio terminale a sinistra
Sicurezza elettrica	
Classe di protezione	i
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o: http://eshop.wieland-electric.com/product/83.020.0626.0

Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/4P

Sortie de commutation 4 postes (83.020.0626.0)
Uscita di commutazione a 4 canali (83.020.0626.0)

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96052 Bamberg
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Internet: www.wieland-electric.com
Email: info@wieland-electric.com

Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

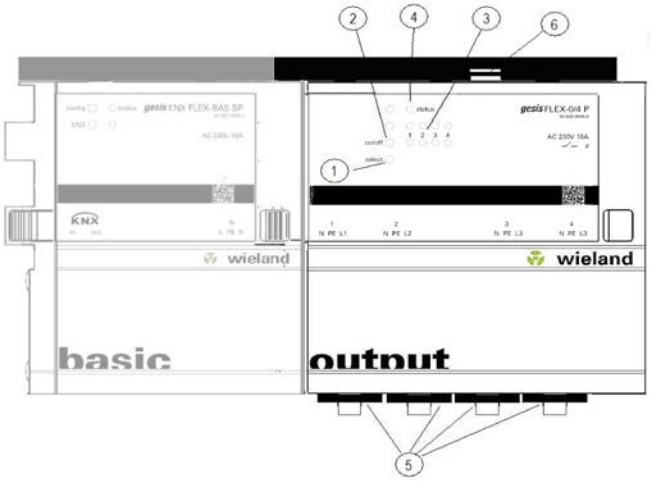


Figure 2: Montage
Figura 2: Montaggio

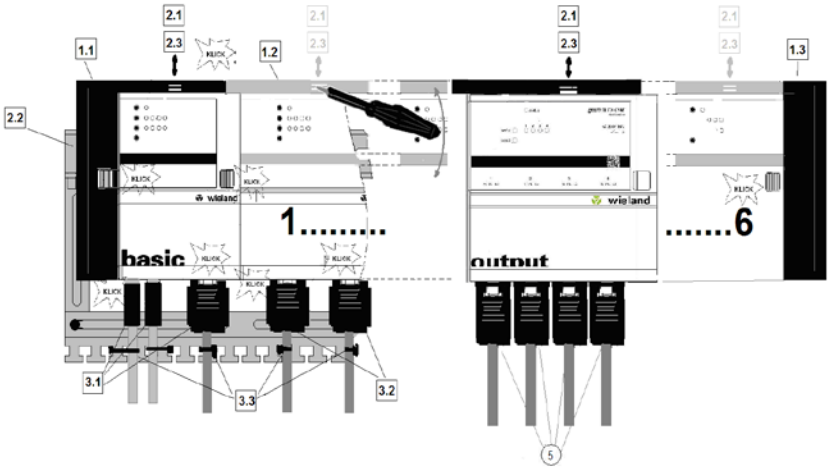
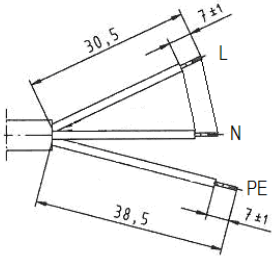
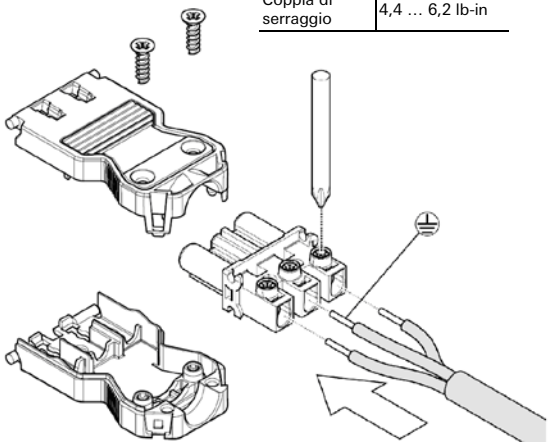


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST18i3 (92.932.3053.1)



Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.6 *gesis* FLEX-0/3EL emergency light 3x binary switching output

Montageanleitung (Original)
Assembly Instructions (Translation based on original Documentation)

gesis FLEX-03EL 83.020.0636.0

Relaisausgang 3-fach für Notbeleuchtung
Triple relay output for emergency lighting

Wieland Electric GmbH
Brennerstraße 10-14
96052 Bamberg
Tel.: +49 (951) 9324-0
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wieland
www.wieland-electric.com

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der Relaisausgang für Notbeleuchtungen 3-fach 230 VAC/16 A im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau wird vom Basismodul verwaltet.
Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Die steckbaren 4-poligen Ausgänge stellen N, PE, permanente 230 V und geschaltete 230 V zur Verfügung.
Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen.
Die Handbedienebene erlaubt Funktionstests ohne vorherige Systemintegration. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Wählt einen Ausgang. Der gewählte Ausgang beginnt zu blinken.
②	Taster 'on/off'	Vor Parametrierung: `Mit einem Tastendruck wird der entsprechende selektierte Ausgang 'Ein' oder 'Aus' geschaltet.
③	LED 1 - 3	Signalisiert für jeden Ausgang den aktuellen Status. • 'Aktiv': LED leuchtet oder leuchtet und erlischt kurz (selektiert). • 'Inaktiv': LED aus oder kurzes blinken (selektiert).
④	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung.
⑤	Anschlüsse Ausgang 1 - 3	GST18i4-Buchse, 4-polig, Farbe Grau, Belegung 2 / N / PE / 1 Anschluss 1 = geschalteter Außenleiter L1', L2', L3' Anschluss 2 = permanenter Außenleiter L1, L2, L3 (Montage: siehe Rückseite, Abbildung 3)
⑥	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene setzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑤ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i4)
Bemessungsstrom max.	16 A je Außenleiter L1, L2, L3 (ohmsche Last)
Empfohlene Absicherung	1/3-poliger Leitungsschutzschalter B16A
Spitzenschaltstrom	200 A, 50 ms
Schaltleistung	3680 VA cosφ 1 1x105 Schaltspiele 2500 VA Glühlampen 2x104 Schaltspiele 12x58 VA Leuchtstofflampen parallelkompensiert (Cges <= 70µF) 2x104 Schaltspiel
Mindestlast	2,5 VA
Kurzschlussfest	nein
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +70 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,2 kWh
Abmessungen (B, H, L)	130*) mm, 149 mm, 44 mm *)140 mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0636.0

EN

DANGER

- Only electricians may install and commission this device. You must have read these instructions and understood them before carrying out the work.
- Do not open the device. Do not introduce any foreign objects. Keep device away from water and fire.
- Only connect or disconnect the device when no power is connected and the device is deenergized.
- The relevant standards, guidelines, regulations, and provisions of the respective country must be observed.

The relay output for emergency lighting - 3x 230 VAC/16 A in a flat surface-mounted housing that can be fitted to a mounting rail for decentralized installation is controlled by the base module. It receives its power and bus supply from the upstream module. The pluggable 4-pole outputs provide N, PE, permanent 230 V and switched 230 V. The comprehensive set of parameters makes various automation functions possible. The manual controls allow for function tests without prior system integration. The electrical connections are pluggable according to IEC 61535 and separate automation and installation.
Note: Function tests are possible directly after installation and without programming, using the on-site device controls.

Controls and functional elements (see reverse, Figure 1)

①	'Select' button	Selects one output. The selected output starts to flash.
②	'on/off' button	Before parametrization: The corresponding selected output is switched 'On' or 'Off' by pressing a button.
③	LED 1 - 3	Signals the current status for each output. • 'Active': LED lights up or lights up and briefly switches itself off (selected). • 'Inactive': LED off or short flashing (selected).
④	LED 'status'	Signals the operating state of the expansion module. • Green: Module fully functional (no error). • Red: Error message.
⑤	Connections for outputs 1 - 3	GST18i4 female, 4-pole, color gray, allocation 2 / N / PE / 1 Connection 1 = switched outer conductor L1', L2', L3' Connection 2 = permanent outer conductor L1, L2, L3 (assembly: see reverse, Figure 3)
⑥	Locking base	Latch for rail/assembly frame mounting

Assembly (see reverse, Figure 2)

Step 1: **Assembling the modules**

1.1 Place end cap on left side of base module and lock.
1.2 Place additional modules on the right side of the base module in the desired order and lock until they audibly click in.
1.3 Place end cap on last module on the right side and lock.

Step 2: **Optional: Fastening on mounting rail or assembly frame**

2.1 Use a screwdriver to pull the locking base upwards on each module.
2.2 Place module onto mounting rail.
2.3 Use a screwdriver to push the locking base downwards on each module.
The modules are now fastened on the mounting rail.

Step 3: **Plug in cables and secure**

3.1 Plug in module cables ⑤.
3.2 Plug cables into all other modules (see: Assembly instructions).
Important: Ensure the firm fit of all connections.
3.3 For assembly frames: use cable ties to fasten cables to the assembly frame.

Technical data

Mains connection	
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i4)
Rated current max.	16 A per phase conductor L1, L2, L3 (ohmic load)
Recommended fuse protection	1/3-pole circuit breaker B16A
Peak switching current	200 A, 50 ms
Switching power	3680 VA cosφ 1 1x105 switching cycles 2500 VA incandescent lamps, 2x104 switching cycles 12x58 VA fluorescent lamps, parallel compensated (Cges <= 70µF) 2x104 switching cycle
Minimum load	2.5 VA
Short-circuit proof	no
Environmental conditions	
Usage area	Indoors, in dry rooms, protected against weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5°C to +45°C
Storage temperature	-25°C to +70°C
Mounting method	Ceiling, floor, wall mounting, on even surface, fixed installation, surface mounted (plaster), mounting rail TH35-7.5
Housing	
Material	Plastic, halogen-free
Color	Light gray, similar to RAL 7035 / black, similar to RAL 9005
Fire resistance	UL94 V-2
Fire load	approximately 2.2 kWh
Dimensions (W, H, L)	130*)mm, 149 mm, 44 mm *)140 mm with end cap on left
Electric safety	
Protection class	I
Protection type	IP20 (as per EN 60529)
Pollution degree	2
Overvoltage category	III
Approvals	
CE marking	According to EMC directive and low voltage directive Standards complied with: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manual
with detailed information about programming, commissioning and servicing:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0636.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Controls and functional elements

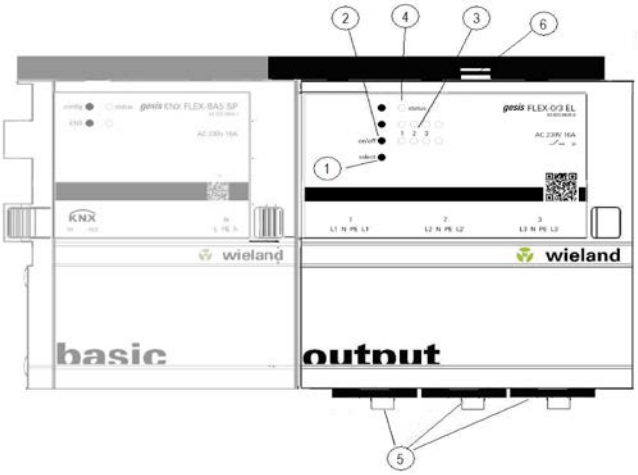


Abbildung 2: Montage
Figure 2: Installation

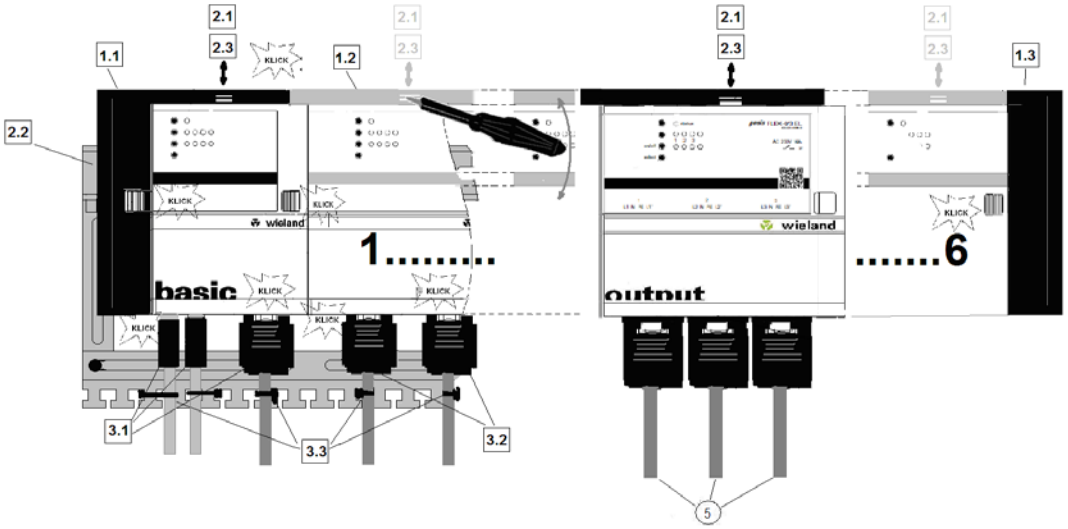
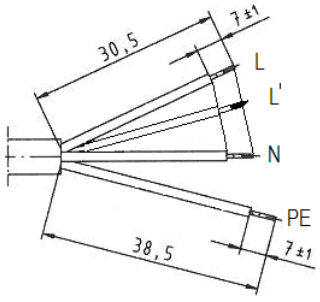
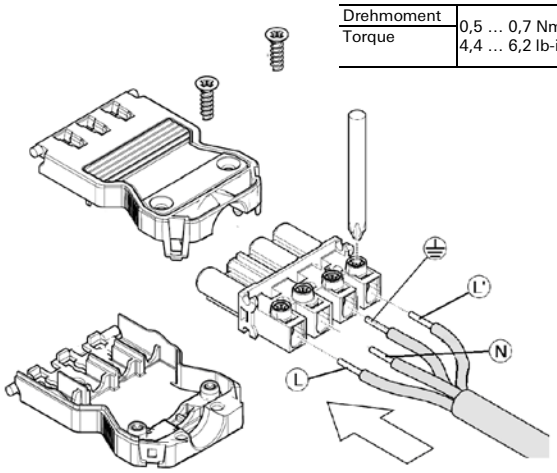


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST18i4 (92.944.3553.0)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Notice de montage (Traduction de la notice originale)
Istruzioni di montaggio (Traduzione delle istruzioni originali)

gesis FLEX-03EL 83.020.0636.0

Sortie de relais à 3 positions pour éclairage de secours
Uscita relè a 3 canali per illuminazione d'emergenza

Wieland Electric GmbH
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wieland
,www.wieland-electric.com

FR

⚠ DANGER

- Seuls les électriciens qualifiés peuvent installer et mettre en service cet appareil. Une lecture et compréhension de ce manuel est impérative avant toute utilisation.
- Ne pas ouvrir l'appareil. Ne pas introduire de corps étrangers. Éloigner l'appareil de l'eau et du feu.
- Ne brancher ou débrancher l'appareil que lorsque celui-ci est hors tension.
- Les normes, directives, réglementations et dispositions applicables du pays respectif doivent être observées.

La sortie de relais pour éclairages de secours, à 3 positions de 230 VAC/16 A dans un boîtier AP plat et montable sur rail de montage pour une installation décentralisée, est gérée par le module de base. Elle reçoit son alimentation réseau et bus du module disposé en amont.
Les sorties enfichables à 4 pôles fournissent N, PE, 230 V en série et 230 V en parallèle.
Le vaste ensemble de paramètres permet différentes fonctions d'automatisation. Le niveau de commande manuelle permet des essais de fonctionnement sans système intégré antérieur.
Les raccordements électriques enfichables suivant CEI 61535 permettent de séparer l'automatisation de l'installation. **Remarque:** Essai de fonctionnement possible directement après le montage, avec la commande sur site sur les appareils sans programmation.

Éléments de commande et de fonction (voir au dos, figure 1)

①	Bouton « select »	Sélectionne une sortie. La sortie sélectionnée commence à clignoter.
②	Bouton « on/off »	Avant le paramétrage : en appuyant sur le bouton, la sortie sélectionnée correspondante bascule sur « marche » ou « arrêt ».
③	LED 1 - 3	Indique l'état en cours de chaque sortie. • « Actif »: La LED est allumée ou s'éclaire et s'éteint brièvement (sélection). • « Inactif »: La LED est éteinte ou émet de brefs clignotements (sélection).
④	« État » de la LED	Indique l'état de fonctionnement du module d'extension. • Vert: module fonctionnel (pas d'erreurs). • Rouge: message d'erreur.
⑤	Connexions sortie 1 - 3	Connecteur femelle GST18i4, 4 pôles, couleur gris, affectation 2/N/PE/1 Connexion 1 = conducteur extérieur en parallèle L1', L2', L3' Connexion 2 = conducteur extérieur en série L1, L2, L3 (montage: voir au dos, figure 3)
⑥	Pied encliquetable	Verrouillage de montage sur rail/cadre de montage.

Montage (voir au dos, figure 2)

Étape 1: **brancher les modules**

1.1 Placer l'embout gauche sur le module de base puis l'enclencher.
1.2 Placer les modules auxiliaires dans l'ordre souhaité à droite sur le module de base et enclencher avec un clic audible.
1.3 Poser l'embout sur le dernier module à droite et l'enclencher.

Étape 2: **En option: fixation sur le rail ou cadre de montage**

2.1 Sur chaque module, tirer le pied encliquetable vers le haut à l'aide du tournevis.
2.2 Placer les modules sur le rail de montage.
2.3 Sur chaque module, tirer le pied encliquetable vers le bas à l'aide du tournevis.
Les modules sont fixés sur le rail de montage.

Étape 3: **Brancher les câbles et les fixer**

3.1 Brancher les câbles ⑤ sur le module.
3.2 Brancher les câbles sur tous les autres modules (voir: notices de montage).
Important: Garantir une bonne fixation de tous les connecteurs.
3.3 Option cadre de montage: fixer les câbles sur le cadre de montage à l'aide des serre-câbles.

Données techniques

Connexion au réseau	
Tension nominale	230 VAC, -15 % / +10 %, 50/60 Hz (GST18i4)
Courant nominal max.	16 A par conducteur extérieur L1, L2, L3 (charge ohmique)
Protection recommandée	Disjoncteur B16A à 1/3 pôles
Courant d'enclenchement de crête	200 A, 50 ms
Pouvoir de coupure	3680 VA cosφ 1 1x105 cycles de manœuvres 2 500 VA ampoules 2x104 cycles de manœuvre 12x58 VA tubes au néon compensés en parallèle (Cges <= 70µF) 2x104 cycles de manœuvre
Charge minimale	2,5 VA
Protégé contre les courts-circuits	non
Conditions environnementales	
Plage d'utilisation	Espaces intérieurs et secs, protégé contre les intempéries
Résistance aux variations climatiques	Catégorie 3K5 (EN 50491-2)
Température ambiante	-5 °C à +45 °C
Température de stockage	-25 °C à +70 °C
Méthode de montage	Montage plafond, au sol, mural, installation fixe sur des surfaces de montage planes, montage en surface, rail de montage TH35-7,5
Boîtier	
Matériau	Plastique sans halogène
Couleur	Gris clair, similaire RAL 7035 / noir, similaire RAL 9005
Comportement au feu	UL94 V-2
Résistance au feu	environ 2,2 kWh
Dimensions (l, H, L)	130*) mm, 149 mm, 44 mm *)140 mm avec embout à gauche
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (suivant EN 60529)
Degré de pollution	2
Catégorie de surtension	III
Certificats/approbations	
Identification CE	Conforme aux directives CEM et basse tension Normes satisfaites : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuel
avec des informations détaillées sur la programmation, la mise en service et la maintenance:
- Numéro de document: BA000904
- Téléchargement par code QR ou avec le lien: http://eshop.wieland-electric.com/product/83.020.0636.0

IT

⚠ PERICOLO

- L'installazione e la messa in servizio di questo apparecchio sono di esclusiva competenza di elettricisti specializzati. Prima dell'esecuzione essi dovranno leggere e comprendere le presenti istruzioni.
- Non aprire l'apparecchio. Non introdurre corpi estranei. Tenere l'apparecchio lontano dall'acqua e dal fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Attenersi alle norme, direttive, prescrizioni e disposizioni pertinenti nazionali del Paese in questione.

L'uscita relè a 3 canali 230 VCA/16 A, all'interno di una custodia piatta da esterno che può essere montata su guide per l'installazione decentralizzata, è comandata dal modulo base.
Riceve l'alimentazione principale e bus dal modulo a monte. Le uscite innestabili a 4 poli forniscono N, PE, 230 V permanenti e 230 V commutati. La completa serie di parametri consente diverse funzioni di automazione. Il livello operativo manuale permette di effettuare test di funzionamento senza necessità di integrazione preliminare nel sistema. I collegamenti elettrici innestabili a norma IEC 61535 separano automazione ed installazione. **Nota:** i test di funzionamento sono possibili subito dopo il montaggio, con il comando locale degli apparecchi e senza programmazione.

Elementi di comando e funzionamento (vedere dorso, figura 1)

①	Pulsante 'select'	Seleziona un'uscita. L'uscita selezionata inizia a lampeggiare.
②	Pulsante 'on/off'	Prima della parametrizzazione: l'uscita selezionata viene commutata su 'On' o 'Off' con la pressione di un tasto.
③	LED 1 - 3	Segnala lo stato attuale di ogni uscita. • 'Attivo': il LED resta acceso o si accende e spegne brevemente (selezionato). • 'Inattivo': LED spento o breve lampeggiamento (selezionato).
④	LED 'status'	Segnala lo stato di esercizio del modulo di estensione. • Verde: modulo pronto al funzionamento (nessun errore). • Rosso: segnalazione d'errore.
⑤	Attacchi uscite 1 - 3	Presa GST18i4, 4 poli, colore grigio, assegnazione 2 / N / PE / 1 Attacco 1 = conduttore esterno L1', L2', L3' inserito Attacco 2 = conduttore esterno permanente L1, L2, L3 (montaggio: vedere dorso, figura 3)
⑥	Piede a innesto	Bloccaggio per montaggio su guida/telaio di montaggio

Montaggio (vedere dorso, figura 2)

Passo 1: **inserire i moduli**

1.1 Collocare e innestare la calotta terminale a sinistra sul modulo base.
1.2 Collocare i moduli aggiuntivi a destra sul modulo base nell'ordine desiderato e innestarli con uno scatto udibile.
1.3 Collocare e innestare la calotta terminale a destra sull'ultimo modulo.

Passo 2: **opzionale: fissare su guida o telaio di montaggio**

2.1 Su ogni modulo, tirare il piede a innesto verso l'alto con un cacciavite.
2.2 Collocare i moduli sulla guida.
2.3 Su ogni modulo, premere il piede a innesto verso il basso con un cacciavite.
I moduli sono fissati sulla guida.

Passo 3: **collegare e bloccare i cavi**

3.1 Inserire i cavi sul modulo ⑤.
3.2 Inserire i cavi su tutti i moduli (vedere istruzioni di montaggio).
Importante: assicurarsi che tutti i collegamenti a innesto siano saldi.
3.3 Con telaio di montaggio: fissare i cavi al telaio di montaggio con fascette fermacavo.

Dati tecnici

Connessione di rete	
Tensione nominale	230 V CA, -15 % / +10 %, 50/60 Hz (GST18i4)
Corrente nominale max.	16 A per ogni conduttore esterno L1, L2, L3 (carico ohmico)
Protezione raccomandata	Interruttore automatico a 1/3 poli B16A
Corrente di commutazione massima	200 A, 50 ms
Potenza di commutazione	3680VA cosφ 1 1x105 cicli di commutazione Lampade a incandescenza 2500VA 2x104 cicli di commutazione 12x58VA lampade fluorescenti compensate parallelamente (Cges <= 70 µF) 2x104 cicli di commutazione
Carico minimo	2,5 VA
A prova di corto circuito	No
Condizioni ambientali	
Ambito d'impiego	Ambienti chiusi e locali asciutti protetti dagli agenti atmosferici
Resistenza al clima	Classe 3K5 (EN 50491-2)
Temperatura ambiente	Da -5 °C a +45 °C
Temperatura di immagazzinaggio	Da -25 °C a +70 °C
Tipo di montaggio	Montaggio a soffitto, a pavimento, a parete, installazione fissa su superficie piana, montaggio su superficie, guida TH35-7,5
Custodia	
Materiale	Materiale plastico, privo di alogeni
Colore	Grigio chiaro simile a RAL 7035 / nero simile a RAL 9005
Reazione al fuoco	UL94 V-2
Classe di infiammabilità	ca. 2,2 kWh
Dimensioni (P, A, L)	130*)mm, 149 mm, 44 mm *)140 mm con calotta terminale a sinistra
Sicurezza elettrica	
Grado di protezione	I
Tipo di protezione	IP20 (a norma EN 60529)
Grado di inquinamento	2
Categoria di sovratensione	III
Certificazioni	
Marcatura CE	Secondo Direttiva CEM e Direttiva bassa tensione Soddisfa le norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate su programmazione, messa in servizio e manutenzione:
- Numero documento: BA000904
- Download con codice QR oppure: http://eshop.wieland-electric.com/product/83.020.0636.0

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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionamento

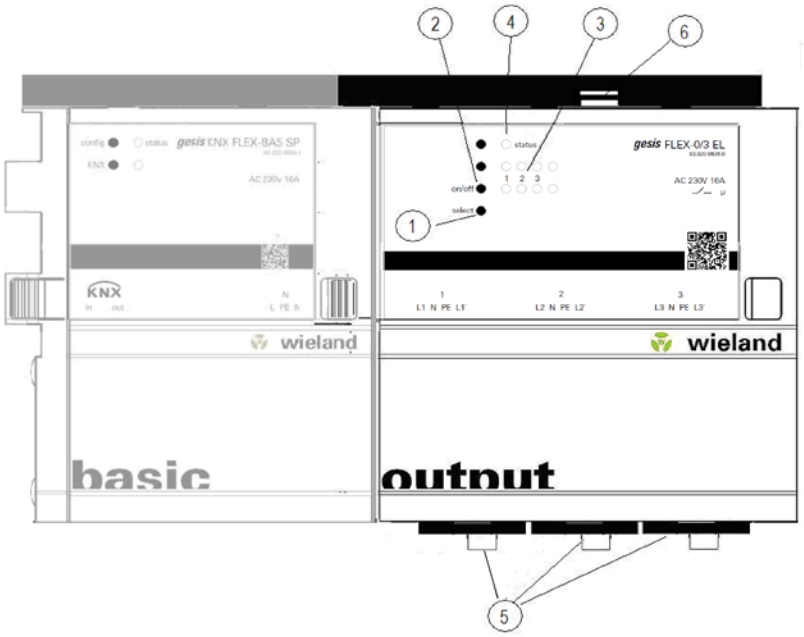


Figure 2: Montage
Figura 2: Montaggio

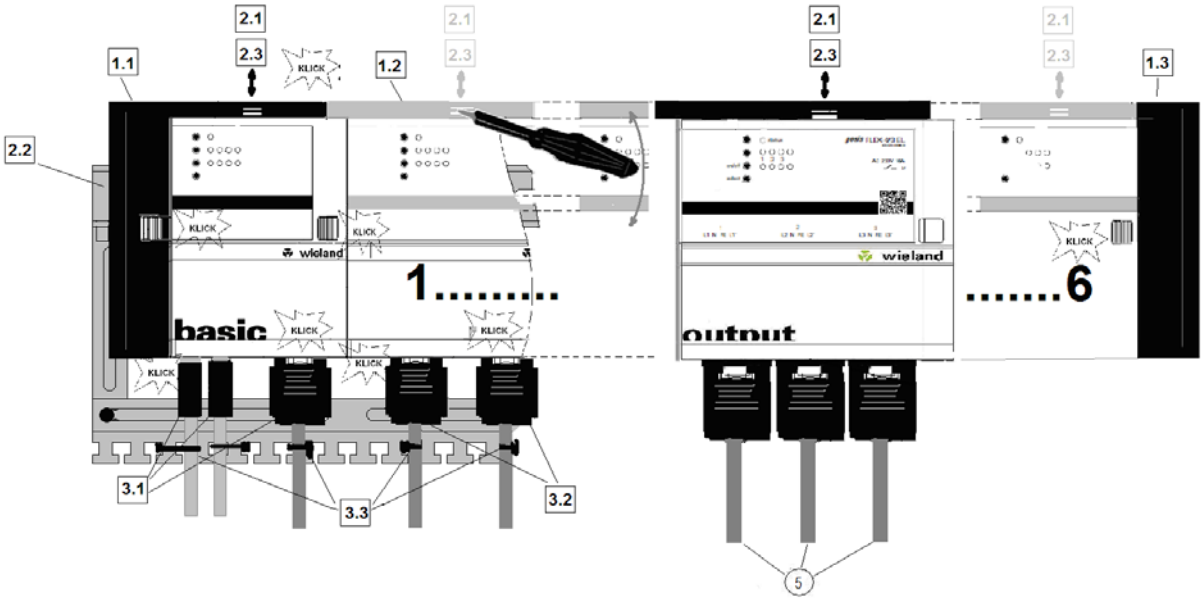
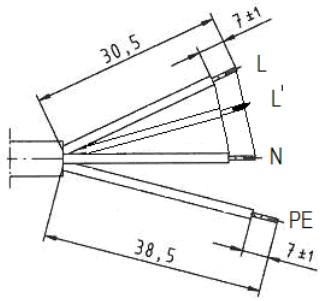
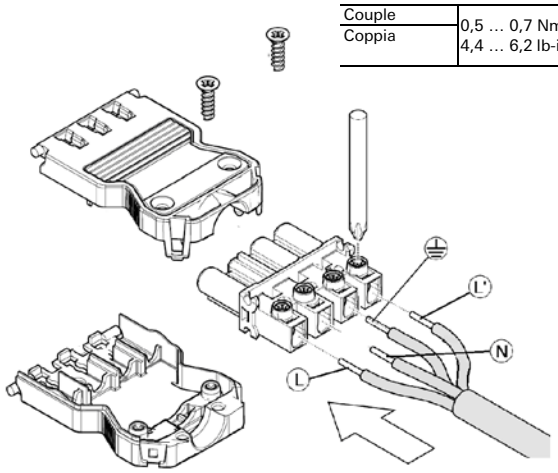


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST18i4 (92.944.3553.0)



Couple Coppia	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.7 *gesis* FLEX-0/4 DA 4x DALI Broadcast

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/4 DA

4 x Ausgang DALI-Broadcast (83.020.0630.0)
4-fold DALI output broadcast (83.020.0630.0)

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wieland

DE

⚠ GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der DALI-Ausgang 4-fach für 4 getrennt steuerbare Broadcast-Kanäle und jeweils 16 DALI-EVGs im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau, wird vom Basismodul verwaltet. Er erhält die Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Wählt einen Ausgang (1;2;3;4). Die LED des gewählten Ausgangs beginnt zu blinken. Der Ausgang kann manuell bedient werden.
②	'on'	• Kurzer Tastendruck: Einschaltbefehl Langer Tastendruck: Dimmen heller
	'off'	• Kurzer Tastendruck: Ausschaltbefehl Langer Tastendruck: Dimmen dunkler
	'burn in'	• Dient dem Einbrennen von Leuchtmitteln. Langer Tastendruck (3sec.): Startet die Funktion. Ein weiterer langer Tastendruck: Stoppt die Funktion. **Hinweis:** Ein Dimmen ist in dieser Betriebsart nicht möglich.
③	LED 'error/burn in'	Signalisiert für jeden Ausgang den aktuellen Status. • Blinken: Signalisiert Lampen- oder Kommunikationsfehler. • Dauerhaftes leuchten: Signalisiert einen aktiven 'burn in'-Vorgang für den jeweiligen Kanal.
	LED 1 2 3 4	Signalisiert den aktuellen Status des Ausgangs. • LED leuchtet: Ausgang ist aktiv.
④	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlerhafte Parameterübergabe oder Systemkonfiguration
⑤	Ausgang 1 - 4 Anschluss mit	• Stecker GST15i2 pastellblau (91.922.3453.0) (Montage: siehe Rückseite, Abbildung 3)
⑥	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene setzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑤ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Bemessungsspannung	230 VCA, -15 % / +10 %, 50/60 Hz (interne Versorgung)
Ausgänge	
Anzahl	4 x DALI-Broadcast
DALI Spannung	> 11,5 V < 22,5 V (EN 60929)
Belastbarkeit	16 Betriebsmittel (EVG) je Ausgang (EN 60929)
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,5 kWh
Abmessungen (B, H, L)	*)130 mm, 149 mm, 44 mm *)140mm mit rechter Endkappe
Elektrische Sicherheit	
Schutzklasse	I
Isolation	Basisisolierung zwischen DALI- Spannung und Netzspannung
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0630.0

EN

⚠ DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 4-fold DALI output for 4 separate controllable broadcast channels and 16 DALI EVGs each in the flat AP housing, which can be fitted on carrier rails for decentralised installation, is administered by the base module. It receives mains and bus supply from the upstream module. The extensive parameter set enables different automation functions. The pluggable electrical connections separate automation and installation.
Note: Function tests of the devices possible directly after installation with on-site operation without programming.

Operating and functional elements (see back page, figure 1)

①	'select' button	Selects an output (1;2;3;4). The LED of the selected output begins to flash. The output can be manually operated.
②	'on'	• Short button press: turn-on command Long button press: dimming is brighter
	'off'	• Short button press: turn-off command Long button press: dimming is darker
	'burn in'	• Burns in the lights. Long button press (3sec.): starts the function. Another long button press: stops the function. **Note:** Dimming is not possible in this operating mode.
③	LED 'error/burn in'	Signals the current status for each output. • Flashing: Signals lamp or communication fault. • Permanent illumination: Signals an active 'burn-in' process for the respective channel.
	LED 1 2 3 4	Signals the current status of the output. • LED lit: Output is active.
④	LED 'status'	Signals the operating status of the extension module. • Green: Module ready to function (no fault). • Red: Faulty parameter transfer or system configuration
⑤	Output 1 - 4 connected to	• Connected to plug GST15i2 pastel blue (91.922.3453.0) (installation: see back page, Figure 3)
⑥	Resting foot	Locking mechanism for installing on carrier rail/mounting frame

Installation (see back page, Figure 2)

Step 1: **Plugging in modules**

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place the additional module in the desired order on the right of the base module and latch it into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on carrier rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules onto the carrier rail.
2.3 Press the resting foot on every module downward with a screwdriver.
The modules are now fastened on the carrier rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in cable ⑤ at the module.
3.2 Plug in cables at all other modules (see: installation instructions).
Important: Ensure that all plug-in connections are securely seated.
3.3 For mounting frames:
fix to mounting frame with cable binders.

Technical Data

Mains connection	
Rated voltage	230 VCA, -15 % / +10 %, 50/60 Hz (internal power supply)
Outputs	
Number	4 x DALI Broadcast
DALI Voltage	> 11.5 V < 22.5 V (EN 60929)
Durability	16 resources (EVG) per output (EN 60929)
Environmental conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation on level mounting surface, surface-mounted, carrier rail TH35-7.5
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2.5 kWh
Dimensions (W, H, L)	*)130 mm, 149 mm, 44 mm *)140mm with right end cap
Electrical safety	
Protection class	I
Insulation	Base insulation between DALI voltage and mains voltage
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Over-voltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0630.0

gesis FLEX-0/4 DA

4-fach Ausgang DALI-Broadcast (83.020.0630.0)
4-fold DALI output broadcast (83.020.0630.0)

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

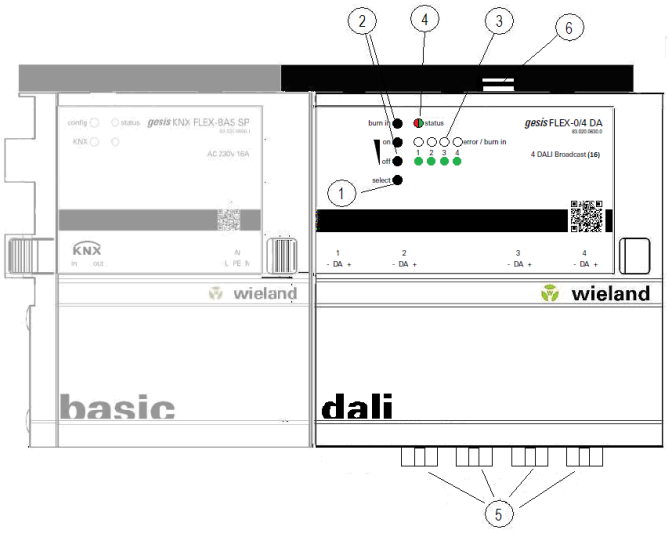


Abbildung 2: Montage
Figure 2: Installation

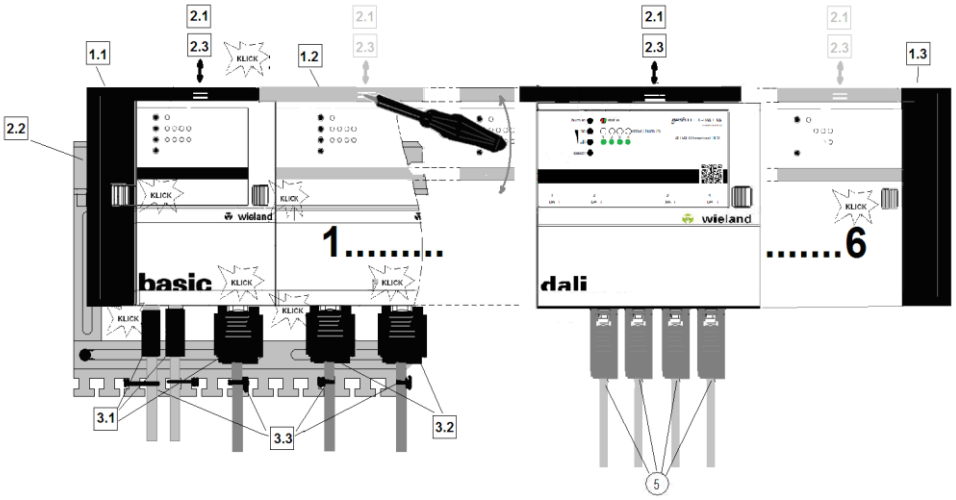
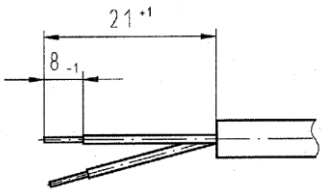
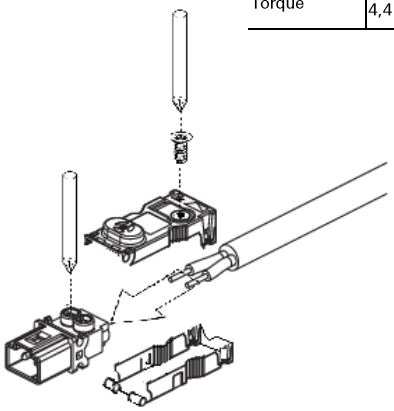


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST15i2 (91.922.3453.0)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/4 DA

4 sorties de diffusion DALI-Broadcast (83.020.0630.0)
4 x uscita quadrupla DALI-Broadcast (83.020.0630.0)

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wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

La sortie DALI 4 postes pour 4 canaux de diffusion à commande séparée et 16 ballasts électroniques DALI en boîtier plat en saillie, à monter sur rail porteur pour le montage décentralisé, est géré par le module de base. L'alimentation réseau et bus est transférée du module monté en amont vers le module suivant. Le bloc de paramètres complet permet différentes fonctions d'automatisation. Les raccords électriques enfichables séparent l'automatisation et l'installation.**Remarque :** les tests de fonctionnement sont possibles directement après le montage avec la commande sur site des appareils sans nécessiter de programmation

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'select'	Sélectionne la sortie (1 ; 2 ; 3 ; 4). La LED de la sortie sélectionnée commence à clignoter. La sortie peut être commandée manuellement.
②	'on'	• Appui court sur la touche : commande d'activation Appui long sur la touche : variation plus clair
	'off'	• Appui court sur la touche : commande de désactivation Appui long sur la touche : variation plus foncé
	'burn in'	• Sert au déverminage des ampoules. Appui long sur la touche (3 s) : démarre la fonction. Appui long consécutif sur la touche : arrête la fonction. **Remarque :** la variation n'est pas possible dans ce mode de fonctionnement.
③	LED 'error/burn in'	Signale l'état actuel pour chaque sortie. • Clignotement : signale une erreur de la lampe ou de communication. • Allumé en continu : signale un déverminage actif pour le canal correspondant.
	LED 1 2 3 4	Signale l'état actuel pour la sortie. • LED allumée : la sortie est active.
④	LED 'status'	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : transmission des paramètres ou configuration système erronée
⑤	Sortie 1 - 4 Raccordement avec	• Raccordement avec le connecteur GST15i2 bleu pastel (91.922.3453.0) (Montage : voir verso, figure 3)
⑥	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage

Montage (voir verso, figure 2)

Étape 1 : **Enfichage du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **En option : fixation sur un rail porteur ou un cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pousser le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module. Les modules sont fixés sur le rail porteur.

Étape 3 : **Enfichage du câble et fixation**

3.1 Raccorder le câble ⑤ au module.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage).
Important : s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension nominale	230 VCA, -15 % / +10 %, 50/60 Hz (alimentation interne)
Sorties	
Nombre	4 sorties de diffusion DALI
Tension DALI	> 11,5 V < 22,5 V (EN 60929)
Capacité	16 ballasts électroniques par sortie (EN 60929)
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol, au mur, sur surface de montage plane ; installation fixe, en saillie, rail porteur TH35-7,5
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2,5 kWh *)130 mm, 149 mm, 44 mm *)140 mm avec capuchon d'extrémité droit
Sécurité électrique	
Classe de protection	I
Isolation	Isolation de base entre la tension DALI et la tension réseau
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita DALI quadrupla per 4 canali Broadcast azionabili separatamente e 16 reattori elettronici DALI in custodia da parete piatta su guida di supporto per installazione decentrata è gestita dal modulo base. L'alimentazione di rete e bus proviene dal modulo a monte. L'ampia gamma di parametri impostabili consente di realizzare diverse funzioni di automazione. I collegamenti elettrici a innesto separano automazione e installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi senza programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'select'	Consente di selezionare un'uscita (1;2;3;4). Il LED dell'uscita selezionata inizia a lampeggiare. L'uscita può essere comandata manualmente.
②	'on'	• Breve pressione del tasto: comando di accensione Lunga pressione del tasto: regolazione maggiore luminosità
	'off'	• Breve pressione del tasto: comando di spegnimento Lunga pressione del tasto: regolazione minore luminosità
	'burn in'	• Serve per il riscaldamento (burn in) delle lampade. Lunga pressione del tasto (3sec.): avviamento della funzione. Premendo nuovamente a lungo il tasto, la funzione si arresta. **Nota:** una regolazione della luce non è possibile in questa modalità operativa.
③	LED 'error/burn in'	Segnala lo stato corrente di ogni uscita. • Lampeggiante: segnala un errore di comunicazione o un guasto della lampada. • Acceso fisso: segnala un processo attivo di 'burn in' per il rispettivo canale.
	LED 1 2 3 4	Segnala lo stato corrente dell'uscita. • LED acceso: l'uscita è attiva.
④	LED 'status'	Segnala le condizioni di esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: errore nella trasmissione dei parametri o nella configurazione di sistema
⑤	Uscita 1 - 4 Collegamento con	• Collegamento con connettore GST15i2 blu pastello (91.922.3453.0) (montaggio: vedere a tergo, figura 3)
⑥	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto/telaio di montaggio

Montaggio (vedere a tergo, figura 2)

Passo 1: inserimento dei moduli

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2: opzionale: fissaggio su guida di supporto o telaio di montaggio

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite. I moduli sono ora fissati alla guida di supporto.

Punto 3: inserimento e fissaggio dei cavi

3.1 Inserire il cavo ⑤ sul modulo.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio).
Importante: assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Tensione nominale	230 VCA, -15 % / +10 %, 50/60 Hz (alimentazione interna)
Uscite	
Numero	4 x DALI-Broadcast
Tensione DALI	> 11,5 V < 22,5 V (EN 60929)
Capacità di carico	16 dispositivi (reattori elettronici) per uscita (EN 60929)
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5 °C ... +45 °C
Temperatura di stoccaggio	-25 °C ... +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa su superficie piana, a vista, su guida di supporto TH35-7,5
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2,5 kWh *)130 mm, 149 mm, 44 mm *)140mm con cappuccio terminale a destra
Sicurezza elettrica	
Classe di protezione	i
Isolamento	Isolamento base tra tensione DALI e tensione di rete
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/4 DA

4 sorties de diffusion DALI-Broadcast (83.020.0630.0)
4 x uscita quadrupla DALI-Broadcast (83.020.0630.0)

Wieland Electric GmbH
Brennerstraße 10-14
96052 Bamberg
Tel.: +49 (951) 9324-0
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Manuel
comprenant des informations détaillées sur la programmation, mise en service et maintenance:
- Numéro de document: BA000904
- Téléchargement via code QR ou:
  http://eshop.wieland-electric.com/product/83.020.0630.0

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
  http://eshop.wieland-electric.com/product/83.020.0630.0

Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

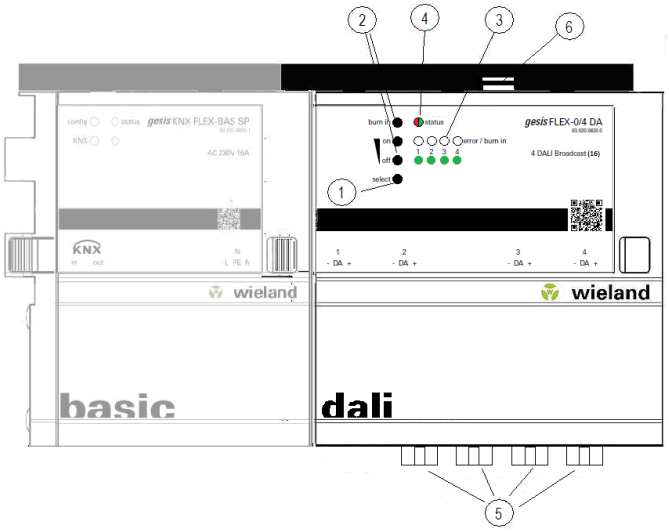


Figure 2: Montage
Figura 2: Montaggio

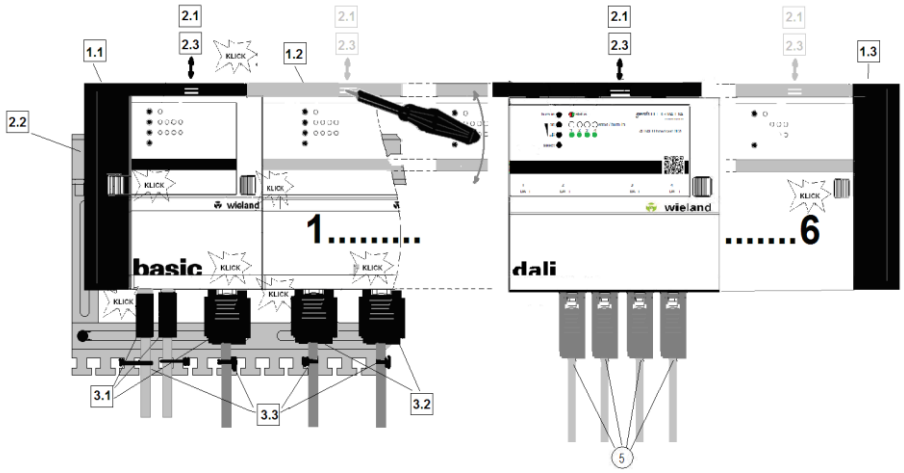
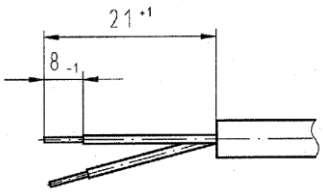
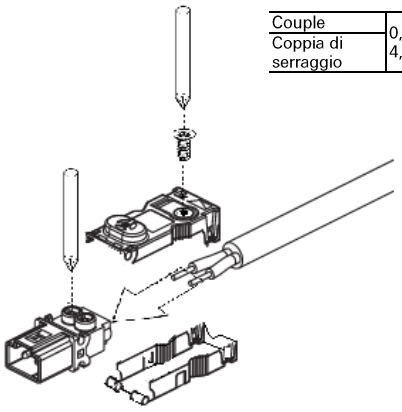


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST18i3 (92.932.3053.1)





Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in

7.8 *gesis* FLEX-0/3 DA 3x DALI Broadcast

Montageanleitung (Original)
Installation Instructions (Translated from Original)

gesis FLEX-0/3 DA AC

(83.020.0641.0)

3 x Ausgang DALI-Broadcast + AC Versorgung
3-fold DALI output broadcast + AC mains

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Tel.: +49 (951) 9324-0
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wieland
www.wieland-electric.com

DE

⚠ GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der DALI-Ausgang 3-fach mit 3 getrennt steuerbaren Broadcast-Kanälen wird vom Basismodul verwaltet. Er ist für je 16 DALI - EVGs inklusive AC-Versorgung für die Leuchten ausgelegt. Er ist auf Tragschiene montierbar und im AP-Gehäuse zum dezentralen Einbau vorgesehen. Er erhält die Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests sind direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Wählt einen Ausgang (1, 2, 3). Die LED des gewählten Ausgangs beginnt zu blinken. Der Ausgang kann manuell bedient werden.
②	'on'	• Kurzer Tastendruck: Einschaltbefehl Langer Tastendruck: Dimmen heller
	'off'	• Kurzer Tastendruck: Ausschaltbefehl Langer Tastendruck: Dimmen dunkler
	'burn in'	• Dient dem Einbrennen (100 h) von Leuchtmitteln. Langer Tastendruck (3 s): Startet die Funktion. Ein weiterer langer Tastendruck: Stoppt die Funktion. **Hinweis:** Ein Dimmen ist in dieser Betriebsart nicht möglich.
③	LED 'error/burn in'	Signalisiert für jeden Ausgang den aktuellen Status. • Blinken: Signalisiert Lampen- oder Kommunikationsfehler. • Dauerhaftes Leuchten: Signalisiert einen aktiven 'burn in'-Vorgang für den jeweiligen Kanal.
	LED 1 2 3	Signalisiert den aktuellen Status des Ausgangs. • LED leuchtet: Ausgang ist aktiv.
④	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlerhafte Parameterübergabe oder Systemkonfiguration
⑤	Ausgang 1 – 3 Anschluss mit	• Buchse GST15i5 pastellblau für Stecker 91.952.4453.0 (Montage: siehe Rückseite, Abbildung 3)
⑥	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene setzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑤ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	230 VAC, -15 % / +10 %, 50/60 Hz
Bemessungsstrom max.	16 A je Ausgang und Phase (ohmsche Last)
DALI-Ausgänge	
Anzahl	3 x DALI-Broadcast Schnittstelle
Spannungsversorgung DALI	integriert
Externe Spannungsversorg.	nicht erlaubt (kein Multimasterbetrieb möglich)
DALI Spannung	> 12,0 V < 20,5 V (EN 62386-101)
Versorgungsstrom (max.)	250 mA
Versorgungsstrom (garantiert)	38 mA
Ausgangsleistung	max. 16 Betriebsmittel (EVG) je Ausgang (EN 62386-102)
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +70 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,4 kWh
Abmessungen (B, H, L)	*)130 mm, 149 mm, 44 mm *)140mm mit rechter Endkappe
Elektrische Sicherheit	
Schutzklasse	I
Isolation	Basisisolierung zwischen DALI- Spannung und Netzspannung
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie
CE-Kennzeichnung	Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0641.0

EN

⚠ DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energized.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The three-fold DALI output, which has three separately controllable broadcast channels, is managed by the base module. This is designed for 16 DALI electronic ballasts including AC supply for the lamps. It is rail-mountable and is designed for decentralized installation in flat surface-mounted housing. It receives its mains supply and bus supply from the upstream module. The extensive parameter set enables different automation functions. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.
Note: Function tests of the devices possible directly after installation with on-site operation without programming.

Operating and functional elements (see back page, figure 1)

①	'select' button	Selects an output (1;2;3). The LED of the selected output begins to flash. The output can be manually operated.
②	'on'	• Short button press: turn-on command Long button press: dimming is brighter
	'off'	• Short button press: turn-off command Long button press: dimming is darker
	'burn in'	• Burns in the lights. Long button press (3 s): starts the function. Another long button press: stops the function. **Note:** Dimming is not possible in this operating mode.
③	LED 'error/burn in'	Signals the current status for each output. • Flashing: Signals lamp or communication fault. • Permanent illumination: Signals an active 'burn-in' process for the respective channel.
	LED 1 2 3	Signals the current status of the output. • LED lit: Output is active.
④	LED 'status'	Signals the operating status of the extension module. • Green: Module ready to function (no fault). • Red: Faulty parameter transfer or system configuration
⑤	Output 1 – 3 connected to	• Socket to plug GST15i5 pastel blue 91.952.4453.0 (installation: see back page, Figure 3)
⑥	Resting foot	Locking mechanism for installing on carrier rail/mounting frame

Installation (see back page, Figure 2)

Step 1: **Plugging in modules**

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place the additional modules in the desired order on the right of the base module and latch into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on carrier rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules onto the carrier rail.
2.3 Press the resting foot on every module downward with a screwdriver.
The modules are now fastened on the carrier rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in cable ⑤ at the module.
3.2 Plug in cables at all other modules (see: installation instructions).
Important: Ensure the firm fit of all connections.
3.3 For assembly frames: use cable ties to fasten cables to the assembly frame.

Technical Data

Mains connection	230 VAC, -15 % / +10 %, 50/60 Hz
Rated current max.	16 A each output and phase (ohmic load)
DALI Outputs	
Number	3 x DALI Broadcast Interface
Power supply	integrated, no external power supply allowed
External power supply	not allowed (multi master is not possible)
DALI Voltage	> 12.0 V < 20.5 V (EN 62386-102)
Maximum supply current	250 mA
Guaranteed supply current	38 mA
Output power	max. 16 control gears (electr. ballast) per output (EN 62386-102)
Environmental conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 C to +45 C
Storage temperature	-25 C to +75 C
Type of installation	Installation on ceiling, floor and wall, fixed installation on level mounting surface, surface-mounted, carrier rail TH35-7.5
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2.4 kWh
Dimensions (W, H, L)	*)130 mm, 149 mm, 44 mm *)140mm with right end cap
Electrical safety	
Protection class	I
Insulation	Base insulation between DALI voltage and mains voltage
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Over-voltage category	III
Approvals	In accordance with EMC Directive and Low Voltage Directive
CE marking	Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0641.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

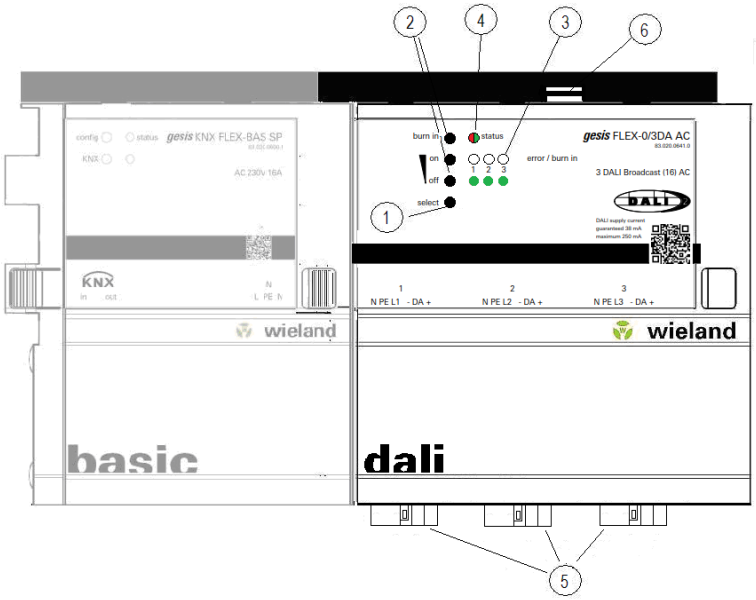


Abbildung 2: Montage
Figure 2: Installation

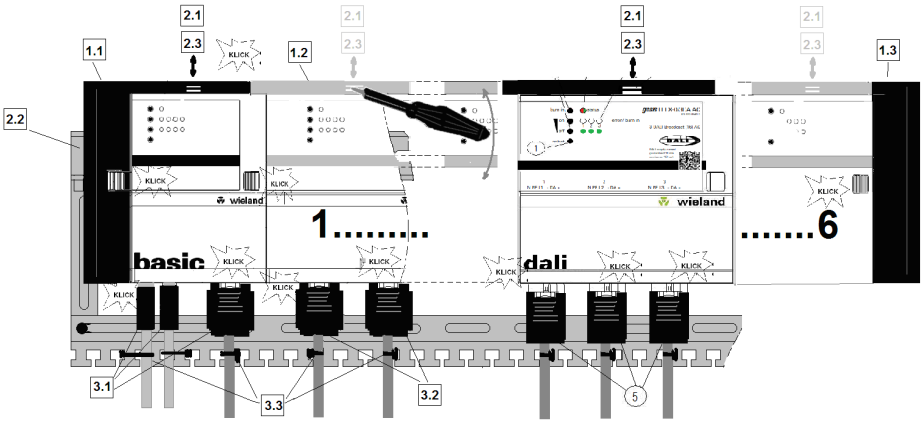
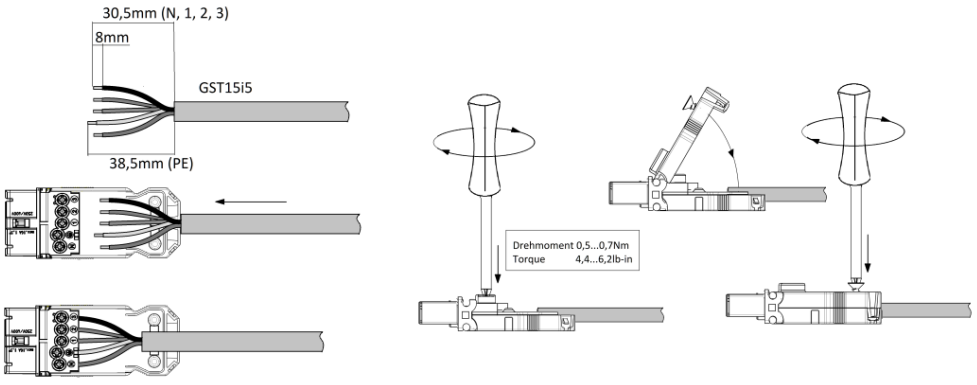


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST15i5 (91.952.4453.0)



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/3 DA

(83.020.0641.0)

3 sorties de diffusion DALI-Broadcast
3 x uscita triplo DALI-Broadcast

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wieland
www.wieland-electric.com

FR

⚠ DANGER

- Seuls les électriciens qualifiés peuvent installer et mettre en service cet appareil. Une lecture et compréhension de ce manuel est impérative avant toute utilisation.
- Ne pas ouvrir l'appareil. Ne pas introduire de corps étrangers. Éloigner l'appareil de l'eau et du feu.
- Ne brancher ou débrancher l'appareil que lorsque celui-ci est hors tension.
- Les normes, directives, prescriptions et dispositions en vigueur dans le pays concerné doivent être respectées.

La sortie DALI à 3 positions et 3 canaux de diffusion contrôlables est gérée par le module de base. Elle est dimensionnée pour chacun des 16 ballasts électroniques DALI avec alimentation CA des lampes. Elle peut être assemblée sur rail de montage et est prévue pour une installation décentralisée dans le boîtier AP. Elle maintient l'alimentation de secteur et de bus du module en amont. Le vaste ensemble des paramètres permet d'exécuter plusieurs fonctions d'automatisation. Les connexions électriques enfichables suivant CEI 61535 permettent de séparer l'automatisation de l'installation.
Remarque : Essais de fonctionnement possibles directement après le montage, avec la commande sur site sur les appareils sans programmation.

Éléments de commande et de fonction (voir au dos, figure 1)

①	Bouton « select »	Permet de sélectionner une sortie (1, 2, 3). La LED de la sortie sélectionnée commence à clignoter. La sortie peut être commandée manuellement.
②	« on »	• Pression brève sur la touche : commande d'activation ; pression longue sur la touche : augmenter l'intensité lumineuse
	« off »	• Pression brève sur la touche : commande de désactivation ; pression longue sur la touche : diminuer l'intensité lumineuse
	« burn in »	• Permet le déverminage (100 h) des ampoules. Pression longue sur la touche (3 s) : démarrage de la fonction. Pression longue consécutive sur la touche : arrêt de la fonction. **Remarque :** il est impossible de faire varier l'intensité lumineuse dans ce mode de fonctionnement.
③	LED « error/burn in »	Indique l'état en cours de chaque sortie. • Clignotement : indique une défaillance de la lampe ou un défaut de communication. • Éclairage permanent : indique un déverminage actif pour le canal correspondant.
	LED 1 2 3	Indique l'état actuel de la sortie. • LED allumée : la sortie est active.
④	« État » de la LED	Indique l'état de fonctionnement du module d'extension. • Vert : module fonctionnel (pas d'erreurs). • Rouge : transmission des paramètres ou configuration système incorrecte
⑤	Sortie 1 - 3 ; connexion avec	• Bus GST15i5 bleu pastel pour fiche 91.952.4453.0 (montage : voir au dos, figure 3)
⑥	Pied encliquetable	Verrouillage de montage sur rail/cadre de montage

Montage (voir au dos, figure 2)

Étape 1 : **brancher les modules**

1.1 Placer l'embout gauche sur le module de base puis l'enclencher.
1.2 Placer les modules auxiliaires dans l'ordre souhaité à droite sur le module de base et enclencher avec un clic audible.
1.3 Poser l'embout sur le dernier module à droite et l'enclencher.

Étape 2 : **En option : fixation sur rail ou cadre de montage**

2.1 Sur chaque module, tirer le pied encliquetable vers le haut à l'aide du tournevis.
2.2 Placer les modules sur le rail de montage.
2.3 Sur chaque module, tirer le pied encliquetable vers le bas à l'aide du tournevis. Les modules sont fixés sur le rail de montage.

Étape 3 : **Brancher et fixer les câbles**

3.1 Brancher les câbles ⑤ sur le module.
3.2 Brancher les câbles sur tous les autres modules (voir : notices de montage). **Important :** Garantir une bonne fixation de tous les connecteurs.
3.3 Option cadre de montage : fixer les câbles sur le cadre de montage à l'aide des serre-câbles.

Données techniques

Connexion au réseau	230 VAC, -15 % / +10 %, 50/60 Hz
Courant nominal max.	16 A par sortie et par phase (charge ohmique)
Sorties DALI	
Nombre	3 interfaces de diffusion DALI
Alimentation DALI	intégré
Alimentation externe	non autorisée (pas de mode multi-maître possible)
Tension DALI	> 12,0 V < 20,5 V (EN 62386-101)
Courant d'alimentation (max)	250 mA
Courant d'alimentation (garanti)	38 mA
Puissance de sortie	au maximum 16 consommables (ballasts électroniques) par sortie (EN 62386-102)
Conditions environnementales	
Plage d'utilisation	Espaces intérieurs et secs, protégé contre les intempéries
Résistance aux variations climatiques	Catégorie 3K5 (EN 50491-2)
Température ambiante	-5 °C à +45 °C
Température de stockage	-25 °C à +70 °C
Méthode de montage	Montage plafond, au sol, mural, installation fixe sur des surfaces de montage planes, montage en surface, rail de montageTH35-7,5
Boîtier	
Matériau	Plastique sans halogène
Couleur	Gris clair, similaire RAL 7035 / noir, similaire RAL 9005
Comportement au feu	UL94 V-2
Résistance au feu	environ 2,4 kWh
Dimensions (l, H, L)	*) 130 mm, 149 mm, 44 mm *) 140 mm avec embout à droite

IT

⚠ PERICOLO

- L'installazione e la messa in servizio di questo apparecchio sono di esclusiva competenza di elettricisti specializzati. Prima dell'esecuzione essi dovranno leggere e comprendere le presenti istruzioni.
- Non aprire l'apparecchio. Non introdurre corpi estranei. Tenere l'apparecchio lontano dall'acqua e dal fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Attenersi alle norme, direttive, prescrizioni e disposizioni pertinenti nazionali del Paese in questione.

L'uscita DALI tripla con 3 canali broadcast azionabili separatamente è gestita dal modulo base. È dimensionata per 16 EVG DALI ciascuno, compresa l'alimentazione CA per le lampade. Può essere montata su guida ed è destinata all'installazione decentralizzata all'interno di una custodia piatta. Riceve l'alimentazione principale e bus dal modulo a monte. I parametri impostati consentono funzioni di automazione diverse. Le connessioni elettriche, plug&play in base alla norma EC 61535, separano automazione ed installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi senza programmazione.

Elementi di comando e funzionamento (vedere dorso, figura 1)

①	Pulsante 'select'	Consente di selezionare un'uscita (1, 2, 3). Il LED dell'uscita selezionata inizia a lampeggiare. L'uscita può essere comandata manualmente.
②	'on'	• Breve pressione del tasto: comando di accensione. Lunga pressione del tasto: regolazione maggiore luminosità.
	'off'	• Breve pressione del tasto: comando di accensione. Lunga pressione del tasto: regolazione maggiore luminosità.
	'burn in'	• Serve per il riscaldamento (100 h) delle lampade. Lunga pressione del tasto (3 s.): avviamento della funzione.Premendo nuovamente a lungo il tasto, la funzione si arresta. **Nota:** una regolazione della luce non è possibile in questa modalità operativa.
③	LED 'error/burn in'	Segnala lo stato attuale di ogni uscita. • Lampeggiante: segnala un errore di comunicazione o un guasto della lampada. • Acceso fisso: segnala un processo attivo di 'burn in' per il rispettivo canale.
	LED 1 2 3	Segnala lo stato attuale dell'uscita. • LED acceso: l'uscita è attiva.
④	LED 'status'	Segnala lo stato di esercizio del modulo di estensione. • Verde: modulo pronto al funzionamento (nessun errore). • Rosso: errore nella trasmissione dei parametri o nella configurazione di sistema.
⑤	Uscita 1 – 3 Collegamento con	• connettore GST15i5 blu pastello 91.952.4453.0 (montaggio: vedere a tergo, figura 3).
⑥	Piede a innesto	Bloccaggio per montaggio su guida/telaio di montaggio

Montaggio (vedere dorso, figura 2)

Passo 1: **inserire i moduli**

1.1 Collocare e innestare la calotta terminale a sinistra sul modulo base.
1.2 Collocare i moduli aggiuntivi a destra sul modulo base nell'ordine desiderato e innestarli con uno scatto udibile.
1.3 Collocare e innestare la calotta terminale a destra sull'ultimo modulo.

Passo 2: **opzionale: fissare su guida o telaio di montaggio**

2.1 Su ogni modulo, tirare il piede a innesto verso l'alto con un cacciavite.
2.2 Collocare i moduli sulla guida.
2.3 Su ogni modulo, premere il piede a innesto verso il basso con un cacciavite. I moduli sono fissati sulla guida.

Passo 3: **collegare e bloccare i cavi**

3.1 Inserire i cavi ⑤ nel modulo.
3.2 Inserire i cavi su tutti i moduli (vedere istruzioni di montaggio). **Importante:** assicurarsi che tutti i collegamenti a innesto siano saldi.
3.3 Con telaio di montaggio: fissare i cavi al telaio di montaggio con fascette fermacavo.

Dati tecnici

Connessione di rete	230 VAC, -15% / +10%, 50/60 Hz
Corrente nominale max.	16 A per uscita e fase (carico resistivo)
Uscite DALI	
Numero	3 interfacce DALI-Broadcast
Alimentazione DALI	Integrata
Alimentazione esterna.	non consentita (modalità Multimaster non possibile)
Tensione DALI	> 12,0 V < 20,5 V (EN 62386-101)
Corrente di alimentazione (max.)	250 mA
Corrente di alimentazione (garantita)	38 mA
Potenza di uscita	max. 16 dispositivi (EVG) per uscita (EN 62386-102)
Condizioni ambientali	
Ambito d'impiego	Ambienti chiusi e locali asciutti protetti dagli agenti atmosferici
Resistenza al clima	Classe 3K5 (EN 50491-2)
Temperatura ambiente	da -5 °C a +45 °C
Temperatura di immagazzinaggio	da -25 °C a +70 °C
Tipo di montaggio	Montaggio a soffitto, a pavimento, a parete, installazione fissa su superficie piana, montaggio su superficie, guida TH35-7,5
Alloggiamento	
Materiale	Materiale plastico, privo di alogeni
Colore	Grigio chiaro simile a RAL 7035 / nero simile a RAL 9005
Reazione al fuoco	UL94 V-2
Classe di infiammabilità	Circa 2,4 kWh
Dimensioni (P, A, L)	*)130 mm, 149 mm, 44 mm *)140 mm con piastrina di chiusura a destra

Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/3 DA

(83.020.0641.0)

3 sorties de diffusion DALI-Broadcast
3 x uscita triplo DALI-Broadcast

Wieland Electric GmbH
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Sécurité électrique	
Classe de protection	I
Isolation	Isolation de base entre la tension DALI et la tension secteur
Indice de protection	IP20 (suivant EN 60529)
Degré de pollution	2
Catégorie de surtension	III
Homologations	Conforme aux directives CEM et basse tension
Identification CE	Normes satisfaites : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuel
avec des informations détaillées sur la programmation, la mise en service et la maintenance :
- Numéro de document : BA000903
- Téléchargement via code QR ou : http://eshop.wieland-electric.com/product/83.020.0641.0

Sicurezza elettrica	
Classe di protezione	I
Isolamento	Isolamento base tra tensione DALI e tensione di rete
Grado di protezione	IP20 (a norma EN 60529)
Grado di inquinamento	2
Categoria di sovratensione	III
Certificazioni	Secondo Direttiva CEM e Direttiva bassa tensione
Marcatura CE	Soddisfa le norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate su programmazione, messa in servizio e manutenzione:
- Numero documento: BA000903
- Download mediante codice QR o: http://eshop.wieland-electric.com/product/83.020.0641.0

Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

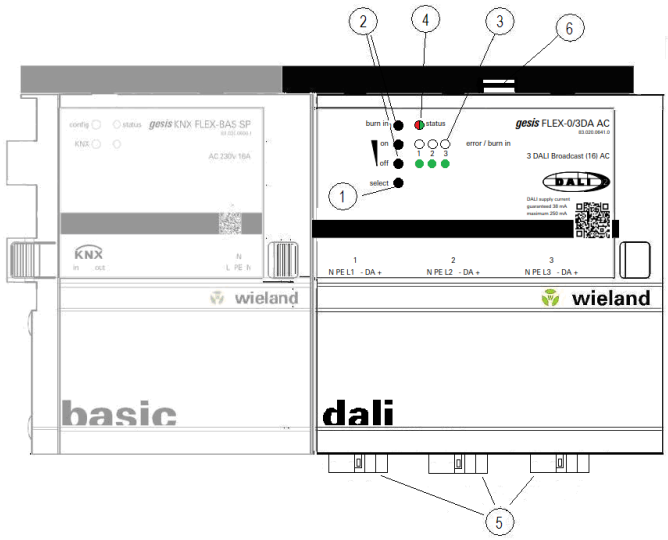


Figure 2: Montage
Figura 2: Montaggio

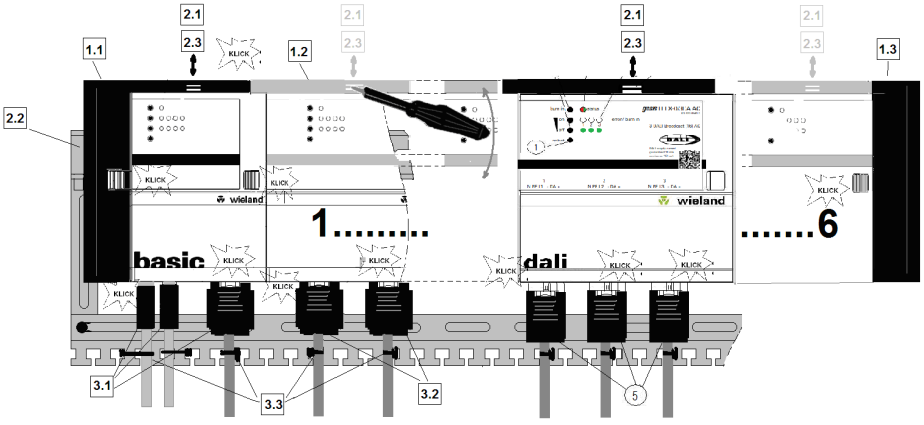
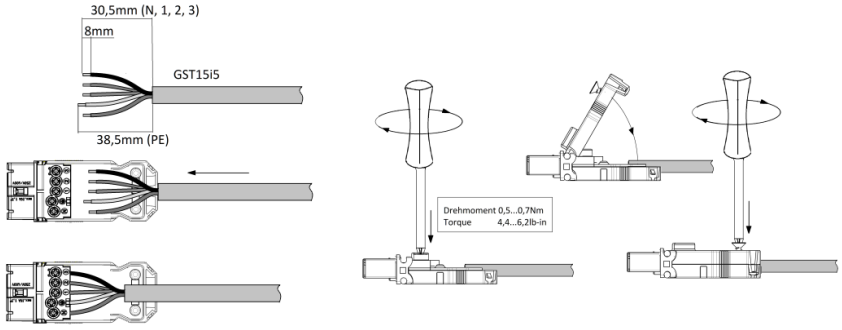


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST15i5 (91.952.4453.0)



7.9 *gesis* FLEX-0/2 W 2x AC shutter outputs

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/2W

2-fach Jalousieausgang (83.020.0624.0)
2-fold shutter output (83.020.0624.0)

Wieland Electric GmbH
Brennerstraße 10-14
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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der Jalousieausgang 2-fach 230 V/8 A im flachen, tragschienenmontierbaren AP-Gehäuse zum dezentralen Einbau wird vom Basismodul verwaltet. Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die Handbedienebene erlaubt Funktionstests ohne vorherige Systemintegration. Die nach IEC 61535 steckbaren elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'Select'	Wählt einen Jalousieausgang. Der gewählte Ausgang beginnt zu blinken.
②	Taster ▼	• Tastendruck > 500ms: Fährt Jalousie nach unten. Ein nachfolgender kurzer Tastendruck stoppt die Fahrbewegung. • Tastendruck < 500ms: Kurzzeitbefehl
③	Taster ▲	• Tastendruck > 500ms: Fährt Jalousie nach oben. Ein nachfolgender kurzer Tastendruck stoppt die Fahrbewegung. • Tastendruck < 500ms: Kurzzeitbefehl
④	LED '1' LED '2'	Signalisiert die Fahrrichtung und den Status der Jalousiebewegung. ▲: Fahrbewegung aufwärts ▼: Fahrbewegung abwärts
⑤	LED 'Status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung
⑥	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen
⑦	Jalousie-Anschlüsse	• 2 Anschlüsse für Stecker GST18i4 (Montage: siehe Rückseite, Abbildung 3)

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene aufsetzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken. Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑦ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Netzversorgung AC	Über internen Versorgungsbus
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz
Bemessungsstrom	8 A je Ausgang
Empfohlene Absicherung	Leitungsschutzschalter B 8A
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, feste Installation, Aufputz, auf ebene Fläche, Tragschiene TH35-7,5, Montagerahmen
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,5 kWh
Abmessungen (B, H, L)	130*)mm, 149 mm, 44 mm *)140 mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder: http://eshop.wieland-electric.com/product/83.020.0624.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 2-fold shutter output 230 V/8 A in the flat AP housing, which can be fitted on DIN rails for decentralised installation, is managed by the base module. It receives its mains supply and bus supply from the upstream module. The extensive parameter set enables different automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.
Note: Function tests directly after installation are possible on the devices with on-site operation and without programming.

Operating and functional elements (see back page, figure 1)

①	'Select' button	Selects one shutter output. The selected output begins to flash.
②	Button ▼	• Pressing the button > 500ms: Moves the shutter downwards. Pressing the button briefly afterwards stops the movement. • Pressing the button < 500ms: Short-time command
③	Button ▲	• Pressing the button > 500ms: Moves the shutter upwards. Pressing the button briefly afterwards stops the movement. • Pressing the button < 500ms: Short-time command
④	LED '1' LED '2'	Signals the movement direction and the status of the shutter movement. ▲: Movement upwards ▼: Movement downwards
⑤	LED for 'Status'	Signals the operating status of the extension module. • Green: Module ready to function (no fault). • Red: Fault message
⑥	Resting foot	Locking mechanism for installing on DIN rail/mounting frame
⑦	Shutter connections	• 2 connections for plug GST18i4 (installation: see back page, figure 3)

Installation (see back page, figure 2)

Step 1: Plugging in modules

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place additional modules in the desired sequence on the right of the base module and latch them into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on DIN rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules on the DIN rail.
2.3 Press the resting foot on every module downwards with a screwdriver. The modules are now fastened on the DIN rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in cable ⑦ to the module.
3.2 Plug in cables to all further modules (see installation instructions).
Important: Ensure that all plug-in connections are securely seated.
3.3 In the case of a mounting frame: Fasten cables with cable ties to the mounting frame.

Technical data

Mains connection	
Mains supply AC	Via internal supply bus
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz
Rated current	8 A per output
Recommended fuse protection	Circuit breaker B 8A
Ambient conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation, surface-mounted, on level surface, DIN rail TH35-7.5, mounting frame
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2.5 kWh
Dimensions (W, H, L)	130*) mm, 149 mm, 44 mm *)140 mm with left end cap
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Overvoltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or: http://eshop.wieland-electric.com/product/83.020.0624.0

Wieland Electric GmbH
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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

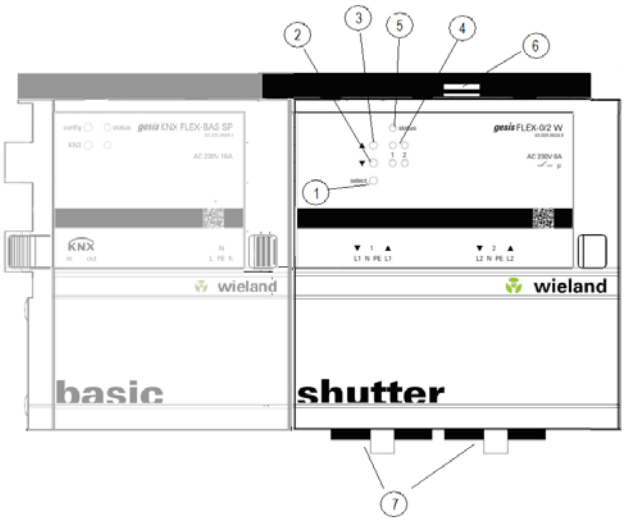


Abbildung 2: Montage
Figure 2: Installation

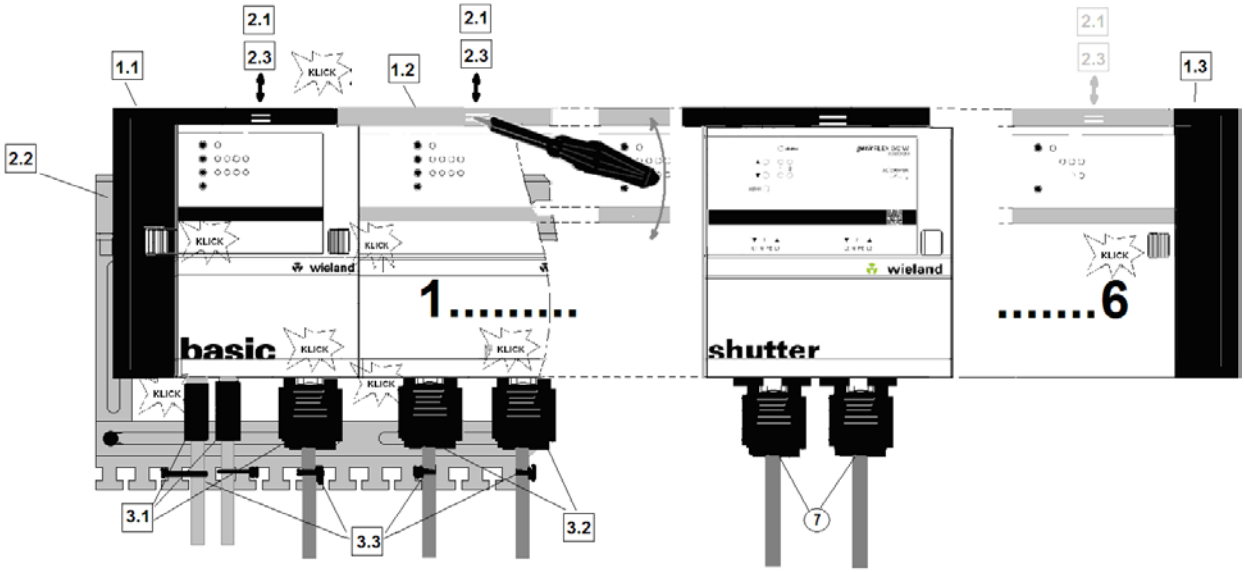
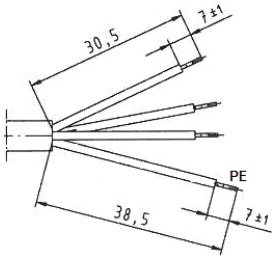
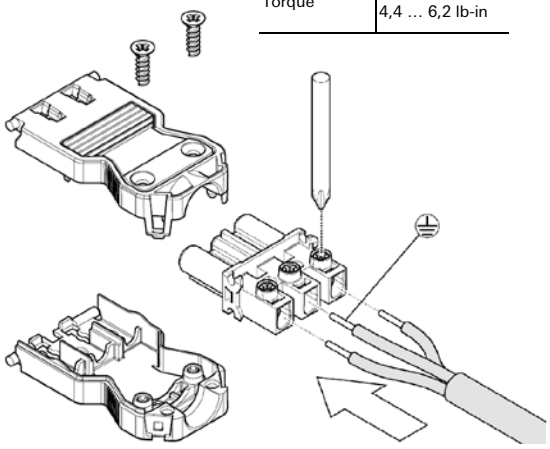


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST18i4 (92.944.3053.1)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/2W

Sortie de de store 2 postes (83.020.0624.0)
Uscita veneziana a 2 canali (83.020.0624.0)

Wieland Electric GmbH
Brennerstraße 10-14
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Email: info@wieland-electric.com

wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

La sortie de store 2 postes 230 V/8 A dans le boîtier plat en saillie pour le montage décentr. sur rail, est gérée par le module de base. L'alim. réseau et bus de cette entrée est assurée par le module monté en amont. Le bloc de param. compl. permet diff. fonctions d'automatisation. Le niveau de cde manuelle permet d'effectuer des tests de fonctionnement sans intégration préalable au système. Les raccords électriques enfichables selon CEI 61535 séparent l'automatisation et l'installation.
Remarque : la réalisation des tests de fonctionnement directement après le montage selon les conditions du site sur les appareils est possible sans programmation.

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'Select'	Sélectionne la sortie de store. La sortie sélectionnée commence à clignoter.
②	Bouton ▼	• Appui sur le bouton > 500 ms : le store descend. Un deuxième appui bref sur le bouton arrête le mouvement. • Appui sur le bouton < 500 ms : commande de courte durée
③	Bouton ▲	• Appui sur le bouton > 500 ms : le store monte. Un deuxième appui bref sur le bouton arrête le mouvement. • Appui sur le bouton < 500 ms : commande de courte durée
④	LED '1' LED '2'	Signale le sens de déplacement et l'état du mouvement de store. ▲ : déplacement vers le haut ▼ : déplacement vers le bas
⑤	LED 'Status'	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : message d'erreur
⑥	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage
⑦	Raccordements de stores	• 2 raccordements pour le connecteur GST18i4 (Montage : voir verso, figure 3)

Montage (voir verso, figure 2)

Étape 1 : **raccordement du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **option de fixation sur rail porteur ou cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pour le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module. Les modules sont fixés sur le rail porteur.

Étape 3 : **raccorder et sécuriser le câble**

3.1 Raccorder le câble ⑦ au module.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage). **Important :** s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension secteur CA	Via le bus d'alimentation interne
Tension nominale	230 VCA, -15 % / +10 %, 50/60 Hz
Intensité nominale	8 A par sortie
Fusible recommandé	Disjoncteur B 8A
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol et au mur ; installation fixe, en saillie, sur une surface plane, rail porteur TH35-7,5, cadre de montage
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2,5 kWh 130*) mm, 149 mm, 44 mm *)140 mm avec capuchon d'extrémité
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou : http://eshop.wieland-electric.com/product/83.020.0624.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita veneziana a 2 canali 230 V/8 A in custodia piatta da parete su guida di supporto per installazione decentrata è gestita dal modulo base. L'alimentazione di rete e bus proviene dal modulo inserito a monte. L'ampia gamma di parametri impostabili consente di realizzare diverse funzioni di automazione. Il comando manuale permette di testare le funzioni senza dover integrare il sistema. I collegamenti elettrici a innesto a norma IEC 61535 separano automazione e installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi, senza alcuna programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'Seleziona'	Consente di selezionare un'uscita veneziana. L'uscita selezionata inizia a lampeggiare.
②	Tasto ▼	• Premendo il tasto per > 500ms, si abbassano le veneziane. Una breve pressione del tasto interrompe il movimento. • Premendo il tasto per < 500ms si genera un movimento a impulsi
③	Tasto ▲	• Premendo il tasto per > 500ms, si alzano le veneziane. Una breve pressione del tasto interrompe il movimento. • Premendo il tasto per < 500ms si genera un movimento a impulsi
④	LED '1' LED '2'	Segnala la direzione e lo stato del movimento della veneziana. ▲: Movimento verso l'alto ▼: Movimento verso il basso
⑤	LED 'Stato'	Segnala le condizioni di esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: segnalazione di errore
⑥	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto/telaio di montaggio
⑦	Collegamenti veneziana	• 2 collegamenti per connettore GST18i4 (montaggio: vedere a tergo, figura 3)

Montaggio (vedere a tergo, figura 2)

Passo 1: **inserimento dei moduli**

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2: opzionale**: fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite. I moduli sono ora fissati alla guida di supporto.

Punto 3: **inserimento e fissaggio dei cavi**

3.1 Inserire il cavo ⑦ sul modulo.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio). **Importante:** assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Alimentazione di rete AC	Mediante bus di alimentazione interno
Tensione nominale	230 VAC, -15 % / +10 %, 50/60 Hz
Corrente nominale	8 A per uscita
Protezione consigliata	Interruttore magnetotermico B 8A
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5 °C ... +45 °C
Temperatura di stoccaggio	-25 °C ... +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa, a vista, su superficie piana, guida di supporto TH35-7,5, telaio di montaggio
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2,5 kWh 130*) mm, 149 mm, 44 mm *)140 mm con cappuccio terminale
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o: http://eshop.wieland-electric.com/product/83.020.0624.0

Wieland Electric GmbH
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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

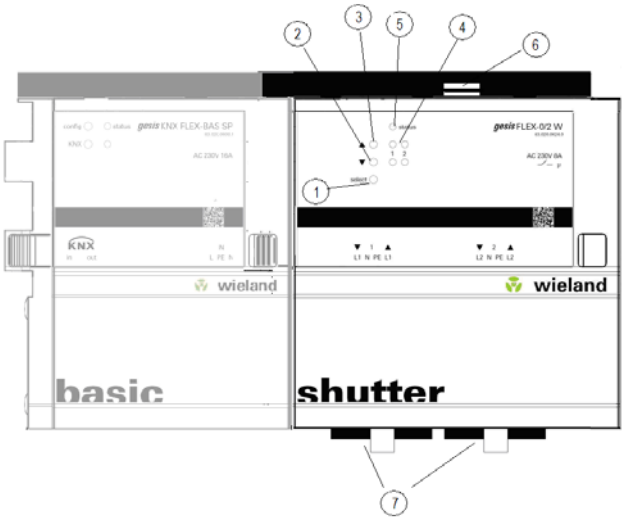


Figure 2: Montage
Figura 2: Montaggio

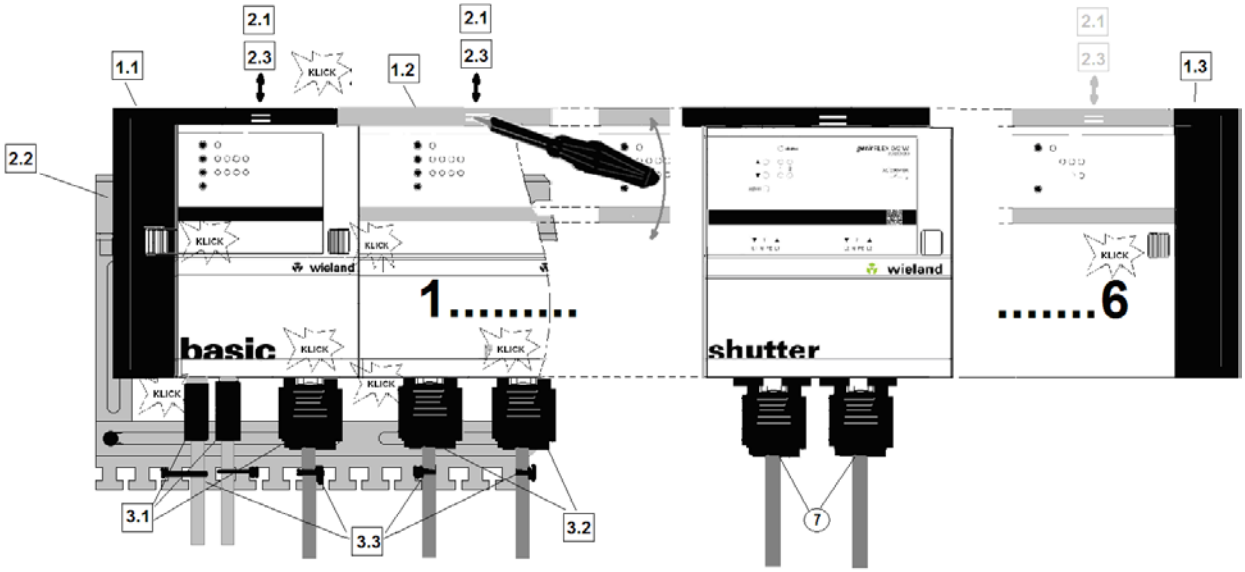
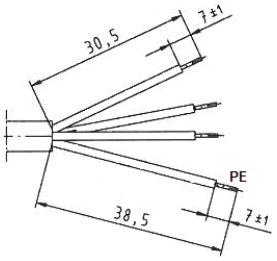
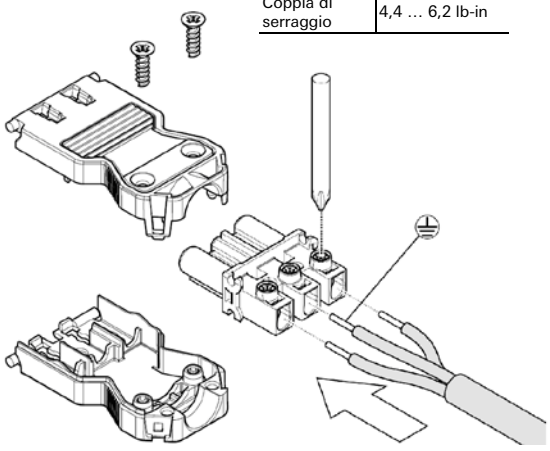


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST18i4 (92.944.3053.1)



Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.10 *gesis* FLEX-0/2 W F 2x AC shutter outputs

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/2W F

2-fach Jalousieausgang (83.020.0634.0)
2-fold shutter output (83.020.0634.0)

Wieland Electric GmbH
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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der Jalousieausgang 2-fach 230 V/8 A mit Sicherung im flachen, tragschienenmontierbaren AP-Gehäuse zum dezentralen Einbau wird vom Basismodul verwaltet. Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die Handbedienebene erlaubt Funktionstests ohne vorherige Systemintegration. Die nach IEC 61535 steckbaren elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'Select'	Wählt einen Jalousieausgang. Der gewählte Ausgang beginnt zu blinken.
②	Taster ▼	• Tastendruck > 500ms: Fährt Jalousie nach unten. Ein nachfolgender kurzer Tastendruck stoppt die Fahrbewegung. • Tastendruck < 500ms: Kurzzeitbefehl
③	Taster ▲	• Tastendruck > 500ms: Fährt Jalousie nach oben. Ein nachfolgender kurzer Tastendruck stoppt die Fahrbewegung. • Tastendruck < 500ms: Kurzzeitbefehl
④	LED '1' LED '2'	Signalisiert die Fahrrichtung und den Status der Jalousiebewegung. ▲: Fahrbewegung aufwärts ▼: Fahrbewegung abwärts
⑤	LED 'Status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung
⑥	Rastfuß	Arretierung für Montage auf Tragschiene / Montagerahmen
⑦	Jalousie-Anschlüsse	• 2 Anschlüsse für Stecker GST18i4 (Montage: siehe Rückseite, Abbildung 3)
⑧	Sicherungen	• Je Kanal eine wechselbare Sicherung 5x20mm T3,15A.

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene aufsetzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken. Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑦ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen). **Wichtig:** Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Netzversorgung AC	Über internen Versorgungsbus
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz
Bemessungsstrom	3 A je Ausgang
Absicherung	T3,15A (5x20mm)
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, feste Installation, Aufputz, auf ebene Fläche, Tragschiene TH35-7,5, Montagerahmen
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,5 kWh
Abmessungen (B, H, L)	130* ¹mm, 149 mm, 46 mm *¹140 mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder: http://eshop.wieland-electric.com/product/83.020.0634.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 2-fold shutter output 230 V/8 A with fuse in the flat AP housing, which can be fitted on DIN rails for decentralised installation, is managed by the base module. It receives its mains supply and bus supply from the upstream module. The extensive parameter set enables different automation functions. The manual operation level allows function tests without prior system integration. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.
Note: Function tests directly after installation are possible on the devices with on-site operation and without programming.

Operating and functional elements (see back page, figure 1)

①	'Select' button	Selects one shutter output. The selected output begins to flash.
②	Button ▼	• Pressing the button > 500ms: Moves the shutter downwards. Pressing the button briefly afterwards stops the movement. • Pressing the button < 500ms: Short-time command
③	Button ▲	• Pressing the button > 500ms: Moves the shutter upwards. Pressing the button briefly afterwards stops the movement. • Pressing the button < 500ms: Short-time command
④	LED '1' LED '2'	Signals the movement direction and the status of the shutter movement. ▲: Movement upwards ▼: Movement downwards
⑤	LED for 'Status'	Signals the operating status of the extension module. • Green: Module ready to function (no fault). • Red: Fault message
⑥	Resting foot	Locking mechanism for installing on DIN rail / mounting frame
⑦	Shutter connections	• 2 connections for plug GST18i4 (installation: see back page, figure 3).
⑧	Fuses	• One replaceable fuse per channel 5x20mm T3.15A.

Installation (see back page, figure 2)

Step 1: **Plugging in modules**

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place additional modules in the desired sequence on the right of the base module and latch them into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on DIN rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Place the modules on the DIN rail.
2.3 Press the resting foot on every module downwards with a screwdriver. The modules are now fastened on the DIN rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in cable ⑦ to the module.
3.2 Plug in cables to all further modules (see installation instructions). **Important:** Ensure that all plug-in connections are securely seated.
3.3 In the case of a mounting frame: Fasten cables with cable ties to the mounting frame.

Technical data

Mains connection	
Mains supply AC	Via internal supply bus
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz
Rated current	3 A per output
Fuse protection	Circuit breaker T3,15A (5x20mm)
Ambient conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation, surface-mounted, on level surface, DIN rail TH35-7.5, mounting frame
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2.5 kWh
Dimensions (W, H, L)	130*¹ mm, 149 mm, 46 mm *¹140 mm with left end cap
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Overvoltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or: http://eshop.wieland-electric.com/product/83.020.0634.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

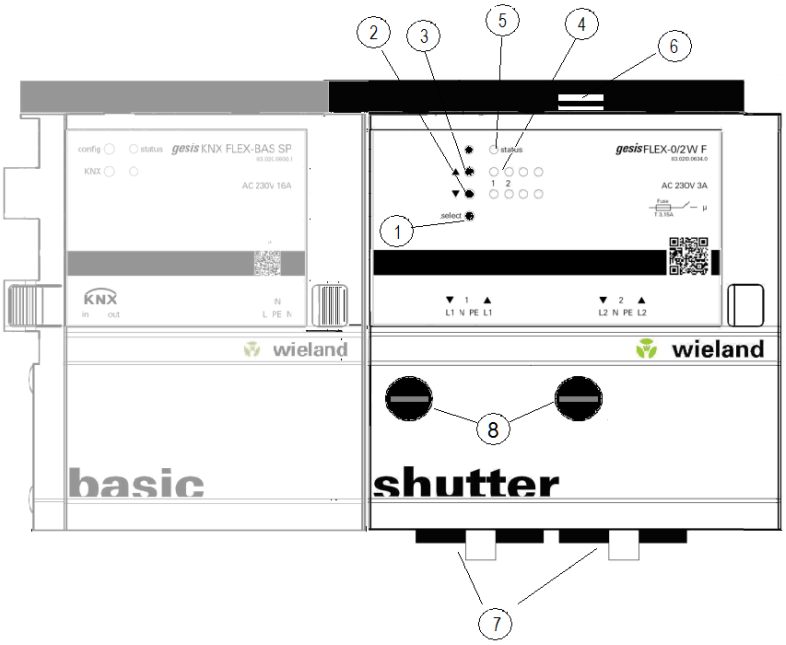


Abbildung 2: Montage
Figure 2: Installation

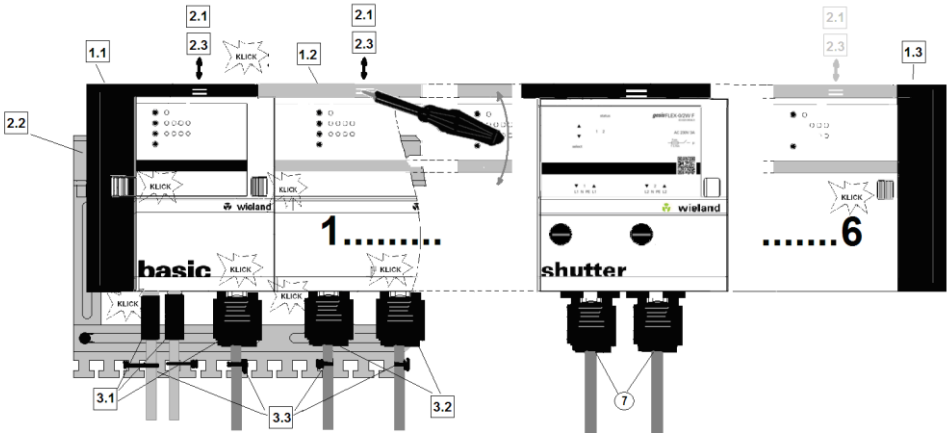
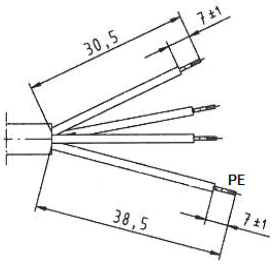
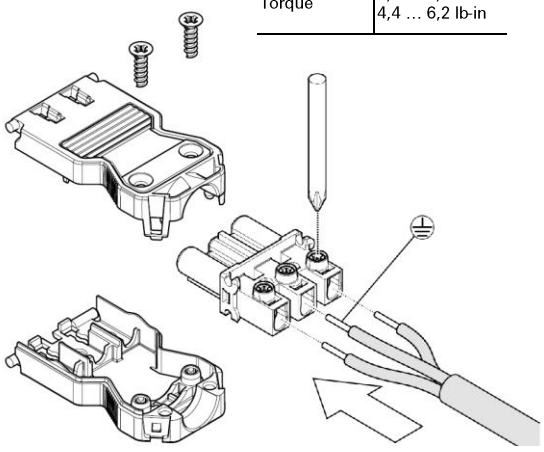


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST18i4 (92.944.3053.1)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/2W

Sortie de de store 2 postes (83.020.0634.0)
Uscita veneziana a 2 canali (83.020.0634.0)

Wieland Electric GmbH
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Internet: www.wieland-electric.com
Email: info@wieland-electric.com

wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

Le module de store à 2 sorties 230 V/8 A avec fusible se trouvant dans un boîtier AP plat à monter sur barres de support pour un montage décentralisé est géré par le module de base. L'alim. réseau et bus de cette entrée est assurée par le module monté en amont. Le bloc de param. compl. permet diff. fonctions d'automatisation. Le niveau de cde manuelle permet d'effectuer des tests de fonctionnement sans intégration préalable au système. Les raccords électriques enfichables selon CEI 61535 séparent l'automatisation et l'installation.
Remarque : la réalisation des tests de fonctionnement directement après le montage selon les conditions du site sur les appareils est possible sans programmation.

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'Select'	Sélectionne la sortie de store. La sortie sélectionnée commence à clignoter.
②	Bouton ▼	• Appui sur le bouton > 500 ms : le store descend. Un deuxième appui bref sur le bouton arrête le mouvement. • Appui sur le bouton < 500 ms : commande de courte durée
③	Bouton ▲	• Appui sur le bouton > 500 ms : le store monte. Un deuxième appui bref sur le bouton arrête le mouvement. • Appui sur le bouton < 500 ms : commande de courte durée
④	LED '1' LED '2'	Signale le sens de déplacement et l'état du mouvement de store. ▲ : déplacement vers le haut ▼ : déplacement vers le bas
⑤	LED 'Status'	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : message d'erreur
⑥	Pied enclique-table	Arrêt pour le montage sur rail porteur / cadre de montage
⑦	Raccordements de stores	• 2 raccordements pour le connecteur GST18i4 (Montage : voir verso, figure 3)
⑧	Fusibles	• un fusible remplaçable 5 x 20 mm T3,15 A par canal.

Montage (voir verso, figure 2)

Étape 1 : **raccordement du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **option de fixation sur rail porteur ou cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pour le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module.
Les modules sont fixés sur le rail porteur.

Étape 3 : **raccorder et sécuriser le câble**

3.1 Raccorder le câble ⑦ au module.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage).
Important : s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension secteur CA	Via le bus d'alimentation interne
Tension nominale	230 VCA, -15 % / +10 %, 50/60 Hz
Intensité nominale	3 A par sortie
Protection par fusible	T3, 15 A (5 x 20 mm)
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol et au mur ; installation fixe, en saillie, sur une surface plane, rail porteur TH35-7,5, cadre de montage
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2,5 kWh 130*) mm, 149 mm, 46 mm *) 140 mm avec capuchon d'extrémité
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou:
http://eshop.wieland-electric.com/product/83.020.0634.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita relè a 2 strati 230 V/8 A con fusibile, con alloggiamento piatto montabile su guida portante per installazione decentrata, è gestita dal modulo base. L'alimentazione di rete e bus proviene dal modulo inserito a monte. L'ampia gamma di parametri impostabili consente di realizzare diverse funzioni di automazione. Il comando manuale permette di testare le funzioni senza dover integrare il sistema. I collegamenti elettrici a innesto a norma IEC 61535 separano automazione e installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi, senza alcuna programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'Seleziona'	Consente di selezionare un'uscita veneziana. L'uscita selezionata inizia a lampeggiare.
②	Tasto ▼	• Premendo il tasto per > 500ms, si abbassano le veneziane. Una breve pressione del tasto interrompe il movimento. • Premendo il tasto per < 500ms si genera un movimento a impulsi
③	Tasto ▲	• Premendo il tasto per > 500ms, si alzano le veneziane. Una breve pressione del tasto interrompe il movimento. • Premendo il tasto per < 500ms si genera un movimento a impulsi
④	LED '1' LED '2'	Segnala la direzione e lo stato del movimento della veneziana. ▲: Movimento verso l'alto ▼: Movimento verso il basso
⑤	LED 'Stato'	Segnala le condizioni di esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: segnalazione di errore
⑥	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto / telaio di montaggio
⑦	Collegamenti veneziana	• 2 collegamenti per connettore GST18i4 (montaggio: vedere a tergo, figura 3)
⑧	Fusibili	• un fusibile sostituibile per ogni canale 5 x 20 mm T3,15A.

Montaggio (vedere a tergo, figura 2)

Passo 1: **inserimento dei moduli**

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2:

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite.
I moduli sono ora fissati alla guida di supporto.

Punto 3: **inserimento e fissaggio dei cavi**

3.1 Inserire il cavo ⑦ sul modulo.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio).
Importante: assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Alimentazione di rete AC	Mediante bus di alimentazione interno
Tensione nominale	230 VAC, -15 % / +10 %, 50/60 Hz
Corrente nominale	3 A per uscita
Protezione	T3, 15A (5 x 20 mm)
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	da -5 °C a +45 °C
Temperatura di stoccaggio	da -25 °C a +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa, a vista, su superficie piana, guida di supporto TH35-7,5, telaio di montaggio
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2,5 kWh 130*) mm, 149 mm, 46 mm *) 140 mm con cappuccio terminale
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
http://eshop.wieland-electric.com/product/83.020.0634.0

Wieland Electric GmbH
Brennerstraße 10-14
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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

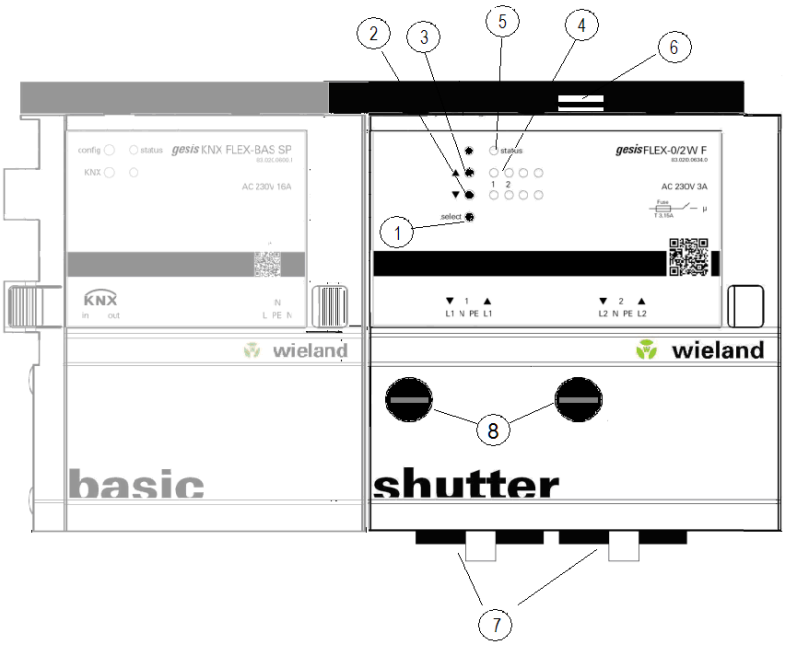


Figure 2: Montage
Figura 2: Montaggio

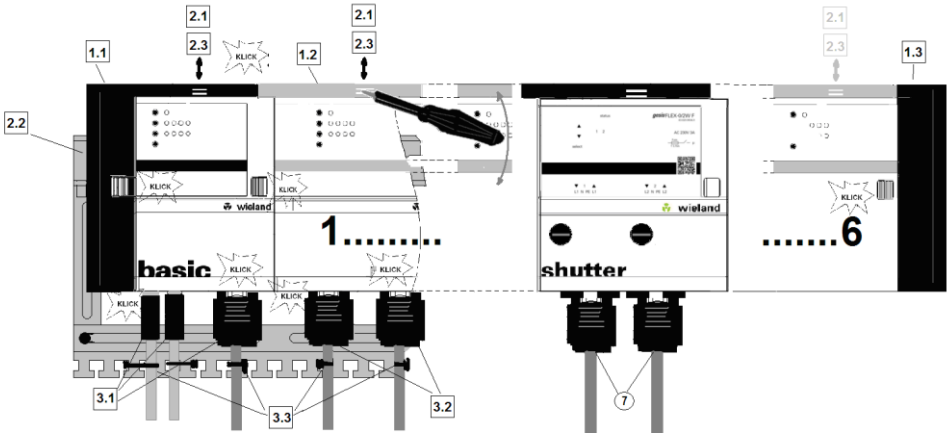
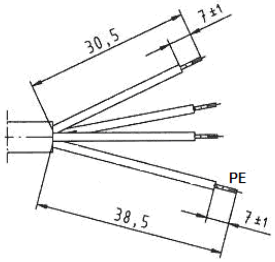
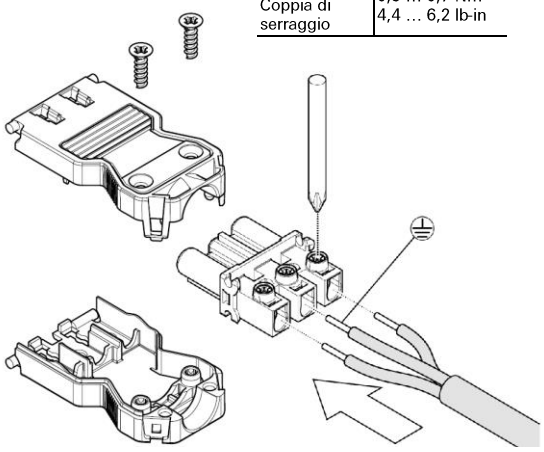


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST18i4 (92.944.3053.1)



Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.11 *gesis* FLEX-0/2 W DC 2x shutter outputs

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/2W DC

2-fach Jalousieausgang (83.020.0627.0)
2-fold shutter output (83.020.0627.0)

Wieland Electric GmbH
Brennerstraße 10-14
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Tel.: +49 (951) 9324-0
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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der DC-Jalousieausgang 2-fach 24 VDC/3 A im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau, wird vom Basismodul verwaltet und erhält die Busversorgung vom vorgeschalteten Modul. Die 24 VDC-Versorgung erfolgt von extern. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die nach IEC 61535 steckbaren elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Wählt einen Jalousieausgang. Der gewählte Ausgang beginnt zu blinken.
②	Taster ▼	• Tastendruck > 500ms: Fährt Jalousie nach unten. • Tastendruck < 500ms: Lamellenbewegung oder Stopp
③	Taster ▲	• Tastendruck > 500ms: Fährt Jalousie nach oben. • Tastendruck < 500ms: Lamellenbewegung oder Stopp
④	LED '1' LED '2'	Signalisiert die Fahrrichtung und den Status der Jalousiebewegung. ▲: Fahrbewegung aufwärts ▼: Fahrbewegung abwärts
⑤	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung
⑥	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen
⑦	Jalousieausgang	• 2 Anschlüsse für Stecker GST15i2 lichtblau (91.921.3353.0) (Montage: siehe Rückseite, Abbildung 3)
⑧	DC-Einspeisung	• Anschluss der Versorgungsspannung 5 bis 24 VDC für die Jalousieantriebe mit Stecker GST15i2 lichtblau (91.922.3353.0)

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene aufsetzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑦ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Netzversorgung AC	230 VAC, -15 % / +10 %, 50/60 Hz (für Folgemodule)
Ausgänge	
Bemessungsspannung	5 bis 24V DC (Versorgung über externes Netzteil)
Bemessungsstrom	3 A je Kanal 6 A als Summenstrom beider Ausgänge
Empfohlene Absicherung	6,3 A T (träge in DC-Zuleitung)
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, feste Installation, Aufputz, auf ebene Fläche, Tragschiene TH35-7,5, Montagerahmen
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2 kWh
Abmessungen (B, H, L)	95*)mm, 149 mm, 44 mm *)105mm mit Endkappe rechts
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0627.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 2-fold DC shutter output 24 VDC/3 A in the flat AP housing, which can be fitted on carrier rails for decentralised installation, is administered by the base module and receives bus power from the upstream module. The 24 VDC power supply is external. The extensive parameter set enables different automation functions. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.
Note: Function tests directly after installation are possible on the devices with on-site operation and without programming.

Operating and functional elements (see back page, figure 1)

①	'select' button	Selects one shutter output. The selected output begins to flash.
②	Button ▼	• Pressing the button > 500ms: Moves the shutter downwards. • Pressing the button < 500ms: lamella movement or stop
③	Button ▲	• Pressing the button > 500ms: Moves the shutter upwards. • Pressing the button < 500ms: lamella movement or stop
④	LED '1' LED '2'	Signals the movement direction and the status of the shutter movement. ▲: Movement upwards ▼: Movement downwards
⑤	LED 'status'	Signals the operating status of the extension module. • Green: Module ready to function (no fault). • Red: Fault message
⑥	Resting foot	Locking mechanism for installing on carrier rail/mounting frame
⑦	Shutter output	• 2 connections for plug GST15i2 light blue (91.921.3353.0) (Installation: see back page, Figure 3)
⑧	DC power feed	• Connection of power supply 5 to 24 VDC for the shutter drive with plug GST15i2 light blue (91.922.3353.0)

Installation (see back page, Figure 2)

Step 1: **Plugging in modules**

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place the additional module in the desired order on the right of the base module and latch it into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on carrier rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Set the modules onto the carrier rail.
2.3 Press the resting foot on every module downward with a screwdriver.
The modules are now fastened on the carrier rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in cable ⑦ to the module.
3.2 Plug in cables at all other modules (see: installation instructions).
Important: Ensure that all plug-in connections are securely seated.
3.3 For mounting frames: fix to mounting frame with cable binders.

Technical Data

Mains connection	
Mains supply AC	230 VAC, -15 % / +10 %, 50/60 Hz (for the subsequent modules)
Outputs	
Rated voltage	5 to 24V DC (power supply through external power source)
Rated current	3 A per channel 6 A as a total current for both outputs
Recommended fuse protection	6.3 A T (slow in DC feed line)
Environmental conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation, surface-mounted, on level surface, carrier rail TH35-7.5, mounting frame
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2 kWh
Dimensions (W, H, L)	95*)mm, 149 mm, 44 mm *)105 mm with right end cap
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Over-voltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0627.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

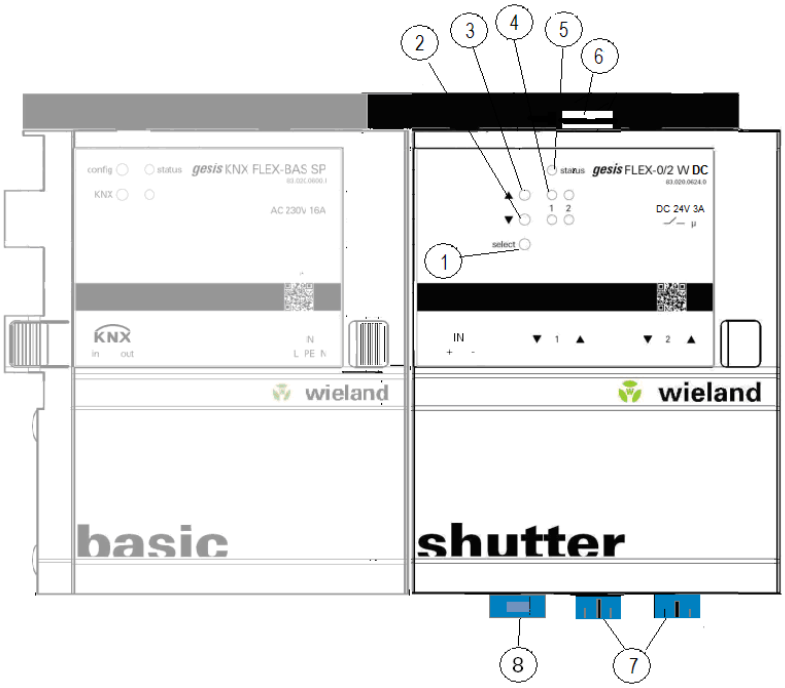


Abbildung 2: Montage
Figure 2: Installation

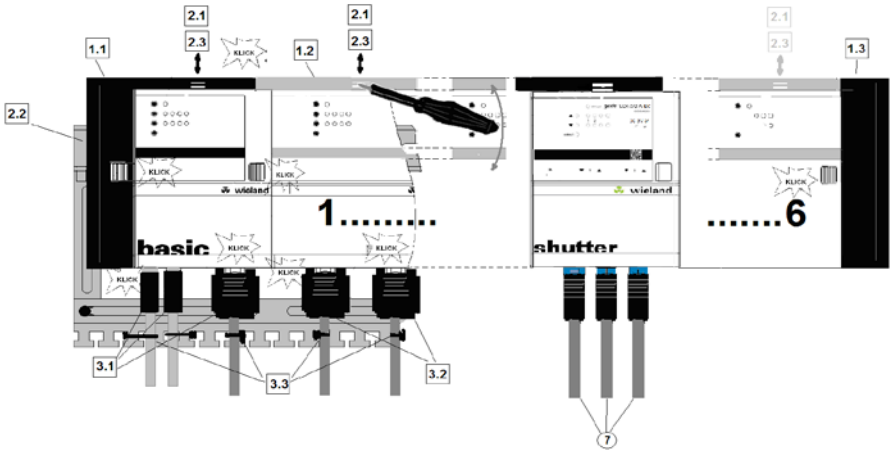
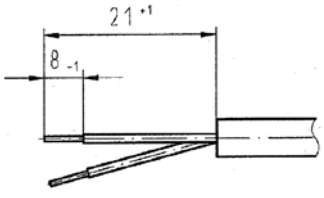
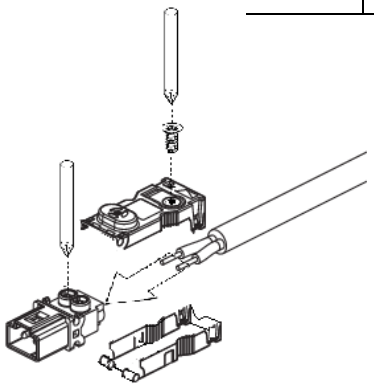


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST15i2 (91.922.3353.0 und/and 91.921.3353.0)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/2W DC

Sortie de store 2 postes (83.020.0627.0)
Uscita veneziana a 2 canali (83.020.0627.0)

Wieland Electric GmbH
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96052 Bamberg
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Internet: www.wieland-electric.com
Email: info@wieland-electric.com

wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

La sortie de store 2 postes CC de 24 VCC/3 A en boîtier plat, monté sur le rail pour le montage décentralisé est géré par le module de base et utilise l'alimentation du bus du module précédent. L'alimentation 24 VCC est externe. Le bloc de paramètres complet permet différentes fonctions d'automatisation. Les raccords électriques enfichables selon CEI 61535 séparent l'automatisation et l'installation.

Remarque : les tests de fonctionnement sont possibles directement après le montage avec la commande sur site des appareils.

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'select'	Sélectionne la sortie de store. La sortie sélectionnée commence à clignoter.
②	Bouton ▼	• Appui sur le bouton > 500 ms : le store descend. • Appui sur le bouton < 500 ms : les lamelles bougent ou Arrêt
③	Bouton ▲	• Appui sur le bouton > 500 ms : le store monte. • Appui sur le bouton < 500 ms : les lamelles bougent ou Arrêt
④	LED '1' LED '2'	Signale le sens de déplacement et l'état du mouvement de store. ▲ : déplacement vers le haut ▼ : déplacement vers le bas
⑤	LED 'status'	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : message d'erreur
⑥	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage
⑦	Sortie de store	• 2 raccordements pour le connecteur GST15i2 bleu clair (91.921.3353.0) (Montage : voir verso, figure 3)
⑧	Alimentation CC	• Raccordement de la tension d'alimentation de 5 à 24 VCC pour le fonctionnement du store avec le connecteur GST15i2 bleu clair (91.922.3353.0)

Montage (voir verso, figure 2)

Étape 1 : **Enfichage du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **En option : fixation sur un rail porteur ou un cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pousser le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module. Les modules sont fixés sur le rail porteur.

Étape 3 : **Enfichage du câble et fixation**

3.1 Raccorder les câbles ⑦ sur le module.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage).
Important : s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension secteur CA	230 VCA, -15 % / +10 %, 50/60 Hz (pour les modules suivants)
Sorties	
Tension nominale	5 à 24 VCC (alimentation via un bloc d'alimentation externe)
Intensité nominale	3 A par canal 6 A en tant somme de l'intensité des deux sorties
Fusible recommandé	6,3 A T (à retardement pour l'alimentation CC)
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol et au mur ; installation fixe, en saillie, sur une surface plane, rail porteur TH35-7,5, cadre de montage
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2 kWh 95*)mm, 149 mm, 44 mm *)105 mm avec capuchon d'extrémité à droite
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou :
http://eshop.wieland-electric.com/product/83.020.0627.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici. che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita veneziana DC a 2 canali 24 VDC/3 A in custodia da parete piatta su guida di supporto per installazione decentrata è gestita dal modulo base e riceve l'alimentazione bus dal modulo installato a monte. L'alimentazione 24 VDC proviene dall'esterno. L'ampia gamma di parametri impostabili consente di realizzare diverse funzioni di automazione. I collegamenti elettrici a innesto a norma IEC 61535 separano automazione e installazione.

Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi senza programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'select'	Consente di selezionare un'uscita veneziana. L'uscita selezionata inizia a lampeggiare.
②	Tasto ▼	• Premendo il tasto per > 500ms, si abbassano le veneziane. • Pressione del tasto < 500ms: movimentazione lamelle o arresto
③	Tasto ▲	• Premendo il tasto per > 500ms, si alzano le veneziane. • Pressione del tasto < 500ms: movimentazione lamelle o arresto
④	LED '1' LED '2'	Segnala la direzione e lo stato del movimento della veneziana. ▲: Movimento verso l'alto ▼: Movimento verso il basso
⑤	LED 'status'	Segnala le condizioni di esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: segnalazione di errore
⑥	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto/telaio di montaggio
⑦	Uscita veneziana	• 2 collegamenti per connettore GST15i2 azzurro (91.921.3353.0) (montaggio: vedere a tergo, figura 3)
⑧	Alimentazione DC	• Collegamento della tensione di alimentazione da 5 a 24 VDC per l'azionamento veneziana con connettore GST15i2 azzurro (91.922.3353.0)

Montaggio (vedere a tergo, figura 2)

Passo 1: inserimento dei moduli

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2: opzionale: fissaggio su guida di supporto o telaio di montaggio

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite. I moduli sono ora fissati alla guida di supporto.

Punto 3: inserimento e fissaggio dei cavi

3.1 Inserire il cavo ⑦ sul modulo.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio).
Importante: assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Alimentazione di rete AC	230 VAC, -15 % / +10 %, 50/60 Hz (per moduli successivi)
Uscite	
Tensione nominale	da 5 d 24V DC (alimentazione tramite alimentatore esterno)
Corrente nominale	3 A per canale 6 A come corrente totale delle due uscite
Protezione consigliata	6,3 A T (con fusibile ritardato nella linea di alimentazione DC)
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5 °C ... +45 °C
Temperatura di stoccaggio	-25 °C ... +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa, a vista, su superficie piana, guida di supporto TH35-7,5, telaio di montaggio
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2 kWh 95*)mm, 149 mm, 44 mm *)105mm con cappuccio terminale a destra
Sicurezza elettrica	
Classe di protezione	i
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
http://eshop.wieland-electric.com/product/83.020.0627.0

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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

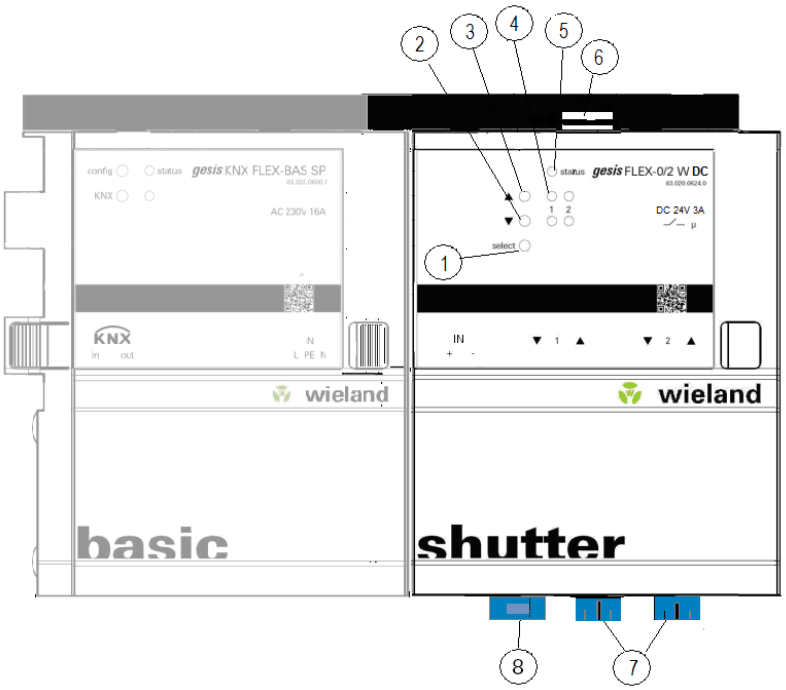


Figure 2: Montage
Figura 2: Montaggio

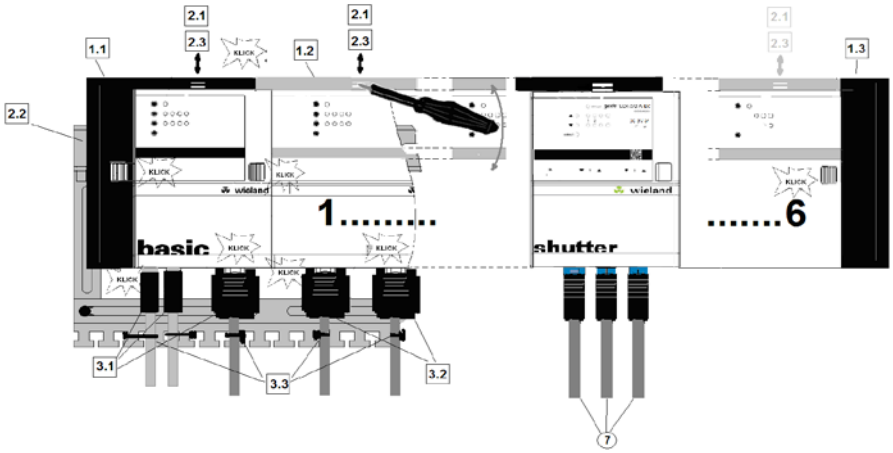
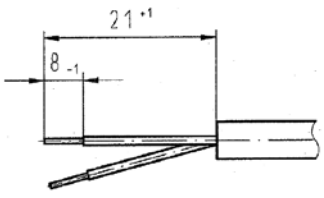
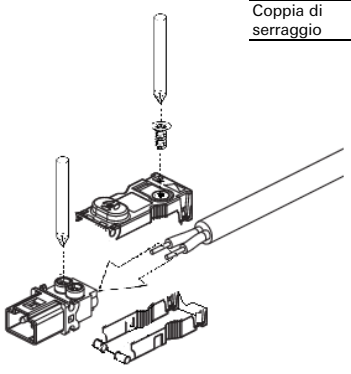


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST15i2 (91.922.3353.0 et/e 91.921.3353.0)



Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.12 *gesis* FLEX-0/2 W DC F 2x shutter outputs

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/2W DC F

2-fach Jalousieausgang mit Sicherung (83.020.0637.0)
2-fold shutter output with fuse (83.020.0637.0)

Wieland Electric GmbH
Brennerstraße 10-14
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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der DC-Jalousieausgang 2-fach 24 VDC/3 A mit Sicherung im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau, wird vom Basismodul verwaltet und erhält die Busversorgung vom vorgeschalteten Modul. Die 24 VDC-Versorgung erfolgt von extern. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die nach IEC 61535 steckbaren elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Wählt einen Jalousieausgang. Der gewählte Ausgang beginnt zu blinken.
②	Taster ▼	• Tastendruck > 500ms: Fährt Jalousie nach unten. • Tastendruck < 500ms: Lamellenbewegung oder Stopp
③	Taster ▲	• Tastendruck > 500ms: Fährt Jalousie nach oben. • Tastendruck < 500ms: Lamellenbewegung oder Stopp
④	LED '1' LED '2'	Signalisiert die Fahrrichtung und den Status der Jalousiebewegung. ▲: Fahrbewegung aufwärts ▼: Fahrbewegung abwärts
⑤	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung
⑥	Rastfuß	Arretierung für Montage auf Tragschiene / Montagerahmen
⑦	Jalousieausgang	• 2 Anschlüsse für Stecker GST15i2 lichtblau (91.921.3353.0) (Montage: siehe Rückseite, Abbildung 3)
⑧	DC-Einspeisung	• Anschluss der Versorgungsspannung 5 bis 24 VDC für die Jalousieantriebe mit Stecker GST15i2 lichtblau (91.922.3353.0)
⑨	Sicherung T6,3A	• Wechselbare Sicherung zur Absicherung beider Kanäle. Sicherung 5x20mm träge 6,3A.

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene aufsetzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑦ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Netzversorgung AC	230 VAC, -15 % / +10 %, 50/60 Hz (für Folgemodule)
Ausgänge	
Bemessungsspannung	5 bis 24V DC (Versorgung über externes Netzteil)
Bemessungsstrom	3 A je Kanal 6 A als Summenstrom beider Ausgänge
Absicherung	6,3 A T (träge in DC-Zuleitung)
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, feste Installation, Aufputz, auf ebene Fläche, Tragschiene TH35-7,5, Montagerahmen
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 1,72 kWh
Abmessungen (B, H, L)	95*)mm, 149 mm, 46 mm *)105mm mit Endkappe rechts
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0637.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The 2-fold DC shutter output 24 VDC/3 A with fuse in the flat AP housing, which can be fitted on carrier rails for decentralised installation, is administered by the base module and receives bus power from the upstream module. The 24 VDC power supply is external. The extensive parameter set enables different automation functions. The electrical connections, which are pluggable in accordance with IEC 61535, separate automation and installation.
Note: Function tests directly after installation are possible on the devices with on-site operation and without programming.

Operating and functional elements (see back page, figure 1)

①	'select' button	Selects one shutter output. The selected output begins to flash.
②	Button ▼	• Pressing the button > 500ms: Moves the shutter downwards. • Pressing the button < 500ms: lamella movement or stop
③	Button ▲	• Pressing the button > 500ms: Moves the shutter upwards. • Pressing the button < 500ms: lamella movement or stop
④	LED '1' LED '2'	Signals the movement direction and the status of the shutter movement. ▲: Movement upwards ▼: Movement downwards
⑤	LED 'status'	Signals the operating status of the extension module. • Green: Module ready to function (no fault). • Red: Fault message
⑥	Resting foot	Locking mechanism for installing on carrier rail / mounting frame
⑦	Shutter output	• 2 connections for plug GST15i2 light blue (91.921.3353.0) (Installation: see back page, Figure 3)
⑧	DC power feed	• Connection of power supply 5 to 24 VDC for the shutter drive with plug GST15i2 light blue (91.922.3353.0)
⑨	Fuse T6,3A	• Replaceable fuse for protecting both channels. Fuse 5x20mm slow 6.3A.

Installation (see back page, Figure 2)

Step 1: **Plugging in modules**

1.1 Place the end cap on the left of the base module and latch it into place.
1.2 Place the additional module in the desired order on the right of the base module and latch it into place with an audible click.
1.3 Place the end cap on the last module on the right and latch it into place.

Step 2: **Optional: Fastening on carrier rail or mounting frame**

2.1 Pull the resting foot on every module upwards with a screwdriver.
2.2 Set the modules onto the carrier rail.
2.3 Press the resting foot on every module downward with a screwdriver.
The modules are now fastened on the carrier rail.

Step 3: **Plugging in cables and securing them**

3.1 Plug in cable ⑦ to the module.
3.2 Plug in cables at all other modules (see: installation instructions).
Important: Ensure that all plug-in connections are securely seated.
3.3 For mounting frames: fix to mounting frame with cable binders.

Technical Data

Mains connection	
Mains supply AC	230 VAC, -15 % / +10 %, 50/60 Hz (for the subsequent modules)
Outputs	
Rated voltage	5 to 24V DC (power supply through external power source)
Rated current	3 A per channel 6 A as a total current for both outputs
Fuse protection	6.3 A T (slow in DC feed line)
Environmental conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation, surface-mounted, on level surface, carrier rail TH35-7.5, mounting frame
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2 kWh
Dimensions (W, H, L)	95*)mm, 149 mm, 46 mm *)105 mm with right end cap
Electrical safety	
Protection class	I
Protection type	IP20 (in accordance with EN 60529)
Contamination level	2
Over-voltage category	III
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0637.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

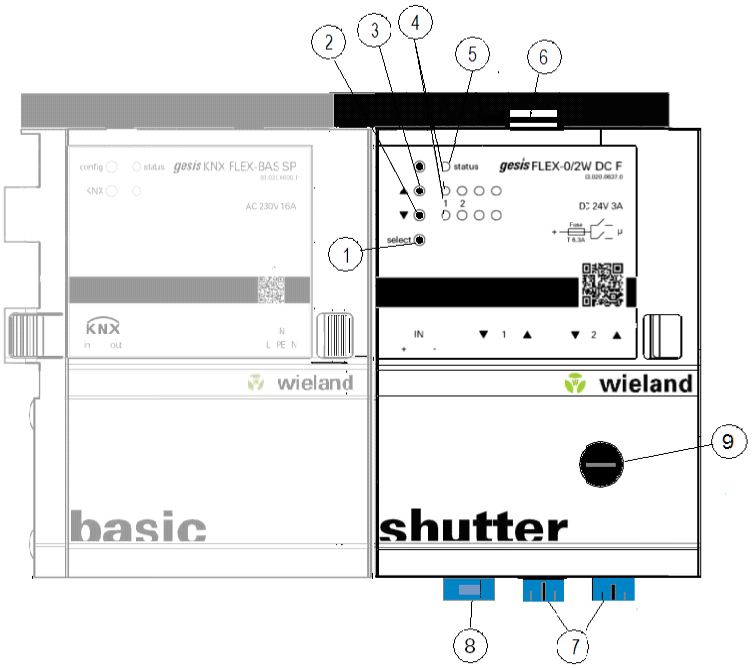


Abbildung 2: Montage
Figure 2: Installation

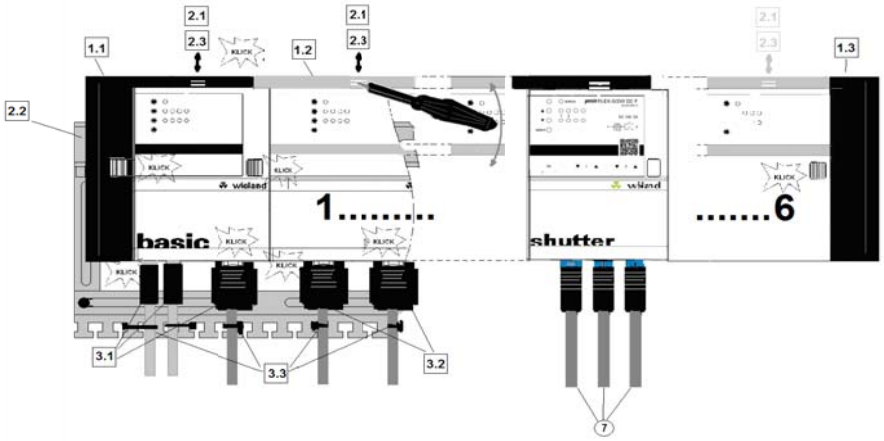
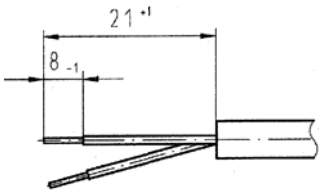
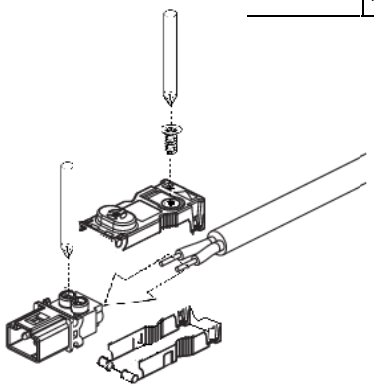


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

GST15i2 (91.922.3353.0 und/and 91.921.3353.0)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/2W DC

Sortie de store 2 postes (83.020.0637.0)
Uscita veneziana a 2 canali (83.020.0637.0)

Wieland Electric GmbH
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Internet: www.wieland-electric.com
Email: info@wieland-electric.com

wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

Le module de store à 2 sorties 24 VDC/3 A avec fusible se trouvant dans un boîtier AP plat à monter sur barres de support pour un montage décentralisé est géré par le module de base et obtient son alimentation de bus du mode présélectionné. L'alimentation 24 VCC est externe. Le bloc de paramètres complet permet différentes fonctions d'automatisation. Les raccords électriques enfichables selon CEI 61535 séparent l'automatisation et l'installation.
Remarque : les tests de fonctionnement sont possibles directement après le montage avec la commande sur site des appareil

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'select'	Sélectionne la sortie de store. La sortie sélectionnée commence à clignoter.
②	Bouton ▼	• Appui sur le bouton > 500 ms : le store descend. • Appui sur le bouton < 500 ms : les lamelles bougent ou Arrêt
③	Bouton ▲	• Appui sur le bouton > 500 ms : le store monte. • Appui sur le bouton < 500 ms : les lamelles bougent ou Arrêt
④	LED '1' LED '2'	Signale le sens de déplacement et l'état du mouvement de store. ▲ : déplacement vers le haut ▼ : déplacement vers le bas
⑤	LED 'status'	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : message d'erreur
⑥	Pied encliquetable	Arrêt pour le montage sur rail porteur / cadre de montage
⑦	Sortie de store	• 2 raccordements pour le connecteur GST15i2 bleu clair (91.921.3353.0) (Montage : voir verso, figure 3)
⑧	Alimentation CC	• Raccordement de la tension d'alimentation de 5 à 24 VCC pour le fonctionnement du store avec le connecteur GST15i2 bleu clair (91.922.3353.0)
⑨	Fusible T6,3 A	• fusible remplaçable pour la protection des deux canaux. Fusible 5 x 20 mm à action retardée 6,3 A.

Montage (voir verso, figure 2)

Étape 1 : **Enfichage du module**

1.1 Monter le capuchon d'extrémité sur le côté gauche du module de base et l'encliqueter.
1.2 Monter les modules supplémentaires dans l'ordre souhaité à droite du module de base et les encliqueter jusqu'à entendre un clic.
1.3 Monter le capuchon d'extrémité sur le côté droit du dernier module et l'encliqueter.

Étape 2 : **En option : fixation sur un rail porteur ou un cadre de montage**

2.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
2.2 Placer les modules sur le rail porteur.
2.3 Pousser le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module. Les modules sont fixés sur le rail porteur.

Étape 3 : **Enfichage du câble et fixation**

3.1 Raccorder les câbles ⑦ sur le module.
3.2 Raccorder le câble à tous les autres modules (voir : instructions de montage).
Important : s'assurer de la bonne fixation de tous les raccords enfichés.
3.3 Avec cadre de montage : fixer les câbles sur le cadre de montage à l'aide de serre-câbles.

Caractéristiques techniques

Raccordement secteur	
Tension secteur CA	230 VCA, -15 % / +10 %, 50/60 Hz (pour les modules suivants)
Sorties	
Tension nominale	5 à 24 VCC (alimentation via un bloc d'alimentation externe)
Intensité nominale	3 A par canal 6 A en tant somme de l'intensité des deux sorties
Fusible recommandé	6,3 A T (à retardement pour l'alimentation CC)
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol et au mur ; installation fixe, en saillie, sur une surface plane, rail porteur TH35-7,5, cadre de montage
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2 kWh 95*)mm, 149 mm, 46 mm *)105 mm avec capuchon d'extrémité à droite
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (selon EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou :
http://eshop.wieland-electric.com/product/83.020.0637.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici. che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita relè a 2 strati 24 VDC/3 A con fusibile, con alloggiamento piatto montabile su guida portante per installazione decentrata, è gestita dal modulo base e riceve l'alimentazione bus dal modulo inserito a monte. L'alimentazione 24 VDC proviene dall'esterno. L'ampia gamma di parametri impostabili consente di realizzare diverse funzioni di automazione. I collegamenti elettrici a innesto a norma IEC 61535 separano automazione e installazione.
Nota: è possibile eseguire la verifica delle funzioni subito dopo l'installazione con il comando locale presente sugli apparecchi senza programmazione.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'select'	Consente di selezionare un'uscita veneziana. L'uscita selezionata inizia a lampeggiare.
②	Tasto ▼	• Premendo il tasto per > 500ms, si abbassano le veneziane. • Pressione del tasto < 500ms: movimentazione lamelle o arresto
③	Tasto ▲	• Premendo il tasto per > 500ms, si alzano le veneziane. • Pressione del tasto < 500ms: movimentazione lamelle o arresto
④	LED '1' LED '2'	Segnala la direzione e lo stato del movimento della veneziana. ▲: Movimento verso l'alto ▼: Movimento verso il basso
⑤	LED 'status'	Segnala le condizioni di esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: segnalazione di errore
⑥	Piedino di fissaggio	Dispositivo di fissaggio per l'installazione su guida di supporto / telaio di montaggio
⑦	Uscita veneziana	• 2 collegamenti per connettore GST15i2 azzurro (91.921.3353.0) (montaggio: vedere a tergo, figura 3)
⑧	Alimentazione DC	• Collegamento della tensione di alimentazione da 5 a 24 VDC per l'azionamento veneziana con connettore GST15i2 azzurro (91.922.3353.0)
⑨	Fusibile T6,3A	• fusibile sostituibile per la protezione di entrambi i canali. Fusibile 5 x 20 mm inerte 6,3A.

Montaggio (vedere a tergo, figura 2

Passo 1: **inserimento dei moduli**

1.1 Inserire il cappuccio terminale a sinistra sul modulo base.
1.2 Inserire gli altri moduli nella sequenza desiderata a destra del modulo base, fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.
1.3 Applicare il cappuccio terminale sull'ultimo modulo a destra.

Passo 2: **opzionale: fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
2.2 Posizionare i moduli sulla guida di supporto.
2.3 Su ogni modulo premere il piedino di fissaggio verso il basso con un cacciavite. I moduli sono ora fissati alla guida di supporto.

Punto 3: **inserimento e fissaggio dei cavi**

3.1 Inserire il cavo ⑦ sul modulo.
3.2 Inserire i cavi in tutti gli altri moduli (vedere le istruzioni di montaggio).
Importante: assicurarsi che tutti i connettori siano saldamente fissati.
3.3 In caso di montaggio su telaio: fissare i cavi al telaio con fascette fermacavi.

Dati tecnici

Collegamento di rete	
Alimentazione di rete AC	230 VAC, -15 % / +10 %, 50/60 Hz (per moduli successivi)
Uscite	
Tensione nominale	da 5 d 24V DC (alimentazione tramite alimentatore esterno)
Corrente nominale	3 A per canale 6 A come corrente totale delle due uscite
Protezione consigliata	6,3 A T (con fusibile ritardato nella linea di alimentazione DC)
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	da -5 °C a +45 °C
Temperatura di stoccaggio	da -25 °C a +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa, a vista, su superficie piana, guida di supporto TH35-7,5, telaio di montaggio
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2 kWh 95*)mm, 149 mm, 46 mm *)105mm con cappuccio terminale a destra
Sicurezza elettrica	
Classe di protezione	i
Grado di protezione	IP20 (secondo EN 60529)
Grado d'inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
http://eshop.wieland-electric.com/product/83.020.0637.0

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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

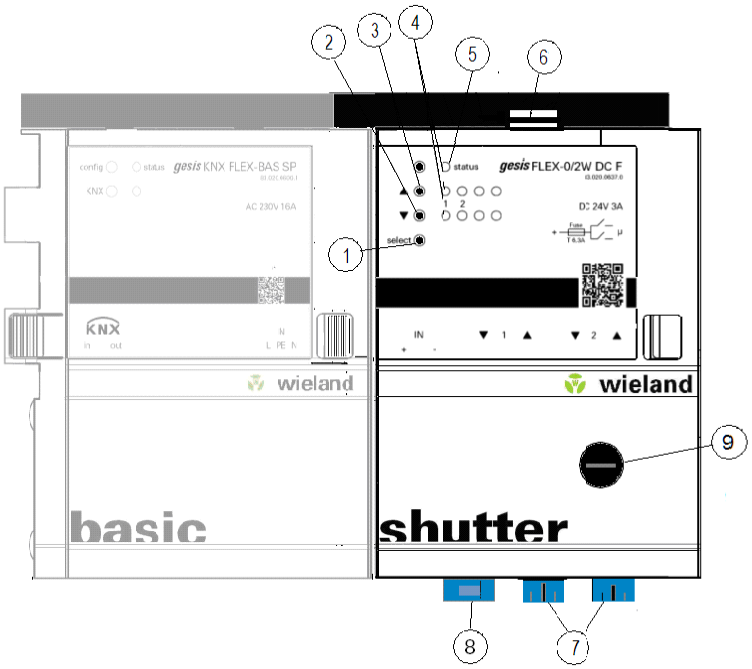


Figure 2: Montage
Figura 2: Montaggio

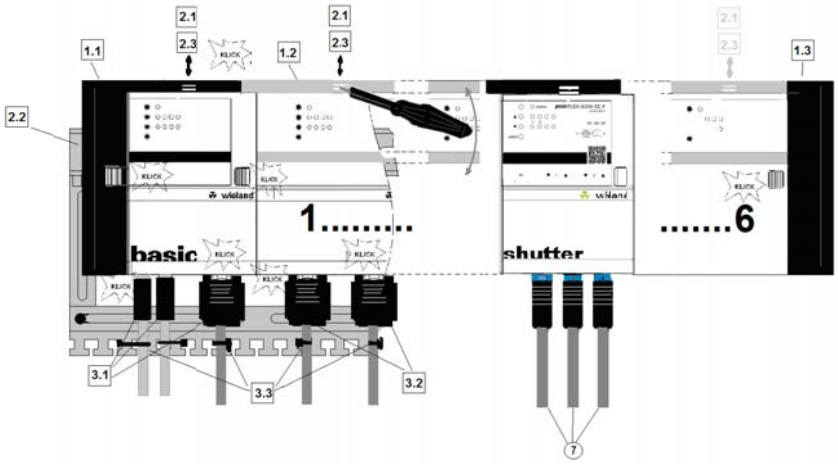
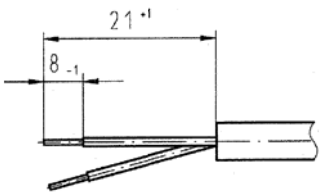
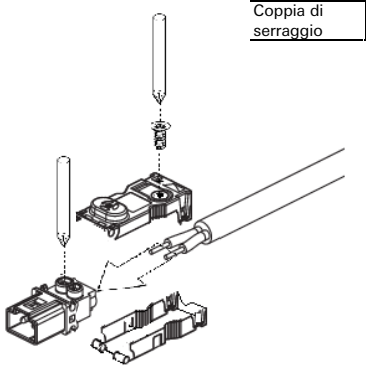


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

GST15i2 (91.922.3353.0 et/e 91.921.3353.0)



Couple Coppia di serraggio	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



7.13 *gesis* FLEX-0/4HL AC 4x standard semiconductor outputs switching outputs

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/4HL AC

AC Halbleiter Schaltausgang 4-fach (83.020.0631.0)
AC Semiconductor 4x switch output (83.020.0631.0)

Wieland Electric GmbH
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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der Halbleiter Schaltausgang 4fach 230V/500mA im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau, wird vom Basismodul verwaltet. Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Startet den Handbedienmodus und wählt einen Ausgang. Der gewählte Ausgang beginnt zu blinken. Ein langes Drücken >3s beendet den Handbedienmode vorzeitig.
②	Taster 'on/off'	• Schaltet den selektierten Ausgang wechselweise ein oder aus.
③	LED 1 - 4	Signalisiert für jeden Ausgang den aktuellen Status. • 'Aktiv': LED leuchtet oder leuchtet und erlischt kurz (selektiert). • 'Inaktiv': LED aus oder kurzes blinken (selektiert).
④	LED 'error'	Fehleranzeige für Ausgang 1 -4. Mögliche Ursachen sind: • Schaltelement defekt • Netzzuleitung L / N unterbrochen Ein Fehler wird nur im eingeschalteten Zustand erkannt und nach der Fehlerbehebung erst beim nächsten Einschalten wieder zurückgenommen.
⑤	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot blinken: Kommunikations- oder Konfigurationsfehler liegt vor.
⑥	Anschlüsse Ausgang 1 - 4	• Stecker GST15i2 zweipolig Farbe Schwarz (Montage: siehe Rückseite, Abbildung 3)
⑦	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene setzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑥ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Abbildung 2 Montage).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	Einspeisung über interne Verbindung vom modularen System
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i2)
Bemessungsstrom max.	500 mA (ohmsche Last) je Ausgang
Absicherung am Gerät	keine Absicherung am Gerät (Empfohlen 500mAT je Kanal)
Kurzschlussschutz	nicht kurzschlussfest
Schaltelement	Thyristor (TRIAC)
Leckstrom im Aus-Zustand	Typisch 250 µA
Spannungsabfall	Typisch 0,9 V über Schaltelement (TRIAC)
Mindestlast empfohlen	1 W
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,2kWh
Abmessungen (B, H, L)	130*) mm, 149 mm, 44 mm *) 140 mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0631.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The semiconductor 4x switch output 230V/500mA in flat, rail-mounted surface-mount housing for decentralised installation is controlled by the base module. Its power and bus are fed from the upstream module. The comprehensive parameter set enables a variety of automation functions. The electrical connections, which are mated according to IEC 61535, separate automation from installation.
Note: It is possible to perform functional tests immediately after installation using the local controls at the devices without the need for programming.

Control and function elements (see back of page, Figure 1)

①	'Select' button	Starts the manual operating mode and selects an output. The selected output starts to blink. Pressing and holding for >3s ends manual operating mode preliminarily.
②	'On/Off' button	• Switches the selected output on or off.
③	LED 1 - 4	Signals the current status for each output. • 'Active': LED lights or lights and goes out briefly (selected). • 'Inactive': LED is off or blinks briefly (selected).
④	'Error' LED	Error indication for outputs: 1-4. Possible causes are: • Switching element defective • L / N power feed line is disconnected A fault is only recognized when the unit is turned on and is reset only after the fault is remedied and after the unit is turned on again.
⑤	'Status' LED	Signals the operating state of the expansion module. • Green: the module is ready for operation (no faults). • Blinking red: Communication or configuration error.
⑥	Connections for outputs 1 - 4	• GST15i2 two-pin plug, colour black (for installation: see back of page, Figure 3)
⑦	Snap-in mounting foot	Lock for installation onto support rail/mounting frame

Installation (see back of page, Figure 2)

Step 1: **Plugging in modules**

1.1 Set the left end cap onto the base module and latch in place.
1.2 Set the additional modules to the right in the desired sequence and latch into place with an audible click.
1.3 Set the end cap onto the last module on the right and latch into place.

Step 2: **Optional: Attachment to support rails or installation frames**

2.1 Pull the snap-in mounting foot at each module upward with a screwdriver.
2.2 Place the modules onto the support rail.
2.3 Push the snap-in mounting foot at each module downward with a screwdriver.
The modules are attached to the support rail.

Step 3: **Plugging in the cable and securing it**

3.1 Plug in cables ⑥ at the module.
3.2 Plug in the cables at all other modules (see: Figure 2 for installation).
Important: Ensure that all plug connections are securely seated.
3.3 For installation frames: Fasten the cable to the installation frame with cable binders.

Technical data

Mains power connection	Feed from the modular system through internal connection
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i2)
Rated current max.	500 mA (Ohmic load) per output
Fuse protection at the device	No fuse protection at the device (a 500 mAT per channel is recommended)
Short circuit protection	no short-circuit protection
Switching element	Thyristor (TRIAC)
Leakage current in the off-state	typically 250 µA
Voltage drop	typically 0.9 V through the switching element (TRIAC)
Minimum recommended load	1 W
Environmental conditions	
Field of application	Internal spaces and dry rooms, weatherized
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Mounting type	Ceiling, floor, wall mount, fixed installation on a flat mounting surface, surface-mounted, support rail TH35-7.5
Case	
Material	Plastic, halogen-free
Colour	Light gray, similar to RAL 7035 / black, similar to RAL 9005
Behaviour in fire	UL94 V-2
Thermal load	approx. 2.2 kWh
Dimensions (B, H, L)	130*) mm, 149 mm, 44 mm *) 140 mm with left end cap
Electrical safety	
Protection class	I
IP rating	IP20 (according to EN 60529)
Degree of soiling	2
Surge voltage category	III
Approvals	
CE certification	According to EMC directive and low-voltage directive Meets the following norms: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0631.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

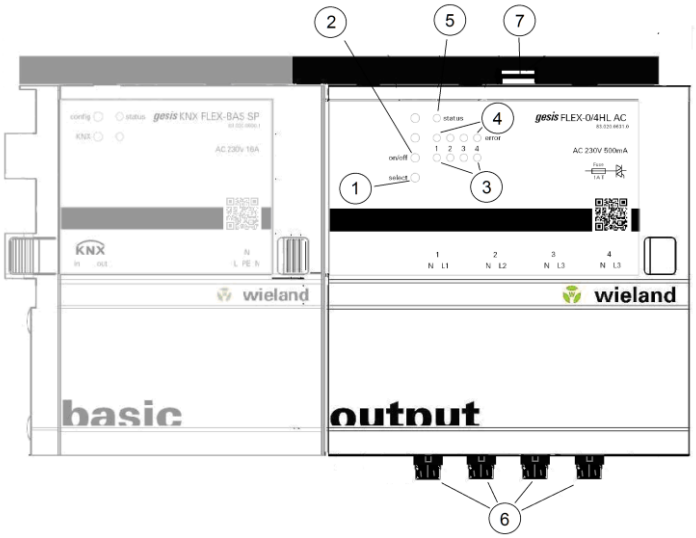


Abbildung 2: Montage
Figure 2: Installation

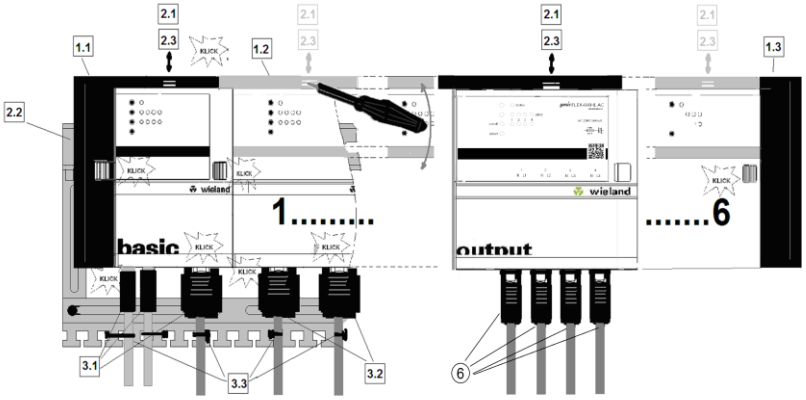
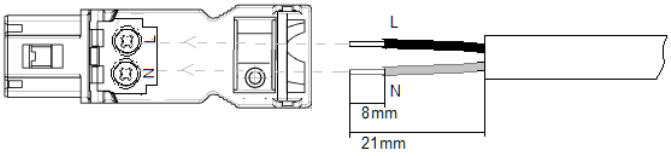
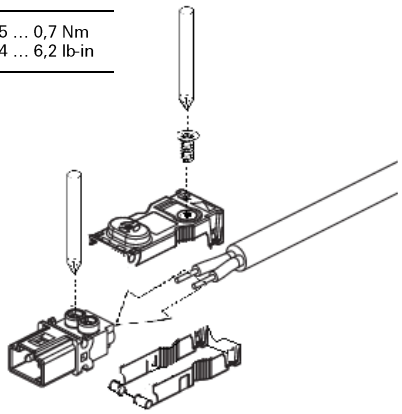


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

Stecker GST15i2 (91.922.3053.1 für Rundkabel Durchmesser 6,0 mm - 7,7 mm)
GST15i2 (91.922.2053.1 für abgeflachte Kabel Durchmesser 6,0 mm)
Buchse GST15i2 (91.921.3053.1 für Rundkabel Durchmesser 6,0 mm - 7,7 mm)
GST15i2 (91.921.2053.1 für abgeflachte Kabel Durchmesser 6,0 mm)
Plug GST15i2 (91.922.3053.1 for round cable diameters of 6.0 mm - 7.7 mm)
GST15i2 (91.922.2053.1 for flattened cable of diameter 6.0 mm)
Socket GST15i2 (91.921.3053.1 for round cable of diameters 6.0 mm - 7.7 mm)
GST15i2 (91.921.2053.1 for flattened cable of diameter 6.0 mm)

Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in





Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/4HL AC

AC Sortie de commutation 4 postes (83.020.0631.0)
AC Uscita di commutazione a 4 canali (83.020.0631.0)

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wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

Le semi-conducteur à 4 sorties de commutation 230V/500mA en boîtier AP apparent pouvant être monté sur rail porteur pour un montage décentralisé, est géré par un module de base. Il obtient son alimentation de bus et de réseau du mode présélectionné. Le jeu de paramètres variés permet différentes fonctions d'automatisation. Les liaisons électriques connectables conformément à CEI 61535 séparent l'automatisation et l'installation.
Indication : tests de fonctionnement possibles directement après le montage par la commande sur place sur les appareils.

Éléments de commande et de fonctionnement (voir au verso, illustration 1)

①	Bouton « Select »	Démarre le mode de fonctionnement manuel et choisit une sortie. La sortie sélectionnée commence à clignoter. Une pression longue >3s interrompt prématurément le mode de commande manuelle.
②	Bouton « On/Off »	• Éteint ou allume alternativement la sortie sélectionnée.
③	DEL de 1 à 4	Signale le statut actuel de chaque sortie. • « Actif » : la DEL s'allume ou s'allume et s'éteint brièvement (sélectionnée). • « Inactif » : la DEL s'éteint ou clignote brièvement (sélectionnée).
④	DEL « erreur »	Voyant d'erreur pour les sorties 1 à 4. Les causes possibles sont : • Élément de commutation défectueux • Alimentation électrique L / N interrompu Une erreur n'est reconnue qu'en mode activé et, après avoir a été éliminée, elle n'est supprimée qu'après la prochaine activation.
⑤	DEL « État »	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Clignotement rouge : une erreur de communication ou de configuration est survenue.
⑥	Raccords de sortie de 1 à 4	• Connecteur GST15i2 bipolaire couleur noir (Montage : voir verso, illustration 3)
⑦	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage

Montage (voir verso, illustration 2)

Étape 1 : **brancher les modules**

1.1 Placer l'embout à gauche sur le module de base et l'enclencher.
1.2 Placer les modules supplémentaires dans l'ordre souhaité à droite sur le module de base et les enclencher de manière à entendre un clic.
1.3 Placer l'embout à droite sur le dernier module de base et l'enclencher.

Étape 2 : **fixation sur rail porteur ou cadre de montage (option)**

2.1 Tirer vers le haut le pied encliquetable avec un tournevis sur chaque module.
2.2 Poser les modules sur le rail porteur.
2.3 Tirer le pied encliquetable vers le bas sur chaque module avec un tournevis.
Les modules sont fixés sur de rail porteur.

Étape 3 : **brancher et sécuriser les câbles**

3.1 Raccorder les câbles ⑥ au module.
3.2 Brancher les câbles sur tous les autres modules (voir les instructions de montage).
Important : s'assurer que tous les branchements sont bien effectués.
3.3 Au niveau du cadre de montage : fixer les câbles au cadre de montage avec des serres-câble.

Caractéristiques techniques

Raccordement électrique	Alimentation par raccord interne de système modulaire
Tension assignée	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i2)
Courant assigné maximum	500 mA (charge ohmique) par sortie
Protection au niveau de l'appareil	Pas de protection au niveau de l'appareil (500mAT conseillé par canal)
Protection contre les courts-circuits	non résistant aux courts-circuits
Module de commutation	Thyristor (TRIAC)
Courant de fuite dans la position éteinte	250 µA typique
Chute de tension	Typique 0,9 V par l'intermédiaire du module de commutation (TRIAC)
Charge minimum conseillée	1 W
Conditions environnementales	
Domaine d'utilisation	Pièces intérieures et sèches, protégées des intempéries
Résistant aux variations climatiques	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol, mural, sur les surfaces de montage planes d'installations fixes, apparent, rail porteur TH35-7,5
Boîtier	
Matériel	Matière plastique, exempt d'halogène
Couleur	Gris lumineux, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu	UL94 V-2
Charge thermique	2,2 kWh environ
Dimensions (l, h, L)	130*) mm, 149 mm, 44 mm *) 140 mm avec embout à gauche
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (conforme à la norme EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Certification CE	Conformément à la directive CEM et à la directive Basse Tension Remplit les normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou :
http://eshop.wieland-electric.com/product/83.020.0631.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici. che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita di commutazione a semiconduttore a 4 strati 230V/500mA con alloggiamento piatto montabile su guida portante per installazione decentrata, è gestita dal modulo base. Il modulo inserito a monte provvede all'alimentazione bus e di rete. L'ampio set di parametri consente diverse funzioni di automazione. I collegamenti elettrici a innesto, a norma IEC 61535, dividono automazione e installazione.
Nota: è possibile eseguire dei test funzionali subito dopo il montaggio, con il comando in loco, sui dispositivi senza programmazione.

Elementi di comando e di funzionamento (vedere figura 1 a tergo)

①	Tasto 'select'	Avvia la modalità di comando manuale e seleziona un'uscita. L'uscita selezionata inizia a lampeggiare. Se si preme l'interruttore per oltre 3 s, termina anticipatamente la modalità di comando manuale.
②	Tasto 'on/off'	• Imposta l'uscita selezionata su On o Off.
③	LED 1 - 4	Segnala lo stato attuale di ogni uscita. • 'Attivo': il LED rimane acceso o è acceso e si spegne brevemente (selezionato). • 'Inattivo': il LED è spento o lampeggia brevemente (selezionato).
④	LED 'error'	Segnalazione errore per uscita 1 - 4. Le cause possibili sono: • Elemento di commutazione difettoso • Cavo di allacciamento alla rete L / N interrotto Un errore viene rilevato solo in condizioni di accensione e, dopo la rimozione dell'anomalia, viene confermato all'attivazione successiva.
⑤	LED 'status'	Segnala lo stato d'esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso lampeggiante: errore di comunicazione o di configurazione.
⑥	Collegamenti uscita 1 - 4	• Spina GST15i2 bipolare colore nero (montaggio: vedere figura 3 a tergo)
⑦	Piedino di fissaggio	Sistema di fissaggio per installazione su guida di supporto/telaio di montaggio

Montaggio (vedere figura 2 a tergo)

Passo 1: Inserimento dei moduli

1.1 Applicare il terminale a sinistra sul modulo base e farlo scattare in posizione.
1.2 Applicare i moduli aggiuntivi nella sequenza desiderata a destra sul modulo base e farli scattare in posizione con un clic.
1.3 Applicare il terminale sull'ultimo modulo a destra e farlo scattare in posizione.

Passo 2: **Opzionale: fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo, sollevare il piedino di fissaggio con un cacciavite.
2.2 Applicare i moduli sulla guida di supporto.
2.3 Su ogni modulo, abbassare il piedino di fissaggio con un cacciavite.
I moduli sono fissati alla guida di supporto.

Passo 3: **Inserimento e fissaggio dei cavi**

3.1 Collegare i cavi ⑥ al modulo.
3.2 Collegare i cavi a tutti gli altri moduli (figura 2 Montaggio).
Importante: garantire la stabilità di tutti i collegamenti a innesto.
3.3 In presenza del telaio di montaggio: fissare il cavo al telaio con le fascette di serraggio.

Dati tecnici

Collegamento alla rete	Alimentazione tramite collegamento interno del sistema modulare
Tensione nominale	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i2)
Corrente nominale max.	500 mA (carico ohmico) per ogni uscita
Protezione sul dispositivo	nessuna protezione sul dispositivo (raccomandata 500mAT per canale)
Protezione da cortocircuiti	Non resistente ai cortocircuiti
Elemento di commutazione	Tiristore (TRIAC)
Corrente di dispersione in posizione Off	Valore tipico 250 µA
Caduta di tensione	Valore tipico 0,9 V tramite elemento di commutazione (TRIAC)
Carico minimo raccomandato	1 W
Condizioni ambientali	
Campo d'impiego	Locali chiusi e asciutti, protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	da -5 °C a +45 °C
Temperatura di immagazzinaggio	da -25 °C a +75 °C
Tipo di montaggio	Montaggio a soffitto, a pavimento, a parete, su superficie di montaggio piana installazione fissa, sopra intonaco, guida di supporto TH35-7,5
Alloggiamento	
Materiale	Plastica, senza alogeni
Colore	Grigio chiaro, simile a RAL 7035 / nero, simile a RAL 9005
Reazione al fuoco	UL94 V-2
Carico comburente	ca. 2,2kWh
Dimensioni (L, H, P)	130*) mm, 149 mm, 44 mm *) 140 mm con terminale sx
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (a norma EN 60529)
Grado di inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo direttiva CEM e direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
http://eshop.wieland-electric.com/product/83.020.0631.0

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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionamento

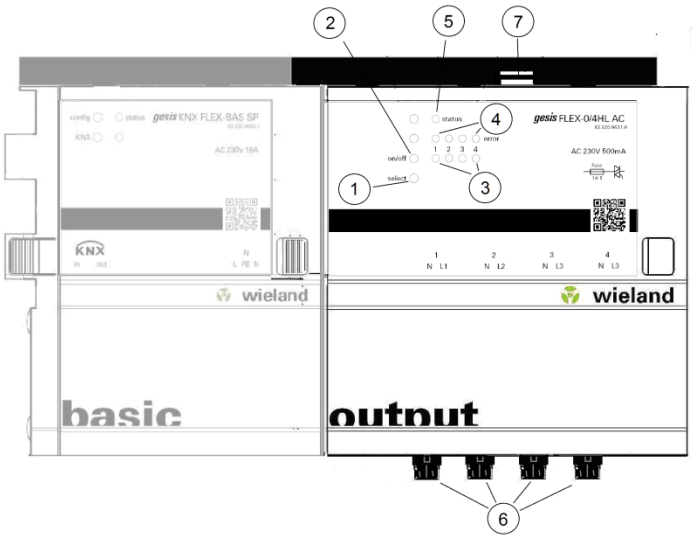


Figure 2: Montage
Figura 2: Montaggio

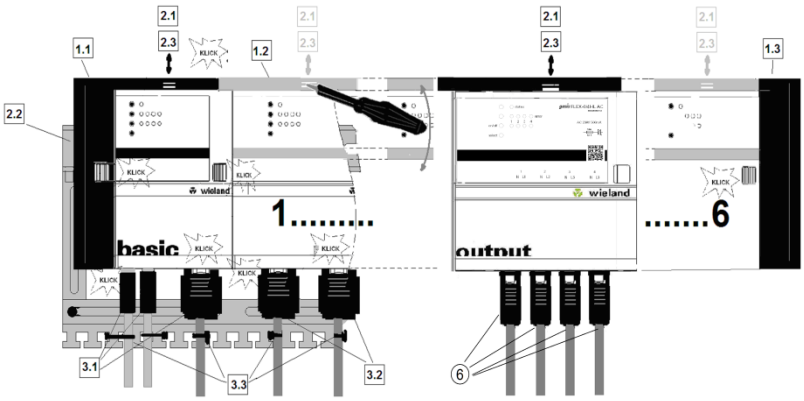
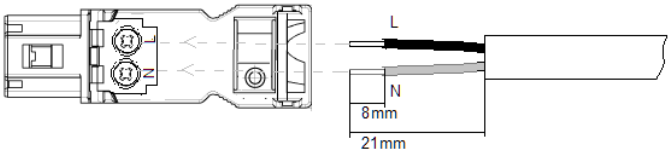
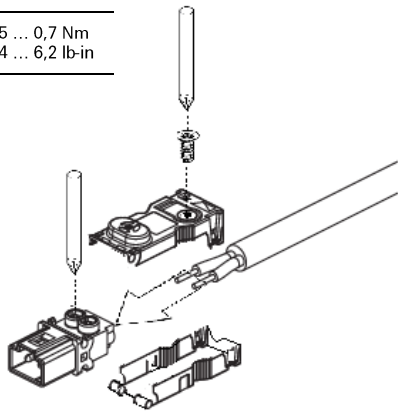


Figure 3: Montage des connecteurs
Figura 3: Montaggio delle spine

Connecteur GST15i2 (91.922.3053.1 pour câble rond de 6,0 à 7,7 mm de diamètre)
GST15i2 (91.922.2053.1 pour câble plat de 6,0 mm de diamètre)
Prise GST15i2 (91.921.3053.1 pour câble rond de 6,0 à 7,7 mm de diamètre)
GST15i2 (91.921.2053.1 pour câble plat de 6,0 mm de diamètre)
Spina GST15i2 (91.922.3053.1 per cavo rotondo con diametro 6,0 mm - 7,7 mm)
GST15i2 (91.922.2053.1 per cavo piatto con diametro 6,0 mm)
Presa GST15i2 (91.921.3053.1 per cavo rotondo con diametro 6,0 mm - 7,7 mm)
GST15i2 (91.921.2053.1 per cavo piatto con diametro 6,0 mm)

Couple Momento torcente	0,5 … 0,7 Nm 4,4 … 6,2 lb-in





7.14 *gesis* FLEX-04HL AC F 4x semiconductor switching outputs 230 V

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/4HL AC F

AC Halbleiter Schaltausgang 4-fach (83.020.0632.0)
AC Semiconductor 4x switch output (83.020.0632.0)

Wieland Electric GmbH
Brennerstraße 10-14
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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der Halbleiter Schaltausgang 4-fach 230V/500mA mit selektiver Absicherung im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau, wird vom Basismodul verwaltet. Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Startet den Handbedienmodus und wählt einen Ausgang. Der gewählte Ausgang beginnt zu blinken.
②	Taster 'on/off'	• Schaltet den Ausgang wechselweise ein oder aus.
③	LED 1 - 4	Signalisiert für jeden Ausgang den aktuellen Status. • 'Aktiv': LED leuchtet oder leuchtet und erlischt kurz (selektiert). • 'Inaktiv': LED aus oder kurzes blinken (selektiert).
④	LED 'error'	Signalisiert bei fehlerhaften und eingeschalteten Ausgang Fehler. • Sicherung defekt • Schaltelement defekt • Netzzuleitung L / N fehlerhaft bzw. unterbrochen
⑤	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot: Fehlermeldung
⑥	Anschlüsse Ausgang 1 - 4	• Stecker GST15i2 zweipolig Farbe Schwarz (Montage: siehe Rückseite, Abbildung 3)
⑦	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen
⑧	Sicherung	Jeder Kanal ist selektiv mit einer Feinsicherung T500mA abgesichert.

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene setzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken. Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel ⑥ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen). **Wichtig:** Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i2)
Bemessungsstrom max.	500 mA (ohmsche Last) je Ausgang
Kurzschlussschutz	Sicherung T500 mA je Kanal von außen zugänglich
Schaltelement	Thyristor (TRIAC)
Leckstrom im Aus-Zustand	Typisch 250 µA
Spannungsabfall	Typisch 0,9 V über Schaltelement (TRIAC)
Mindestlast empfohlen	1 W
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,2 kWh
Abmessungen (B, H, L)	130*) mm, 149 mm, 46 mm *) 140 mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
  http://eshop.wieland-electric.com/product/83.020.0632.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The semiconductor 4x switch output 230V/500mA with selective fuse protection in a flat surface-mounted housing for decentralised installation is controlled by the base module. Its power and bus are fed from the upstream module. The comprehensive parameter set enables a variety of automation functions. The electrical connections, which are mated according to IEC 61535, separate automation from installation.
Note: It is possible to perform functional tests immediately after installation using the local controls at the devices without the need for programming.

Control and function elements (see back of page, Figure 1)

①	'Select' button	Starts the manual operating mode and selects an output. The selected output starts to blink.
②	'On/Off' button	• Switches the output on or off in alternating fashion.
③	LED 1 - 4	Signals the current status for each output. • 'Active': LED lights or lights and goes out briefly (selected). • 'Inactive': LED is off or blinks briefly (selected).
④	'Error' LED	Signals an error in the case of an output fault when the output is turned on. • Fuse defective • Switching element defective • L / N power line is faulty or disconnected
⑤	'Status' LED	Signals the operating state of the expansion module. • Green: the module is ready for operation (no faults). • Red: fault message
⑥	Connections for outputs 1 - 4	• GST15i2 two-pin plug, black (for installation: see back of page, Figure 3)
⑦	Snap-in mounting foot	Lock for installation onto support rail/mounting frame
⑧	Fuse	Each channel is selectively protected with a low-voltage T500mA fuse.

Installation (see back of page, Figure 2)

Step 1: **Plugging in modules**

1.1 Set the left end cap onto the base module and latch in place.
1.2 Set the additional modules to the right in the desired sequence and latch into place with an audible click.
1.3 Set the end cap onto the last module on the right and latch into place.

Step 2: **Optional: Attachment to support rails or installation frames**

2.1 Pull the snap-in mounting foot at each module upward with a screwdriver.
2.2 Place the modules onto the support rail.
2.3 Push the snap-in mounting foot at each module downward with a screwdriver. The modules are attached to the support rail.

Step 3: **Plugging in the cable and securing it**

3.1 Plug in cables ⑥ at the module.
3.2 Plug in the cables at all other modules (see: installation instructions). **Important:** Ensure that all plug connections are securely seated.
3.3 For installation frames: Fasten the cable to the installation frame with cable binders.

Technical data

Mains power connection	
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i2)
Rated current max.	500 mA (Ohmic load) per output
Short circuit protection	T500 mA fuse is accessible from the outside for each channel
Switching element	Thyristor (TRIAC)
Leakage current in the off-state	typically 250 µA
Voltage drop	typically 0.9 V through the switching element (TRIAC)
Minimum recommended load	1 W
Environmental conditions	
Field of application	Internal spaces and dry rooms, weatherized
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Mounting type	Ceiling, floor, wall mount, fixed installation on a flat mounting surface, surface-mounted, support rail TH35-7.5
Housing	
Material	Plastic, halogen-free
Colour	Light gray, similar to RAL 7035 / black, similar to RAL 9005
Behaviour in fire	UL94 V-2
Thermal load	approx. 2.2 kWh
Dimensions (B, H, L)	130*) mm, 149 mm, 46 mm *) 140 mm with left end cap
Electrical safety	
Protection class	I
IP rating	IP20 (according to EN 60529)
Degree of soiling	2
Surge voltage category	III
Approvals	
CE certification	According to EMC directive and low-voltage directive Meets the following norms: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
  http://eshop.wieland-electric.com/product/83.020.0632.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

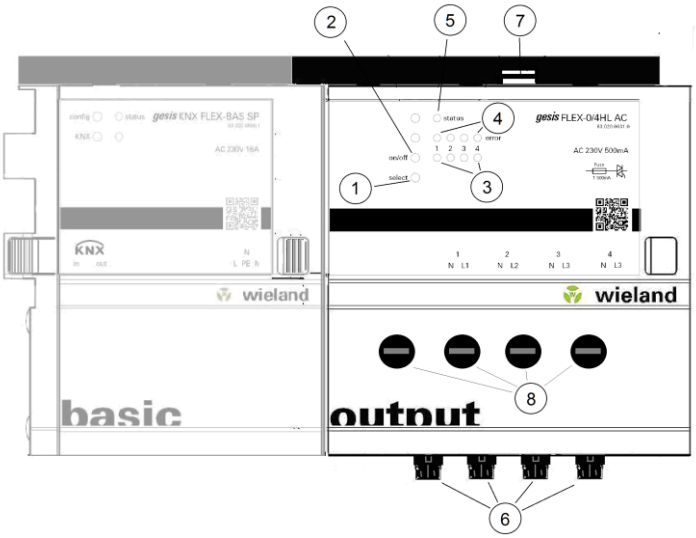


Abbildung 2: Montage
Figure 2: Installation

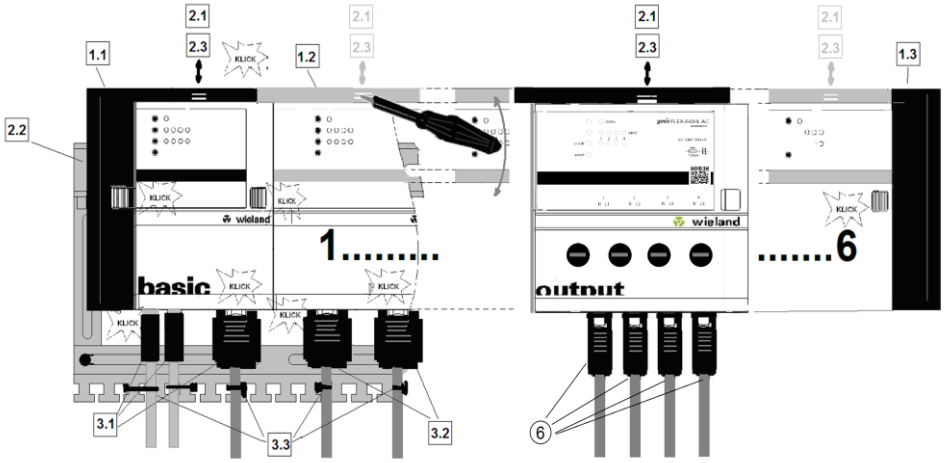
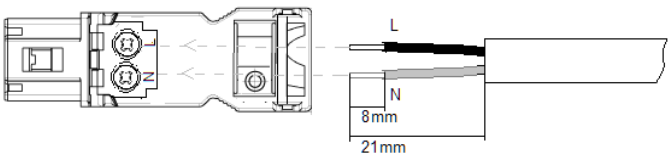
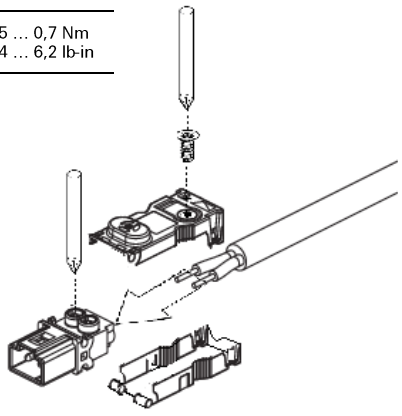


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

Stecker GST15i2 (91.922.3053.1 für Rundkabel Durchmesser 6,0 mm - 7,7 mm)
GST15i2 (91.922.2053.1 für abgeflachte Kabel Durchmesser 6,0 mm)
Buchse GST15i2 (91.921.3053.1 für Rundkabel Durchmesser 6,0 mm - 7,7 mm)
GST15i2 (91.921.2053.1 für abgeflachte Kabel Durchmesser 6,0 mm)
Plug GST15i2 (91.922.3053.1 for round cable diameters of 6.0 mm - 7.7 mm)
GST15i2 (91.922.2053.1 for flattened cable of diameter 6.0 mm)
Socket GST15i2 (91.921.3053.1 for round cable of diameters 6.0 mm - 7.7 mm)
GST15i2 (91.921.2053.1 for flattened cable of diameter 6.0 mm)

Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in





Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/4HL AC F

Sortie de commutation 4 postes (83.020.0632.0)
Uscita di commutazione a 4 canali (83.020.0632.0)

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96052 Bamberg
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Email: info@wieland-electric.com

wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

Le semi-conducteur à 4 sorties de commutation 230V/500mA à protection sélective en boîtier apparent plat pouvant être monté sur rail porteur pour un montage décentralisé, est géré par un module de base. Il obtient son alimentation de bus et de réseau du mode présélectionné. Le jeu de paramètres variés permet différentes fonctions d'automatisation. Les liaisons électriques connectables conformément à CEI 61535 séparent l'automatisation et l'installation.
Indication : tests de fonctionnement possibles directement après le montage avec commande sur place sur les appareils.

Éléments de commande et de fonctionnement (voir au verso, illustration 1)

①	Bouton « Select »	Démarre le mode de fonctionnement manuel et choisit une sortie. La sortie sélectionnée commence à clignoter.
②	Bouton « On/Off »	• Éteint ou allume alternativement la sortie sélectionnée.
③	DEL de 1 à 4	Signale le statut actuel de chaque sortie. • « Actif » : la DEL s'allume ou s'allume et s'éteint brièvement (sélectionnée). • « Inactif » : la DEL s'éteint ou clignote brièvement (sélectionnée).
④	DEL « erreur »	Signale une erreur lorsque la sortie présente un défaut et est activée. • Fusible défectueux • Élément de commutation défectueux • Alimentation électrique L / N défectueuse ou interrompue
⑤	DEL « État »	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Rouge : message d'erreur
⑥	Branchement sortie de 1 à 4	• Connecteur GST15i2 bipolaire couleur noire (Montage : voir verso, illustration 3)
⑦	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage
⑧	Fusible	Chaque canal est doté de façon sélective d'un fusible pour courant faible T500mA.

Montage (voir verso, illustration 2)

Étape 1 : **brancher les modules**

1.1 Placer l'embout à gauche sur le module de base et l'enclencher.
1.2 Placer les modules supplémentaires dans l'ordre souhaité à droite sur le module de base et les enclencher de manière à entendre un clic.
1.3 Placer l'embout à droite sur le dernier module de base et l'enclencher.

Étape 2 : **fixation sur les rails porteurs ou le cadre de montage (option)**

2.1 Tirer vers le haut le pied encliquetable avec un tournevis sur chaque module.
2.2 Poser les modules sur les rails porteurs.
2.3 Tirer le pied encliquetable vers le bas sur chaque module avec un tournevis. Les modules sont fixés sur de rail porteur.

Étape 3 : **brancher et sécuriser les câbles**

3.1 Raccorder les câbles ⑥ au module.
3.2 Raccorder les câbles sur tous les autres modules (voir les instructions de montage). **Important :** s'assurer que tous les branchements sont bien effectués.
3.3 Au niveau du cadre de montage : fixer les câbles au cadre de montage avec des serres-câble.

Caractéristiques techniques

Câble d'alimentation	
Tension assignée	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i2)
Courant assigné maximum	500 mA (charge ohmique) par sortie
Protection contre les courts-circuits	Fusible T500 mA par canal accessible de l'extérieur
Module de commutation	Thyristor (TRIAC)
Courant de fuite dans la position éteinte	250 µA typique
Chute de tension	Typique 0,9 V par l'intermédiaire du module de commutation (TRIAC)
Charge minimum conseillée	1 W
Conditions environnementales	
Domaine d'utilisation	Pièces intérieures et sèches, protégées des intempéries
Résistant aux variations climatiques	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol, mural, sur les surfaces de montage planes d'installations fixes, en saillie, rail porteur TH35-7,5
Boîtier	
Matériel	Matière plastique, exempt d'halogène
Couleur	Gris lumineux, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge thermique Dimensions (l, h, L)	UL94 V-2 2,2 kWh environ 130*) mm, 149 mm, 46 mm *) 140 mm avec embout à gauche
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (conforme à la norme EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Certification CE	Conformément à la directive CEM et à la directive Basse Tension Remplit les normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou:
  http://eshop.wieland-electric.com/product/83.020.0632.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici. Che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita di commutazione a semiconduttore a 4 strati 230V/500mA con protezione selettiva, con alloggiamento AP piatto montabile su guida portante per installazione decentrata, è gestita dal modulo base. Il modulo inserito a monte provvede all'alimentazione bus e di rete. L'ampio set di parametri consente diverse funzioni di automazione. I collegamenti elettrici a innesto, a norma IEC 61535, dividono automazione e installazione.
Nota: è possibile eseguire dei test funzionali subito dopo il montaggio, con il comando in loco, sui dispositivi senza programmazione.

Elementi di comando e di funzionamento (vedere figura 1 a tergo)

①	Tasto 'select'	Avvia la modalità di comando manuale e seleziona un'uscita. L'uscita selezionata inizia a lampeggiare.
②	Tasto 'on/off'	• Imposta l'uscita su On e Off.
③	LED 1 - 4	Segnala lo stato attuale di ogni uscita. • 'Attivo': il LED rimane acceso o è acceso e si spegne brevemente (selezionato). • 'Inattivo': il LED è spento o lampeggia brevemente (selezionato).
④	LED 'error'	Segnale un errore in caso di uscita errata o attivata. • Fusibile difettoso • Elemento di commutazione difettoso • Cavo di allacciamento alla rete L / N difettoso o interrotto
⑤	LED 'status'	Segnala lo stato d'esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso: messaggio di errore
⑥	Collegamenti uscita 1 - 4	• Spina GST15i2 bipolare colore nero (montaggio: vedere figura 3 a tergo)
⑦	Piedino di fissaggio	Sistema di fissaggio per installazione su guida di supporto/telaio di montaggio
⑧	Fusibile	Ogni canale è protetto in modo selettivo da un fusibile per correnti deboli T500mA.

Montaggio (vedere figura 2 a tergo)

Passo 1: **Inserimento dei moduli**

1.1 Applicare il terminale a sinistra sul modulo base e farlo scattare in posizione.
1.2 Applicare i moduli aggiuntivi nella sequenza desiderata a destra sul modulo base e farli scattare in posizione con un clic.
1.3 Applicare il terminale sull'ultimo modulo a destra e farlo scattare in posizione.

Passo 2: **Opzionale: fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo, sollevare il piedino di fissaggio con un cacciavite.
2.2 Applicare i moduli sulla guida di supporto.
2.3 Su ogni modulo, abbassare il piedino di fissaggio con un cacciavite. I moduli sono fissati alla guida di supporto.

Passo 3: **Inserimento e fissaggio dei cavi**

3.1 Collegare i cavi ⑥ al modulo.
3.2 Collegare i cavi a tutti gli altri moduli (consultare le Istruzioni di montaggio). **Importante:** garantire la stabilità di tutti i collegamenti a innesto.
3.3 In presenza del telaio di montaggio: fissare il cavo al telaio con le fascette di serraggio.

Dati tecnici

Collegamento alla rete	
Tensione nominale	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i2)
Corrente nominale max.	500 mA (carico ohmico) per ogni uscita
Protezione da cortocircuiti	Fusibile T500 mA per ogni canale accessibile dall'esterno
Elemento di commutazione	Tiristore (TRIAC)
Corrente di dispersione in posizione Off	Valore tipico 250 µA
Caduta di tensione	Valore tipico 0,9 V tramite elemento di commutazione (TRIAC)
Carico minimo raccomandato	1 W
Condizioni ambientali	
Campo d'impiego	Locali chiusi e asciutti, protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	da -5 °C a +45 °C
Temperatura di immagazzinaggio	da -25 °C a +75 °C
Tipo di montaggio	Montaggio a soffitto, a pavimento, a parete, su superficie di montaggio piana installazione fissa, sopra intonaco, guida di supporto TH35-7,5
Alloggiamento	
Materiale	Plastica, senza alogeni
Colore	Grigio chiaro, simile a RAL 7035 / nero, simile a RAL 9005
Reazione al fuoco Carico comburente Dimensioni (L, H, P)	UL94 V-2 ca. 2,2 kWh 130*) mm, 149 mm, 46 mm *) 140 mm con terminale sx
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (a norma EN 60529)
Grado di inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo direttiva CEM e direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
  http://eshop.wieland-electric.com/product/83.020.0632.0

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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionali

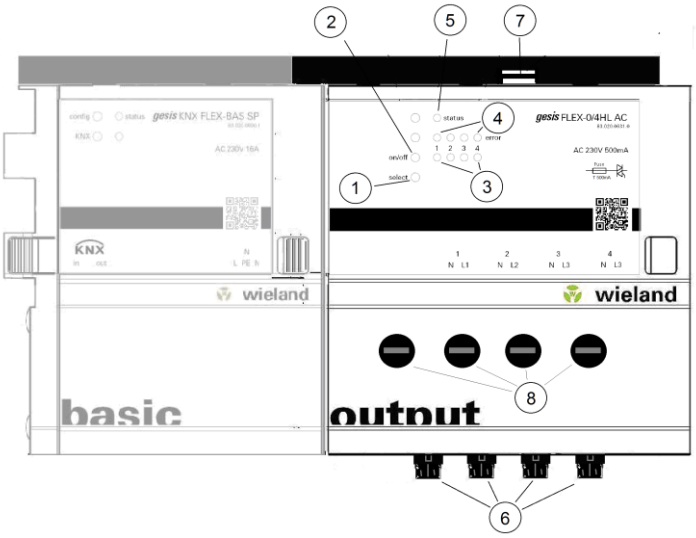


Figure 2: Montage
Figura 2: Montaggio

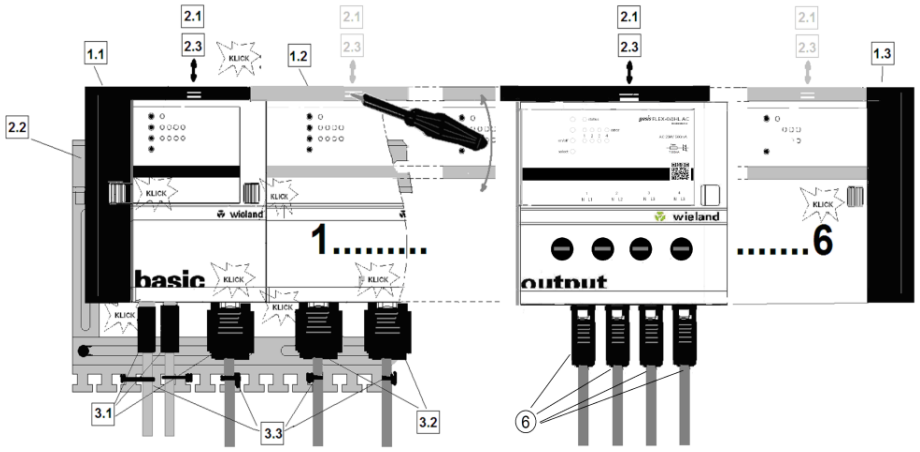
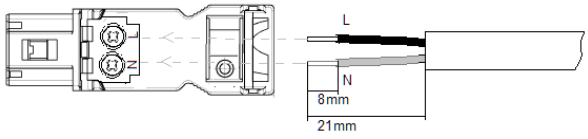
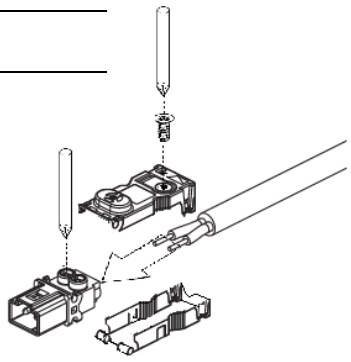


Figure 3: Montage des connecteurs
Figura 3: Montaggio dei connettori

Connecteur GST15i2 (91.922.3053.1 pour câble rond de 6,0 à 7,7 mm de diamètre)
GST15i2 (91.922.2053.1 pour câble plat de 6,0 mm de diamètre)
Prise GST15i2 (91.921.3053.1 pour câble rond de 6,0 à 7,7 mm de diamètre)
GST15i2 (91.921.2053.1 pour câble plat de 6,0 mm de diamètre)
Spina GST15i2 (91.922.3053.1 per cavo rotondo con diametro 6,0 mm - 7,7 mm)
GST15i2 (91.922.2053.1 per cavo piatto con diametro 6,0 mm)
Presa GST15i2 (91.921.3053.1 per cavo rotondo con diametro 6,0 mm - 7,7 mm)
GST15i2 (91.921.2053.1 per cavo piatto con diametro 6,0 mm)



Couple	
Momento torcente	



7.15 *gesis* FLEX-0/4HL DC 4x semiconductor switching outputs

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis FLEX-0/4HL DC

DC Halbleiter Schaltausgang 4-fach (83.020.0633.0)
DC Semiconductor 4x switch output (83.020.0633.0)

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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der Halbleiter Schaltausgang 4fach DC 24V/500mA im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau, wird vom Basismodul verwaltet. Er erhält seine Netz- und Busversorgung vom vorgeschalteten Modul. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.
Hinweis: Funktionstests direkt nach Montage mit der Vorortbedienung an den Geräten ohne Programmierung möglich.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'select'	Startet den Handbedienmodus und wählt einen Ausgang. Der gewählte Ausgang beginnt zu blinken. Ein langes Drücken >3s beendet den Handbedienmode vorzeitig.
②	Taster 'on/off'	• Schaltet den selektierten Ausgang wechselweise ein oder aus.
③	LED 1 - 4	Signalisiert für jeden Ausgang den aktuellen Status. • 'Aktiv': LED leuchtet oder leuchtet und erlischt kurz (selektiert). • 'Inaktiv': LED aus oder kurzes blinken (selektiert).
④	LED 'error'	Fehleranzeige für Ausgang 1 -4. Mögliche Ursachen sind: • Schaltelement defekt • DC 24 V Versorgung fehlt • Kurzschluss am Ausgang Ein Fehler wird nur im eingeschalteten Zustand erkannt und nach der Fehlerbehebung erst beim nächsten Einschalten wieder zurückgenommen.
⑤	LED 'status'	Signalisiert den Betriebszustand des Erweiterungsmoduls. • Grün: Modul funktionsbereit (kein Fehler). • Rot blinken: Kommunikations- oder Konfigurationsfehler liegt vor.
⑥	Anschlüsse Ausgang 1 - 4	• Stecker GST15i2 zweipolig Farbe Lichtblau (Montage: siehe Rückseite, Abbildung 3)
⑦	Einspeisung	• DC 24 V Buchse GST15i2 Farbe Lichtblau
⑧	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Module Stecken**

1.1 Endkappe links auf Basismodul setzen und einrasten.
1.2 Zusatzmodule in gewünschter Reihenfolge rechts an das Basismodul setzen und mit hörbarem Klick einrasten.
1.3 Endkappe auf letztes Modul rechts aufsetzen und einrasten.

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 An jedem Modul mit Schraubendreher den Rastfuß nach oben ziehen.
2.2 Module auf Tragschiene setzen.
2.3 An jedem Modul mit Schraubendreher den Rastfuß nach unten drücken.
Die Module sind auf der Tragschiene befestigt.

Schritt 3: **Kabel stecken und sichern**

3.1 Am Modul die Kabel der Anschlüsse ⑥ ⑦ stecken.
3.2 Kabel an allen weiteren Modulen stecken (Siehe: Montageanleitungen).
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

DC-Versorgung	
Bemessungsspannung	24 VDC, -20 % / +30 %, (GST15i2 Farbcode lichtblau)
Verpolschutz	Ja
Ausgänge	
Bemessungsstrom max.	500 mA je Ausgang
Absicherung am Gerät	Elektronische Überlasterkennung ab > 0,7A typisch 1,4A
Kurzschlussschutz	elektronische Abschaltung bei Überlast und Kurzschluss
Schaltelement	MOS FET
Leckstrom im Aus-Zustand	3,5 µA typisch
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2,2 kWh
Abmessungen (B, H, L)	130*) mm, 149 mm, 44 mm *) 140 mm mit Endkappe links
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0633.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The semiconductor 4x switch output 24V/500mA in a flat rail-mounted surface-mount housing for decentralised installation is controlled by the base module. Its power and bus are fed from the upstream module. The comprehensive parameter set enables a variety of automation functions. The electrical connections, which are mated according to IEC 61535, separate automation from installation.
Note: It is possible to perform functional tests immediately after installation using the local controls at the devices without the need for programming.

Control and function elements (see back of page, Figure 1)

①	'Select' button	Starts the manual operating mode and selects an output. The selected output starts to blink. Pressing and holding for >3s ends manual operating mode preliminarily.
②	'On/Off' button	• Switches the selected output on or off.
③	LED 1 - 4	Signals the current status for each output. • 'Active': LED lights or lights and goes out briefly (selected). • 'Inactive': LED is off or blinks briefly (selected).
④	'Error' LED	Error indication for outputs: 1-4. Possible causes are: • Switching element defective • 24V DC power supply faulty • Short circuit at the output A fault is only recognized when the unit is turned on and is reset only after the fault is remedied and after the unit is turned on again.
⑤	'Status' LED	Signals the operating state of the expansion module. • Green: the module is ready for operation (no faults). • Blinking red: Communication or configuration error.
⑥	Connections for outputs 1 - 4	• GST15i2 two-pin plug, light blue (for installation: see back of page, Figure 3)
⑦	Feed	• DC 24 V socket GST15i2 colour light blue
⑧	Snap-in mounting foot	Lock for installation onto support rail/mounting frame

Installation (see back of page, Figure 2)

Step 1: **Plugging in modules**

1.1 Set the left end cap onto the base module and latch in place.
1.2 Set the additional modules to the right in the desired sequence and latch into place with an audible click.
1.3 Set the end cap onto the last module on the right and latch into place.

Step 2: **Optional: Attachment to support rails or installation frames**

2.1 Pull the snap-in mounting foot at each module upward with a screwdriver.
2.2 Place the modules onto the support rail.
2.3 Push the snap-in mounting foot at each module downward with a screwdriver.
The modules are attached to the support rail.

Step 3: **Plugging in the cable and securing it**

3.1 At the module, plug in the cables of connections ⑥ ⑦.
3.2 Plug in the cables at all other modules (see: installation instructions).
Important: Ensure that all plug connections are securely seated.
3.3 For installation frames: Fasten the cable to the installation frame with cable binders.

Technical data

DC power supply	
Rated voltage	24 VDC, -20 % / +30 %, (GST15i2 colour code light blue)
Reverse polarity protection	Yes
Outputs	
Rated current max.	500 mA per outlet
Fuse protection at the device	Electronic overload recognition from > 0.7A typically 1.4A
Short circuit protection	Electronic overload and short-circuit shut-off
Switching element	MOS FET
Leakage current in the off-state	3.5 µA typical
Environmental conditions	
Field of application	Internal spaces and dry rooms, weatherized
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Mounting type	Ceiling, floor, wall mount, fixed installation on on a flat mounting surface, surface-mounted, support rail TH35-7.5
Case	
Material	Plastic, halogen-free
Colour	Light gray, similar to RAL 7035 / black, similar to RAL 9005
Behaviour in fire	UL94 V-2
Thermal load	approx. 2.2 kWh
Dimensions (B, H, L)	130*) mm, 149 mm, 44 mm *) 140 mm with left end cap
Electrical safety	
Protection class	I
IP rating	IP20 (according to EN 60529)
Degree of soiling	2
Surge voltage category	III
Approvals	
CE certification	According to EMC directive and low-voltage directive Meets the following norms: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0633.0

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

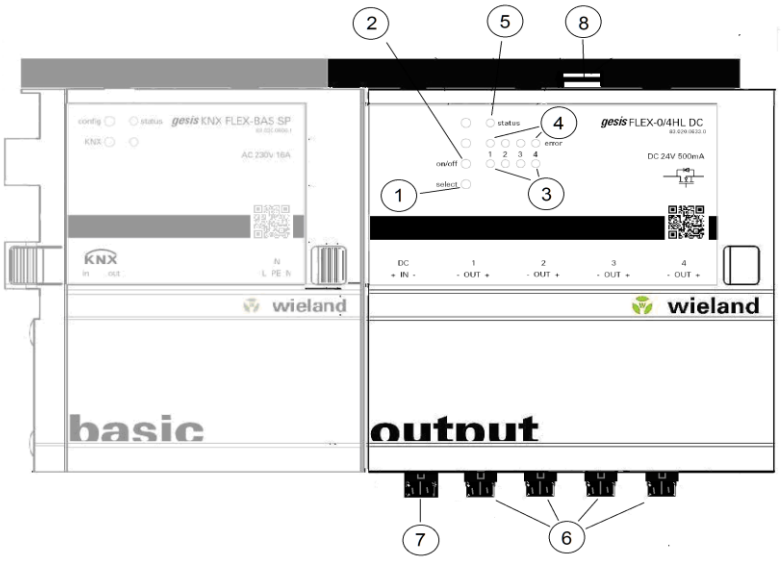


Abbildung 2: Montage
Figure 2: Installation

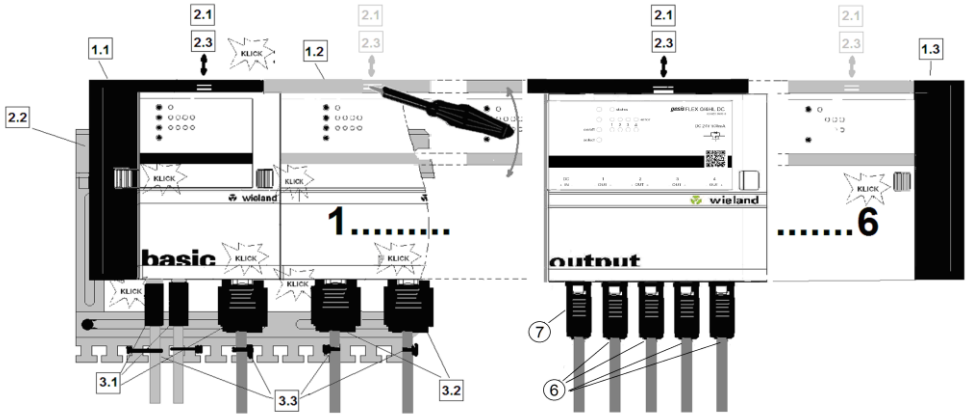
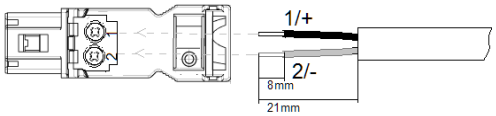
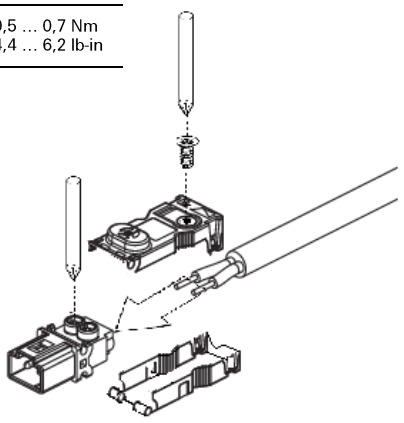


Abbildung 3: Montage der Stecker
Figure 3: Installation of the plugs

Stecker GST15i2 (91.922.3353.0 für Rundkabel Durchmesser 6,0 mm - 7,7 mm)
GST15i2 (91.922.2353.0 für abgeflachte Kabel Durchmesser 6,0 mm)
Buchse GST15i2 (91.921.3353.0 für Rundkabel Durchmesser 6,0 mm - 7,7 mm)
GST15i2 (91.921.2353.0 für abgeflachte Kabel Durchmesser 6,0 mm)
Plug GST15i2 (91.922.3353.0 for round cable diameters of 6.0 mm - 7.7 mm)
GST15i2 (91.922.2353.0 for flattened cable of diameter 6.0 mm)
Socket GST15i2 (91.921.3353.0 for round cable of diameters 6.0 mm - 7.7 mm)
GST15i2 (91.921.2353.0 for flattened cable of diameter 6.0 mm)



Drehmoment Torque	0,5 … 0,7 Nm 4,4 … 6,2 lb-in



Instructions de montage (Traduction de la notice originale)
Istruzioni per il montaggio (Traduzione delle istruzioni originali)

gesis FLEX-0/4HL DC

DC Sortie de commutation 4 postes (83.020.0633.0)
DC Uscita di commutazione a 4 canali (83.020.0633.0)

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wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

Le semi-conducteur à 4 sorties de commutation DC 24V/500mA se trouve dans un boîtier AP plat qui peut être monté sur des barres de support pour un montage décentralisé et est géré par un module de base. Il obtient son alimentation de bus et de réseau du mode présélectionné. Le jeu de paramètres variés permet différentes fonctions d'automatisation. Les liaisons électriques connectables conformément à CEI 61535 séparent l'automatisation et l'installation.
Indication : tests de fonctionnement possibles directement après le montage par la commande sur place sur les appareils.

Éléments de commande et de fonctionnement (voir au verso, illustration 1)

①	Bouton « Select »	Démarre le mode de fonctionnement manuel et choisit une sortie. La sortie sélectionnée commence à clignoter. Une pression longue >3s interrompt prématurément le mode de commande manuelle.
②	Bouton « On/Off »	• Éteint ou allume alternativement la sortie sélectionnée.
③	DEL de 1 à 4	Signale le statut actuel de chaque sortie. • « Actif » : la DEL s'allume ou s'allume et s'éteint brièvement (sélectionnée). • « Inactif » : la DEL s'éteint ou clignote brièvement (sélectionnée).
④	DEL « erreur »	Voyant d'erreur pour les sorties 1 à 4. Les causes possibles sont : • Élément de commutation défectueux • DC 24 V l'alimentation manque • Court-circuit à la sortie Une erreur n'est reconnue qu'en mode activé et, après avoir a été éliminée, elle n'est supprimée qu'après la prochaine activation.
⑤	DEL « État »	Signale l'état de fonctionnement du module d'extension. • Vert : module prêt à fonctionner (pas d'erreur). • Clignotement rouge : une erreur de communication ou de configuration est survenue.
⑥	Raccords de sortie de 1 à 4	• Connecteur GST15i2 bipolaire couleur bleu lumineux (Montage : voir verso, illustration 3)
⑦	Alimentation	• Fiche DC 24 V GST15i2 couleur bleu lumineux
⑧	Pied encliquetable	Arrêt pour le montage sur rail porteur/cadre de montage

Montage (voir verso, illustration 2)

Étape 1 : **brancher les modules**

1.1 Placer l'embout à gauche sur le module de base et l'enclencher.
1.2 Placer les modules supplémentaires dans l'ordre souhaité à droite sur le module de base et les enclencher de manière à entendre un clic.
1.3 Placer l'embout à droite sur le dernier module de base et l'enclencher.

Étape 2 : **fixation sur rail porteur ou cadre de montage (option)**

2.1 Tirer vers le haut le pied encliquetable avec un tournevis sur chaque module.
2.2 Poser les modules sur le rail porteur.
2.3 Tirer le pied encliquetable vers le bas sur chaque module avec un tournevis.
Les modules sont fixés sur le rail porteur.

Étape 3 : **brancher et sécuriser les câbles**

3.1 Brancher les câbles des connexions ⑥ ⑦ sur le module.
3.2 Raccorder les câbles sur tous les autres modules (voir les instructions de montage).
Important : s'assurer que tous les branchements sont bien effectués.
3.3 Au niveau du cadre de montage : fixer les câbles au cadre de montage avec des serres-câble.

Caractéristiques techniques

Alimentation DC	
Tension assignée	24 VDC, -20 % / +30 %, (GST15i2 code de couleur bleu lumineux)
Protection contre l'inversion de polarité	oui
Sorties	
Courant assigné maximum	500 mA par sortie
Protection au niveau de l'appareil	Reconnaissance électronique de surcharge à partir de > 0,7A typique 1,4A
Protection contre les courts-circuits	extinction électronique en cas de surcharge et de court-circuit
Module de commutation	MOS FET
Courant de fuite dans la position éteinte	3,5 µA typique
Conditions environnementales	
Domaine d'utilisation	Pièces intérieures et sèches, protégées des intempéries
Résistant aux variations climatiques	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol, mural, sur les surfaces de montage planes d'installations fixes, apparent, rail porteur TH35-7,5
Boîtier	
Matériel	Matière plastique, exempt d'halogène
Couleur	Gris lumineux, similaire à RAL 7035 / noir, similaire à RAL 9005
Réaction au feu Charge thermique Dimensions (l, h, L)	UL94 V-2 2,2 kWh environ 130*) mm, 149 mm, 44 mm *) 140 mm avec embout à gauche
Sécurité électrique	
Classe de protection	I
Indice de protection	IP20 (conforme à la norme EN 60529)
Degré d'encrassement	2
Catégorie de surtension	III
Homologations	
Certification CE	Conformément à la directive CEM et à la directive Basse Tension 2006/95/CE Conformes aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance :
- Numéro de document : BA000904
- Téléchargement via code QR ou : http://eshop.wieland-electric.com/product/83.020.0633.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici. che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

L'uscita di commutazione a semiconduttore a 4 strati DC 24V/500mA, con alloggiamento piatto montabile su guida portante per installazione decentrata, è gestita dal modulo base. Il modulo inserito a monte provvede all'alimentazione bus e di rete. L'ampio set di parametri consente diverse funzioni di automazione. I collegamenti elettrici a innesto, a norma IEC 61535, dividono automazione e installazione.
Nota: è possibile eseguire dei test funzionali subito dopo il montaggio, con il comando in loco, sui dispositivi senza programmazione.

Elementi di comando e di funzionamento (vedere figura 1 a tergo)

①	Tasto 'select'	Avvia la modalità di comando manuale e seleziona un'uscita. L'uscita selezionata inizia a lampeggiare. Se si preme l'interruttore per oltre 3 s, termina anticipatamente la modalità di comando manuale.
②	Tasto 'on/off'	• Imposta l'uscita selezionata su On o Off.
③	LED 1 - 4	Segnala lo stato attuale di ogni uscita. • 'Attivo': il LED rimane acceso o è acceso e si spegne brevemente (selezionato). • 'Inattivo': il LED è spento o lampeggia brevemente (selezionato).
④	LED 'error'	Segnalazione errore per uscita 1 - 4. Le cause possibili sono: • Elemento di commutazione difettoso • Assenza alimentazione DC 24 V • Cortocircuito su uscita Un errore viene rilevato solo in condizioni di accensione e, dopo la rimozione dell'anomalia, viene confermato all'attivazione successiva.
⑤	LED 'status'	Segnala lo stato d'esercizio del modulo di espansione. • Verde: modulo pronto per l'uso (nessun errore). • Rosso lampeggiante: errore di comunicazione o di configurazione.
⑥	Collegamenti uscita 1 - 4	• Spina GST15i2 bipolare colore azzurro chiaro (montaggio: vedere figura 3 a tergo)
⑦	Alimentazione	• DC 24 V presa GST15i2 colore azzurro chiaro
⑧	Piedino di fissaggio	Sistema di fissaggio per installazione su guida di supporto/telaio di montaggio

Montaggio (vedere figura 2 a tergo)

Passo 1: Inserimento dei moduli

1.1 Applicare il terminale a sinistra sul modulo base e farlo scattare in posizione.
1.2 Applicare i moduli aggiuntivi nella sequenza desiderata a destra sul modulo base e farli scattare in posizione con un clic.
1.3 Applicare il terminale sull'ultimo modulo a destra e farlo scattare in posizione.

Passo 2: **Opzionale: fissaggio su guida di supporto o telaio di montaggio**

2.1 Su ogni modulo, sollevare il piedino di fissaggio con un cacciavite.
2.2 Applicare i moduli sulla guida di supporto.
2.3 Su ogni modulo, abbassare il piedino di fissaggio con un cacciavite.
I moduli sono fissati alla guida di supporto.

Passo 3: **Inserimento e fissaggio dei cavi**

3.1 Collegare al modulo i cavi degli attacchi ⑥ ⑦.
3.2 Collegare i cavi a tutti gli altri moduli (consultare le Istruzioni di montaggio).
Importante: garantire la stabilità di tutti i collegamenti a innesto.
3.3 In presenza del telaio di montaggio: fissare il cavo al telaio con le fascette di serraggio.

Dati tecnici

Alimentazione CC	
Tensione nominale	24 VDC, -20 % / +30 %, (GST15i2 codice colore azzurro chiaro)
Protezione contro le inversioni di polarità	Sì
Uscite	
Corrente nominale max.	500 mA per ogni uscita
Protezione sul dispositivo	Rilevamento elettronico sovraccarico da > 0,7A tipico 1,4A
Protezione da cortocircuiti	Disattivazione elettronica in caso di sovraccarico e cortocircuito
Elemento di commutazione	MOS FET
Corrente di dispersione in posizione Off	Valore tipico 3,5 µA
Condizioni ambientali	
Campo d'impiego	Locali chiusi e asciutti, protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	da -5 °C a +45 °C
Temperatura di immagazzinaggio	da -25 °C a +75 °C
Tipo di montaggio	Montaggio a soffitto, a pavimento, a parete, su superficie di montaggio piana installazione fissa, sopra intonaco, guida di supporto TH35-7,5
Alloggiamento	
Materiale	Plastica, senza alogeni
Colore	Grigio chiaro, simile a RAL 7035 / nero, simile a RAL 9005
Reazione al fuoco Carico comburente Dimensioni (L, H, P)	UL94 V-2 ca. 2,2 kWh 130*) mm, 149 mm, 44 mm *) 140 mm con terminale sx
Sicurezza elettrica	
Classe di protezione	I
Grado di protezione	IP20 (a norma EN 60529)
Grado di inquinamento	2
Categoria di sovratensione	III
Omologazioni	
Marchio CE	Secondo direttiva CEM e direttiva bassa tensione Conforme alle norme: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o: http://eshop.wieland-electric.com/product/83.020.0633.0

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Figure 1: Éléments de commande et de fonction
Figura 1: Elementi di comando e funzionamento

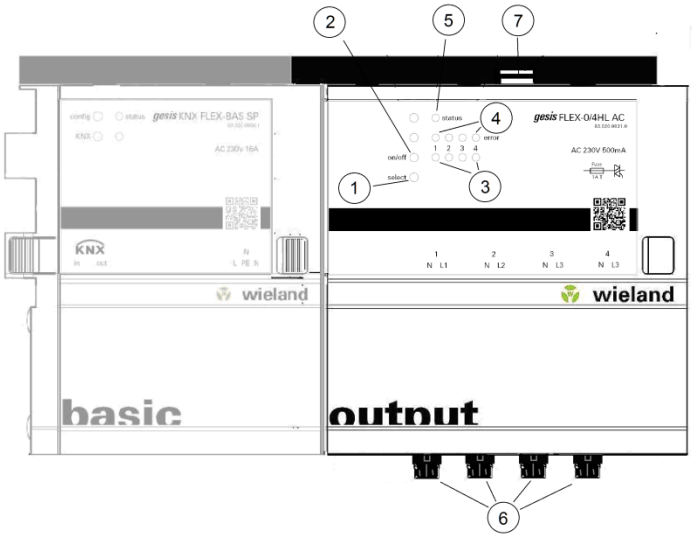


Figure 2: Montage
Figura 2: Montaggio

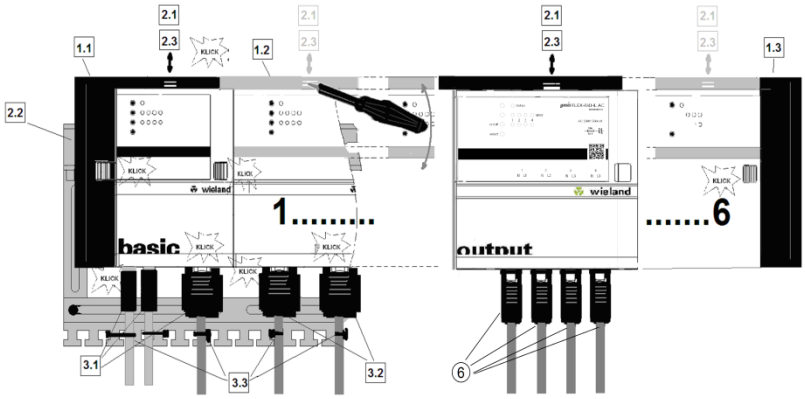
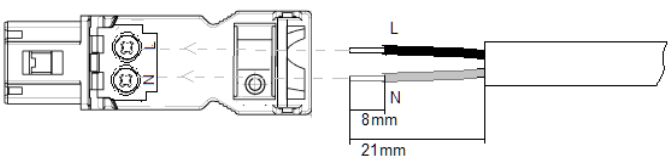
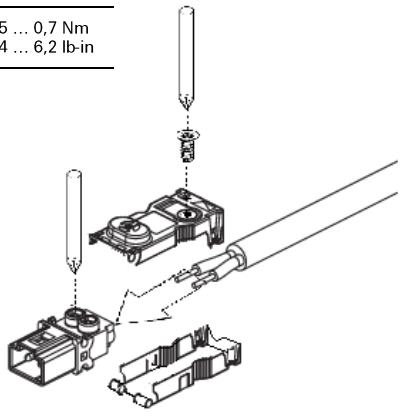


Figure 3: Montage des connecteurs
Figura 3: Montaggio delle spine

Connecteur GST15i2 (91.922.3053.1 pour câble rond de 6,0 à 7,7 mm de diamètre)
GST15i2 (91.922.2053.1 pour câble plat de 6,0 mm de diamètre)
Prise GST15i2 (91.921.3053.1 pour câble rond de 6,0 à 7,7 mm de diamètre)
GST15i2 (91.921.2053.1 pour câble plat de 6,0 mm de diamètre)
Spina GST15i2 (91.922.3353.0 per cavo rotondo con diametro 6,0 mm - 7,7 mm)
GST15i2 (91.922.2353.0 per cavo piatto con diametro 6,0 mm)
Presa GST15i2 (91.921.3353.0 per cavo rotondo con diametro 6,0 mm - 7,7 mm)
GST15i2 (91.921.2353.0 per cavo piatto con diametro 6,0 mm)

Couple Momento torcente	0,5 … 0,7 Nm 4,4 … 6,2 lb-in





7.16 KNX ENOCEAN Gateway *gesis* KNX ENO32

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis KNX FLEX-ENO32

EnOcean-KNX-Gateway 32 Kanäle (83.020.0628.0)
EnOcean-KNX-Gateway 32 channels (83.020.0628.0)

Wieland Electric GmbH
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wieland

DE

GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Das bidirektionale EnOcean-KNX-Gateway für 32 Kanäle ist ein eigenständiges Gerät im auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau. Das Gateway orientiert sich an den EnOcean-Equipment-Profilen (EEP). Neben einer Software zur Inbetriebnahme steht eine komfortable Handbedienung über ein Display zur Verfügung. Die ETS-Applikation verfügt zusätzlich über einen umfangreichen Logik/Regelbereich. Die KNX-Verbindung ist steckbar ausgeführt.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster 'KNX'	Startet den Programmiermodus. (Details: siehe Handbuch)
②	LED 'KNX'	Leuchtet im Programmiermodus rot.
③	Display	Zeigt im Hauptmenü: Gerätename, Betriebsmodus, physikalische KNX-Adresse
④	Antenne	Externe Antenne mit Magnetfuß für optimalen Empfang der Funktelegramme
⑤	Eingang KNX-Bus	Anschluss mit Buchse BST14i2, 2-polig, grüne Codierung (Montage: siehe Rückseite, Abbildung 3)
⑥	Ausgang KNX-Bus	Anschluss mit Stecker BST14i2, 2-polig, grüne Codierung (Montage: siehe Rückseite, Abbildung 3)
⑦	Taster 'exit/delete'	• Kurzer Tastendruck: Kanal- oder Lernmodus verlassen. Wechselt zur Startseite oder bei weiterem kurzem Tastendruck in den Busmonitor. • Tastendruck > 2 s: Ermöglicht das Löschen der eingelernten Funkverknüpfung. (Details: siehe Handbuch)
⑧	Taster 'activate/add'	• Kurzer Tastendruck: Anwahl der Kanäle 1 bis 32 • Tastendruck > 2 s: Startet den Lernmodus. (Details: siehe Handbuch)

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

1.1 Am Modul mit Schraubendreher den Rastfuß nach oben ziehen.
1.2 Das Modul auf Tragschiene aufsetzen.
1.3 Am Modul mit Schraubendreher den Rastfuß nach unten drücken.
Das Modul ist auf der Tragschiene befestigt.

Schritt 2: **Kabel stecken und sichern Antenne montieren**

2.1 Kabel am Modul stecken.
Wichtig: Festen Sitz aller Steckverbindungen sicherstellen.
2.2 Bei Montagerahmen:
Kabel mit Kabelbindern am Montagerahmen fixieren.
2.3 Antenne mit Magnetfuß an geeigneter Stelle anbringen.
Wichtig: Elektrisch leitfähige Gegenstände in mittelbarer oder unmittelbarer Nähe vom Empfangsbereich der Stabantenne beeinflussen die Empfangs- und Sendeeigenschaft des Geräts. Eine Beeinträchtigung der Reichweite ist die Folge.

Technische Daten

Spannungsversorgung	über KNX-Bus
Stromaufnahme	ca. 12 mA
Spannung	DC 24V SELV
EnOcean	
Schnittstelle	ISM Band 868,3 MHz, ASK
Reichweite	max. 30 m (Umgebungsabhängig siehe www.enocean.com)
Unterstützte Geräte	EnOcean Equipment Profile, EEP Version 2.1
KNX	steckbarer Busanschluss BST14i2
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 °C bis +45 °C
Lagertemperatur	-25 °C bis +75 °C
Montageart	Decken-, Boden-, Wandmontage, feste Installation, Aufputz, auf ebene Fläche, Tragschiene TH35-7,5, Montagerahmen
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / Schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2 kWh
Abmessungen (B, H, L)	127 mm, 149 mm, 44 mm
Elektrische Sicherheit	
Schutzklasse	III
Schutzart	IP20 (nach EN 60529)
Zulassungen	
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3 ETSI EN 300220-1, ETSI EN 300220-2

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
http://eshop.wieland-electric.com/product/83.020.0628.0

EN

DANGER

- Only trained electricians may install and commission this device. They must have read and understood this instruction manual before they carry out installation.
- Do not open the device. Do not insert any foreign objects. Keep the device away from water and fire.
- Only connect or disconnect the device if it has been de-energised.
- The relevant standards, directives, regulations and provisions of the particular country are to be observed.

The bidirectional EnOcean-KNX-Gateway for 32 channels is a stand-alone device in an AP housing mounted on carrier rails for decentralized installation. The gateway is patterned after the EnOcean Equipment Profiles (EEP). In addition to start-up software, there is a convenient manual control display available for use. The ETS application also includes a comprehensive logic/control area. The KNX connection is designed as a plug.

Operating and functional elements (see back page, Figure 1)

①	'KNX' button	Starts the programming mode.(For details: See handbook)
②	'KNX' LED	Lights up red in programming mode.
③	Display	Shown in the main menu: Name of equipment, operating mode, physical KNX address
④	Antenna	External antenna with magnetic base for optimum receipt of radio telegrams
⑤	Input KNX bus	Connection with socket BST14i2, 2-pin, green coding (installation: see reverse side Figure 3)
⑥	Output for KNX bus	Connection with plug BST14i2, 2-pin, green coding (installation: see reverse side Figure 3)
⑦	'exit/delete' button	• Short button press: leaves the channel or learning mode. Switches to the start page or with another short button press goes to the bus monitor. • Button press > 2 s: enables deletion of the learned radio link. (For details: see handbook)
⑧	'activate/add' button	• Brief button press: select channels 1 to 32 • Button press > 2 s: starts the learning mode.(For details: see handbook)

Installation (see back page, Figure 2)

Step 1: **Optional: Fastening on carrier rail or mounting frame**

1.1 Pull the resting foot on the module upwards with a screwdriver.
1.2 Set the module onto the carrier rail.
1.3 Press the resting foot on the module downward with a screwdriver.
The module is now fastened on the carrier rail.

Step 2: **Plugging in cables and securing them and installing antennas**

2.1 Plug in cable at the module.
Important: Ensure that all plug-in connections are securely seated.
2.2 For mounting frames:
fix to mounting frame with cable binders.
2.3 Attach antenna at a suitable place with magnetic foot.
Important: Electrically conducting objects in the direct or indirect vicinity of the receiving area of the bar antenna can affect the reception and transmission quality of the equipment. This can negatively affect the range.

Technical Data

Power supply	through KNX bus
Current consumption	about 12 mA
Voltage	DC 24V SELV
EnOcean	
Interface	ISM Band 868.3 MHz, ASK
Range	max. 30 m (depending on environment, see www.enocean.com)
Supported devices	EnOcean Equipment Profile, EEP Version 2.1
KNX	Pluggable bus connection BST14i2
Environmental conditions	
Area of application	Internal rooms and dry rooms, protected from weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 °C to +45 °C
Storage temperature	-25 °C to +75 °C
Type of installation	Installation on ceiling, floor and wall, fixed installation, surface-mounted, on level surface, carrier rail TH35-7.5, mounting frame
Housing	
Material	Plastic, halogen-free
Colour	Light grey, similar to RAL 7035 / Black, similar to RAL 9005
Reaction to fire	UL94 V-2
Fire load	approx. 2 kWh
Dimensions (W, H, L)	127 mm, 149 mm, 44 mm
Electrical safety	
Protection class	III
Protection type	IP20 (in accordance with EN 60529)
Approvals	
CE marking	In accordance with EMC Directive and Low Voltage Directive Meets standards: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3 ETSI EN 300220-1, ETSI EN 300220-2

Handbook
with detailed information on programming, commissioning and maintenance:
- Document number: BA000904
- Download via QR code or:
http://eshop.wieland-electric.com/product/83.020.0628.0

Montageanleitung (Original)
Installation Instructions (Translation based on Original Documentation)

gesis KNX FLEX-ENO32

EnOcean-KNX-Gateway 32 Kanäle (83.020.0628.0)
EnOcean-KNX-Gateway 32 channels (83.020.0628.0)

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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Operating and functional elements

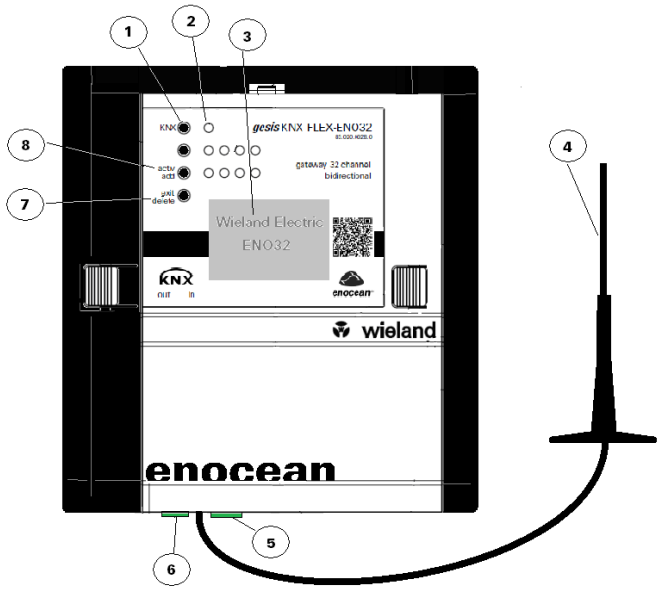


Abbildung 2: Montage des Moduls
Figure 2: Module installation

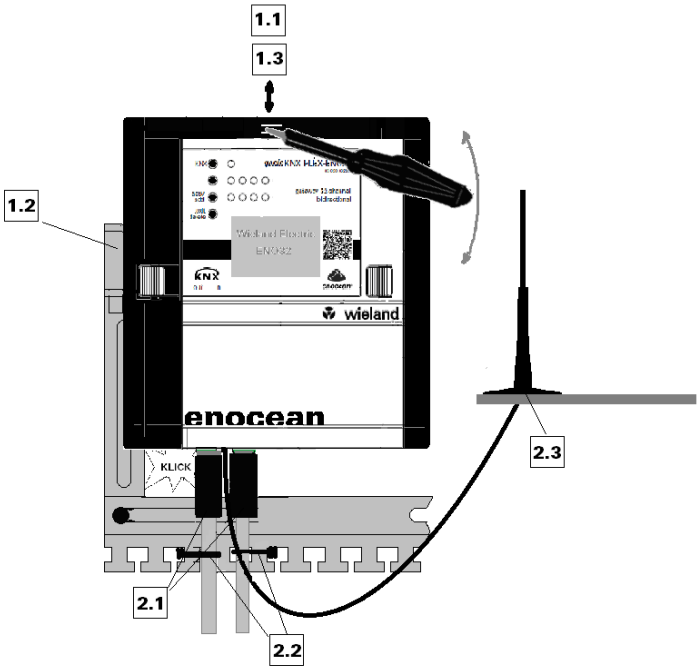
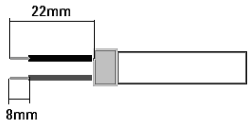
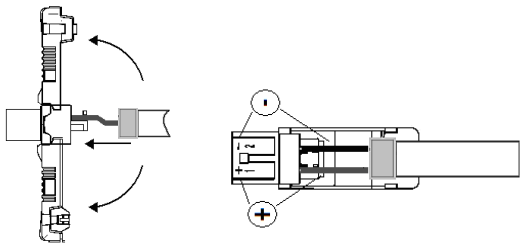


Abbildung 3: Montage Buchse/Stecker BST14i2 (93.421.0553.1/ 93.422.00553.1)

1. Kabel abisolieren und ablängen.



2. Buchse/Stecker aufklappen und Drähte in Federkraftkontakte einführen.
(rot = Plus; schwarz = Minus)



3. Buchse/Stecker zuklappen und mit hörbarem Klick einrasten.

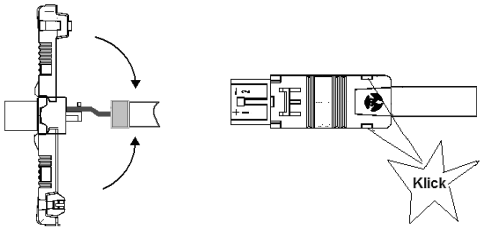
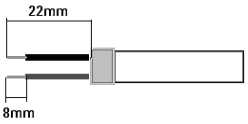
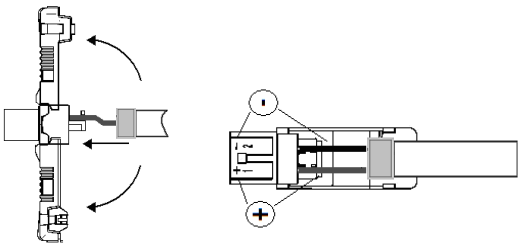


Figure 3: Installation of socket/plug BST14i2 (93.421.0553.1/ 93.422.00553.1)

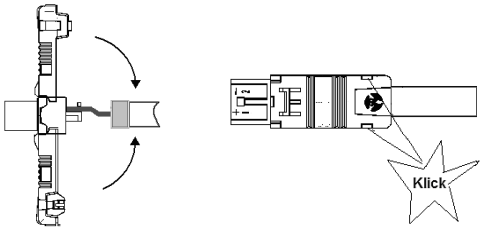
1. Remove the insulation and cut to length.



2. Flip open the socket/plug and lead in wires to the spring contacts.
(red = plus; black = minus)



3. Fold socket/plug closed and latch with audible click.



Instructions de montage (originales)
Istruzioni per il montaggio (originali)

gesis KNX FLEX-ENO32

Passerelle EnOcean-KNX 32 canaux (83.020.0628.0)
EnOcean-KNX-Gateway 32 canali (83.020.0628.0)

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wieland

FR

DANGER

- Seuls les électriciens spécialisés sont autorisés à installer cet appareil et à le mettre en service. Avant de commencer, ils doivent avoir lu et compris ces instructions.
- Ne pas ouvrir l'appareil. Ne pas insérer d'objets tiers. Tenir l'appareil éloigné de l'eau et du feu.
- Ne raccorder l'appareil ou ne le déconnecter que lorsqu'il n'est pas sous tension.
- Respecter les normes, directives, prescriptions et dispositions applicables dans chaque pays.

La passerelle bidirectionnelle EnOcean-KNX pour 32 canaux est un dispositif autonome dans un boîtier en saillie à monter sur un rail porteur pour le montage décentralisé. La passerelle se fonde sur le profil EEP (EnOcean Equipement Profile). Outre le logiciel de mise en service, l'équipement propose une commande manuelle confortable via l'écran. L'application ETS dispose par ailleurs d'une rubrique logique/de règles complète. La liaison KNX est enfichable.

Éléments de commande et de fonction (voir verso, figure 1)

①	Bouton 'KNX'	Démarre le mode de programmation. (Détails : voir la notice)
②	LED 'KNX'	S'allume en rouge dans le mode de programmation.
③	Écran	Menu principal : Nom de l'appareil, mode de fonctionnement, adresse physique KNX
④	Antenne	Antenne externe avec pied magnétique pour la réception optimale des télégrammes radio
⑤	Entrée Bus KNX	Raccordement avec la prise BST14i2, 2 pôles, codage vert (Montage : voir verso, figure 3)
⑥	Sortie du bus KNX	Raccordement avec le connecteur BST14i2, 2 pôles, codage vert (Montage : voir verso, figure 3)
⑦	Bouton 'exit/delete'	• Appui court sur la touche : quitter le mode canal ou d'apprentissage. Passe à la page de démarrage ou dans l'écran du bus après un appui court consécutif. • Appui sur la touche > 2 s : permet de supprimer la liaison radio programmée. (Détails : voir manuel)
⑧	Bouton 'activate/add'	• Appui court sur la touche : sélection des canaux 1 à 32 • Appui sur la touche > 2 s : démarre le mode d'apprentissage. (Détails : voir manuel)

Montage (voir verso, figure 2)

Étape 1 : **En option : fixation sur un rail porteur ou un cadre de montage**

1.1 Tirer le pied encliquetable vers le haut sur chaque module à l'aide d'un tournevis.
1.2 Placer les modules sur le rail porteur.
1.3 Pousser le pied encliquetable vers le bas à l'aide d'un tournevis sur chaque module.
Le module est fixé sur le rail porteur.

Étape 2 : **Enfichage du câble et fixation**

2.1 Raccorder le câble au module.
Important : s'assurer de la bonne fixation de tous les raccords enfichés.
2.2 Avec cadre de montage :
fixer les câbles sur le cadre de montage à l'aide de serre-câbles.
2.3 Placer l'antenne à l'emplacement approprié à l'aide du pied magnétique.
Important : des dispositifs conducteurs à proximité immédiate ou à moyenne distance de la zone de réception de l'antenne influencent les propriétés de réception et d'émission de l'appareil. La portée s'en trouve entravée.

Caractéristiques techniques

Alimentation en tension	via le bus KNX
Courant absorbé	env. 12 mA
Tension	24 VCC TBTS
EnOcean	
Interface	Bande ISM 868,3 MHz, ASK
Portée	max. 30 m (en fonction de l'environnement, voir www.enocean.com)
Appareils pris en charge	EnOcean Equipment Profile, EEP Version 2.1
KNX	Raccord de bus enfichable BST14i2
Conditions ambiantes	
Zones d'utilisation	Espaces intérieurs et locaux secs, protégés contre les intempéries
Résistance à l'environnement	Classe 3K5 (EN 50491-2)
Température ambiante	de -5 °C à +45 °C
Température de stockage	de -25 °C à +75 °C
Type de montage	Montage au plafond, au sol et au mur ; installation fixe, en saillie, sur une surface plane, rail porteur TH35-7,5, cadre de montage
Boîtier	
Matériau	Matière plastique, sans halogène
Couleur	gris clair, similaire à RAL 7035 / noir, similaire à RAL 9005
Comportement au feu Charge d'incendie Dimensions (l, H, L)	UL94 V-2 env. 2 kWh 127 mm, 149 mm, 44 mm
Sécurité électrique	
Classe de protection	III
Indice de protection	IP20 (selon EN 60529)
Homologations	
Marquage CE	Conformément à la directive CEM et Basse tension Conforme aux normes : EN 50491-5-1, EN 50491-5-2, EN 50491-5-3 ETSI EN 300220-1, ETSI EN 300220-2

Notice
comprenant des informations détaillées sur la programmation, mise en service et maintenance:
- Numéro de document : BA000904
- Téléchargement via code QR ou :
http://eshop.wieland-electric.com/product/83.020.0628.0

IT

PERICOLO

- L'installazione e la messa in servizio di questo apparecchio devono essere eseguiti esclusivamente da elettrotecnici. che devono aver letto e compreso le presenti istruzioni prima di effettuare qualsiasi operazione.
- Non aprire l'apparecchio. Non introdurre oggetti estranei. Mantenere l'apparecchio lontano da acqua e fuoco.
- Collegare o scollegare l'apparecchio solo in assenza di tensione.
- Rispettare le norme, direttive, prescrizioni e disposizioni in vigore nel paese di impiego.

Il gateway KNX EnOcean bidirezionale per 32 canali è un dispositivo a sé stante in custodia da parete piatta su guida di supporto per installazione decentrata. Il gateway è orientato ai profili EEP (EnOcean Equipment Profiles). Oltre a un software per la messa in servizio il sistema offre pratiche funzioni di impiego grazie al display. L'applicazione ETS dispone anche di un ampio campo di regolazione e funzioni logiche. Il collegamento KNX avviene a innesto.

Elementi di comando e funzionali (vedere a tergo la figura 1)

①	Tasto 'KNX'	Avvia la modalità di programmazione. (Per informazioni dettagliate: consultare il manuale)
②	LED 'KNX'	Nella modalità di programmazione si accende rosso.
③	Display	Mostra nel menu principale: nome dispositivo, modalità operativa, indirizzo fisico KNX
④	Antenna	Antenna esterna con piedino magnetico per la ricezione ottimale di telegrammi radio
⑤	Ingresso Bus KNX	Collegamento con presa BST14i2, 2 poli, codifica verde (montaggio: vedere a tergo, figura 3)
⑥	Uscita bus KNX	Collegamento con connettore BST14i2, 2 poli, codifica verde (montaggio: vedere a tergo, figura 3)
⑦	Tasto 'exit/delete'	• Breve pressione del tasto: uscita dalla modalità canale o apprendimento. Il sistema torna alla pagina iniziale o con una breve pressione del tasto al monitoraggio bus. • Pressione del tasto > 2 s: consente di eliminare il collegamento radio acquisito. (Per informazioni dettagliate: vedere il manuale)
⑧	Tasto 'activate/add'	• Breve pressione del tasto: selezione dei canali da 1 a 32 • Pressione del tasto > 2 s: avviamento della modalità di apprendimento. (Per informazioni dettagliate: vedere il manuale)

Montaggio (vedere a tergo, figura 2)

Passo 1: **opzionale: fissaggio su guida di supporto o telaio di montaggio**

1.1 Sul modulo spostare il piedino di fissaggio verso l'alto con un cacciavite.
1.2 Posizionare il modulo sulla guida di supporto.
1.3 Sul modulo premere il piedino di fissaggio verso il basso con un cacciavite.
Il modulo è ora fissato alla guida di supporto.

Punto 2: inserimento e fissaggio dei cavi, installazione dell'antenna

2.1 Inserire il cavo sul modulo.
Importante: assicurarsi che tutti i connettori siano saldamente fissati.
2.2 In caso di montaggio su telaio:
fissare i cavi al telaio con fascette fermacavi.
2.3 Collocare l'antenna con il piedino di fissaggio in un punto adeguato.
Importante: gli oggetti elettricamente conduttivi nelle immediate vicinanze o in prossimità della zona di ricezione dell'antenna ad asta possono influire sulle proprietà di ricezione e trasmissione dell'apparecchio, con conseguente riduzione della portata.

Dati tecnici

Alimentazione	via bus KNX
Corrente assorbita	ca. 12 mA
Tensione	DC 24V SELV
EnOcean	
Interfaccia	ISM Band 868,3 MHz, ASK
Portata	max. 30 m (in funzione dell'ambiente, vedere www.enocean.com)
Apparecchi supportati	EnOcean Equipment Profile, EEP Versione 2.1
KNX	Connessione bus a innesto BST14i2
Condizioni ambientali	
Campo d'impiego	In ambienti interni, asciutti e protetti dagli agenti atmosferici
Resistenza ai fattori climatici	Classe 3K5 (EN 50491-2)
Temperatura ambiente	-5 °C ... +45 °C
Temperatura di stoccaggio	-25 °C ... +75 °C
Tipo di montaggio	A soffitto, pavimento, parete, installazione fissa, a vista, su superficie piana, guida di supporto TH35-7,5, telaio di montaggio
Custodia	
Materiale	PVC, senza alogenati
Colore	Grigio chiaro, simile a RAL 7035 / Nero, simile a RAL 9005
Resistenza al fuoco Carico comburente Dimensioni (LxHxL)	UL94 V-2 ca. 2 kWh 127 mm, 149 mm, 44 mm
Sicurezza elettrica	
Classe di protezione	III
Grado di protezione	IP20 (secondo EN 60529)
Omologazioni	
Marchio CE	Secondo la Direttiva EMC e la Direttiva bassa tensione Conforme alle norme EN 50491-5-1, EN 50491-5-2, EN 50491-5-3 ETSI EN 300220-1, ETSI EN 300220-2

Manuale
con informazioni dettagliate sulla programmazione, messa in servizio e manutenzione:
- Documento numero: BA000904
- Download mediante codice QR o:
http://eshop.wieland-electric.com/product/83.020.0628.0

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Figure 1 : Éléments de commande et de fonction
Figura 1: elementi di comando e funzionali

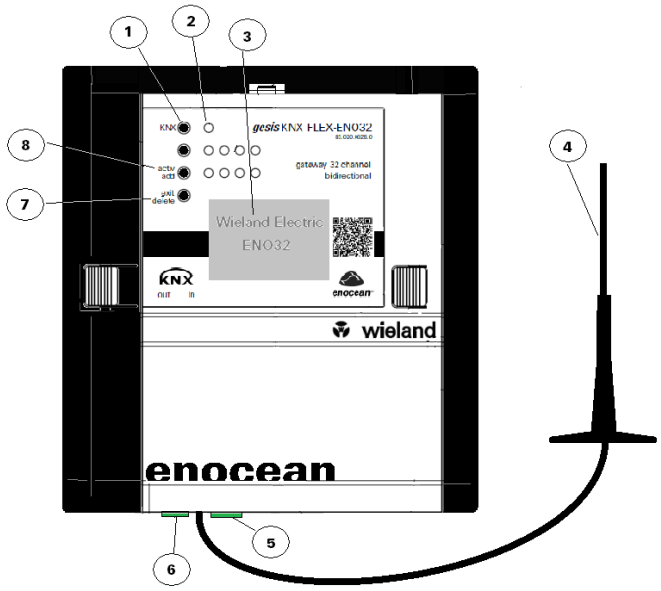


Figure 2 : Montage du module
Figura 2: montaggio del modulo

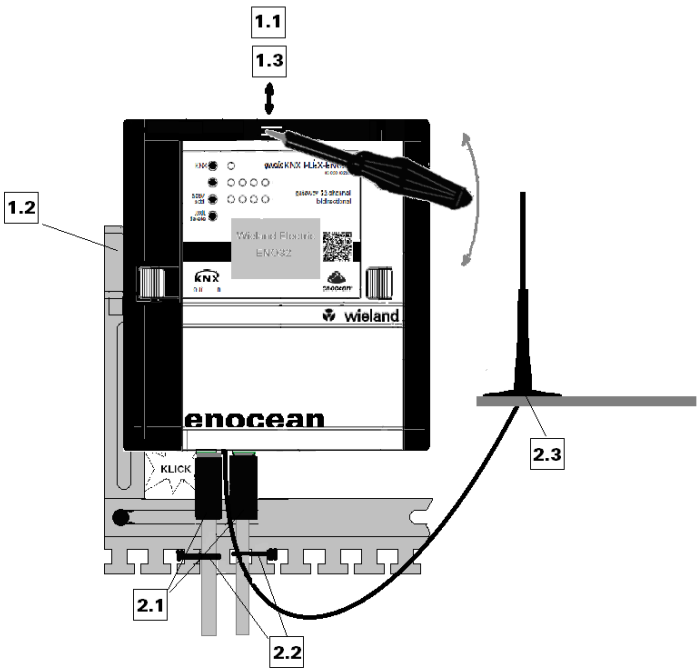
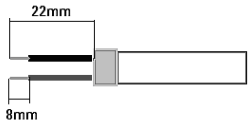
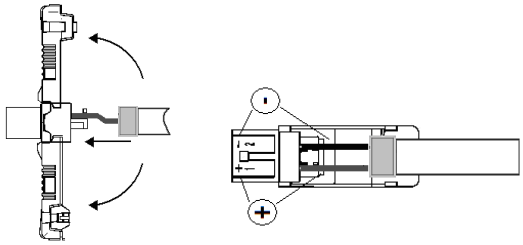


Figure 3 : Montage prise/connecteur BST14i2 (93.421.0553.1/ 93.422.00553.1)

1. Dénuder le câble et le couper.



2. Ouvrir la prise/le connecteur et l'insérer dans les contacts à ressort.
(rouge = Plus ; noir = Moins)



3. Fermer la prise/le connecteur et l'encliqueter jusqu'à entendre un clic.

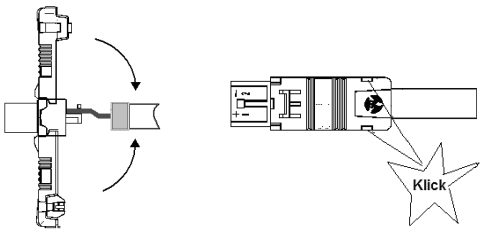
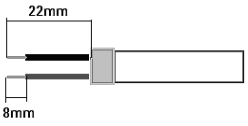
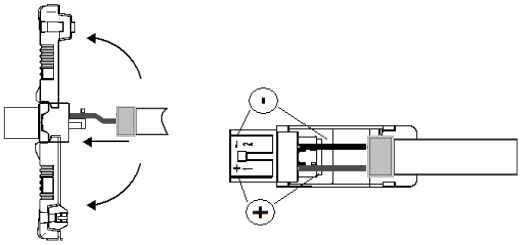


Figura 3: montaggio presa/connettore BST14i2 (93.421.0553.1/ 93.422.00553.1)

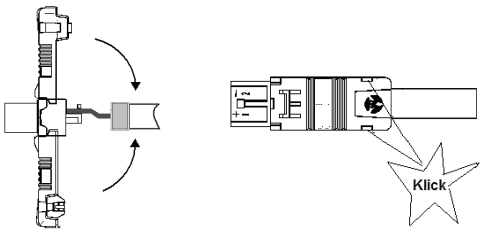
1. Spelare e tagliare a misura i cavi.



2. Aprire la presa/il connettore e inserire i fili nei contatti a molla.
(rosso = più; nero = meno)



3. Chiudere la presa/il connettore e inserire a scatto fino ad avvertire il "clic" che indica l'avvenuto bloccaggio.



7.17 KNX FANCOIL Aktor

Montageanleitung (Original)
Installation Instructions (Translation based on original Documentation)

gesis KNX FLEX-FC

83.020.0638.0

KNX - FanCoil Grundmodul
KNX - FanCoil Basic module

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DE

⚠ GEFAHR

- Nur Elektrofachkräfte dürfen dieses Gerät installieren und in Betrieb nehmen. Vor Ausführung müssen sie diese Anleitung gelesen und verstanden haben.
- Gerät nicht öffnen. Keine Fremdobjekte einführen. Gerät von Wasser und Feuer fernhalten.
- Gerät nur in spannungsfreiem Zustand anschließen oder trennen.
- Die einschlägigen Normen, Richtlinien, Vorschriften und Bestimmungen des jeweiligen Landes sind zu beachten.

Der 1-phasig versorgte KNX FanCoil Kontroller im flachen, auf Tragschiene montierbaren AP-Gehäuse zum dezentralen Einbau kann ein Heiz-/Kühlventil und einen 3-stufigen Lüfter steuern, die Funktion kann über ein Zusatzmodul (83.020.0639.0) erweitert werden. Der umfangreiche Parametersatz ermöglicht verschiedene Automationsfunktionen. Die Handbedienebene erlaubt Funktionstests ohne vorherige Systemintegration. Die nach IEC 61535 steckbaren, elektrischen Verbindungen trennen Automation und Installation.

Bedien- und Funktionselemente (siehe Rückseite, Abbildung 1)

①	Taster für manuelle Bedienung	**'test / fan toggle'** Betätigung > 3s startet oder beendet die manuelle Bedienung. Die 'status' LED blinkt bei manueller Bedienung langsam. Ein anschließender kurzer Tastendruck wechselt die Lüfterstufe. '▲'kurzer Tastendruck inkrementiert den Wert am Ventilausgang '▼'kurzer Tastebdruck dekrementiert den Wert am Ventilausgang
②	Taster 'KNX'	Tastendruck startet/beendet den Programmiermode am Modul
③	LED 'KNX'	Leuchtet während dem aktiven Programmiermode rot.
④	Rastfuß	Arretierung für Montage auf Tragschiene/Montagerahmen
⑤	Modulstatus	**'status'** LED leuchtet grün, Modul ist betriebsbereit. LED blinkt langsam, manuelle Bedienung aktiv LED blinkt schnell, Modul nicht konfiguriert **'failure'** LED blinkt rot. Sicherung defekt oder Versorgung fehlt **'valve overload'** LED leuchtet rot bei Überlast am Ventilausgang
⑥	Endkappe rechts	kommt ein Erweiterungsmodul zum Einsatz, Kappe abnehmen und rechts am Erweiterungsmodul wieder aufstecken (Abb. 2)
⑦	Sicherung 5AT	Versorgungsnetzseitige, wechselbare Gerätesicherung
⑧	AC Einspeisung	AC 230 V Stecker GST15i3 schwarz L PE N (Montage Abb. 3+4)
⑨	Lüfteransteuerung fan out	für 3-stufigen Lüftermotor Buchse GST15i5 N PE 1 2 3 (Montage Abb. 3+4)
⑩	Ventilansteuerung valve 1	Wahlweise für Ventil 0…10 V oder PWM. Anschluss des Steckers GST15i3 siehe Abbildung 3+4
⑪	Ein- / Ausgang KNX Bus	Stecker / Buchse BST14i2 grüne Codierung (Montage Abb. 3)

Montage (siehe Rückseite, Abbildung 2)

Schritt 1: **Verbinden der Module**

1.1 Linke Schutzabdeckung aufstecken und einrasten (Abb. 2)
1.2 Optional Erweiterungsmodul am Grundmodul anreihen und hörbar einrasten (Abb. 2).
1.3 rechte Schutzabdeckung aufstecken und einrasten (Abb. 2)

Schritt 2: **Optional: Befestigung auf Tragschiene oder Montagerahmen**

2.1 Mit Schraubendreher Rastfuß am Modul nach oben ziehen.
2.2 Modul auf Tragschiene setzen.
2.3 Rastfuß nach unten drücken. Das Modul ist auf der Tragschiene montiert.

Schritt 3: **Kabel stecken und sichern**

3.1 Kabel entsprechend seiner Codierung stecken.
3.2 Optional Kabel am Erweiterungsmodul entsprechend seiner Codierung stecken.
3.3 Bei Montagerahmen: Kabel mit Kabelbindern am Montagerahmen befestigen.

Technische Daten

Netzanschluss	
Bemessungsspannung	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i3 schwarz)
Gerätenetzabsicherung	5 A Träge 250 V 5x20 mm (von außen zugänglich)
KNX-Busanschluss	
Busspannung KNX TP1	24 VDC (- 10 % / +20 %)
Stromaufnahme KNX - Bus	max. 10 mA
Ventilausgang	**Hinweis:** Mischbetrieb ist nicht möglich
PWM	DC 24 V max 4,5 VA (GST15i3 braun)
0…10 V	0 V…10 V / max. 10 mA (GST15i3 braun)
Lüfterausgang	AC 230 V / 5 A 3-stufig (GST15i5)
maximale Schaltleistung	1250 VA
Umweltbedingungen	
Einsatzbereich	Innenräume und trockene Räume, wettergeschützt
Klimabeständigkeit	Klasse 3K5 (EN 50491-2)
Umgebungstemperatur	-5 C bis +45 °C
Lagertemperatur	-25 C bis +70 °C
Montageart	Decken-, Boden-, Wandmontage, auf ebener Montagefläche feste Installation, Aufputz, Tragschiene TH35-7,5
Gehäuse	
Material	Kunststoff, halogenfrei
Farbe	Lichtgrau, ähnlich RAL 7035 / schwarz, ähnlich RAL 9005
Brandverhalten	UL94 V-2
Brandlast	ca. 2 kWh
Abmessungen (B, L, H)	160 mm, 149 mm, 44 mm (mit Endkappen rechts und links)
Elektrische Sicherheit	
Schutzklasse	I
Schutzart	IP20 (nach EN 60529)
Verschmutzungsgrad	2
Überspannungskategorie	III
Zulassungen	
KNX	KNX zertifiziert
CE-Kennzeichnung	Gemäß EMV-Richtlinie und Niederspannungsrichtlinie Erfüllt Normen: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Handbuch
mit detaillierten Informationen zu Programmierung, Inbetriebnahme und Wartung:
- Dokumentnummer: BA000903
- Download über QR-Code oder:
  http://eshop.wieland-electric.com/product/83.020.0626.0
  http://eshop.wieland-electric.com/product/83.020.0638.0

EN

⚠ DANGER

- Only electricians may install and commission this device. You must have read these instructions and understood them before carrying out the work.
- Do not open the device or introduce any foreign objects. Keep device away from water and fire.
- Only connect or disconnect when no power is connected and the device is deenergized.
- The relevant standards, guidelines, regulations, and provisions of the respective country must be observed.

The one-phase supplied KNX FanCoil controller in the flat AP housing which can be attached to the mounting rail for decentralized installation can control a heating/cooling valve and a 3-level fan. The function can be expanded by an additional module (83.020.0639.0). The manual operation level allows function tests without prior system integration. The extensive parameter set enables different automation functions. The electrical connections, which are pluggable in accordance with IEC 61535, separate the automation and the installation.

Controls and functional elements (see reverse, Figure 1)

①	Button for manual operation	**'test / fan toggle'** Pressing for longer than 3s starts or ends the manual operation. The 'status' LED blinks slowly during manual operation. A subsequent quick press of the button changes the fan speed. '▲'quick press of the button increments the value on the valve outlet '▼'quick press of the button decrements the value on the valve outlet
②	'KNX' button	Pressing the button starts/ends the programming mode on the module
③	LED 'KNX'	Flashes red during active programming mode.
④	Locking base	Latch for rail/assembly frame mounting
⑤	Module status	**'status'** LED flashes green. Module is ready to operate. LED blinks slowly, manual operation, LED blinks quickly, module not configured **'failure'** LED blinks red. Fuse defective or supply missing **'valve overload'** LED lights up red with overload at the valve outlet
⑥	Right end cap	Remove the cap if an extension module is used and replace it again on the right side of the extension module (Fig. 2).
⑦	5AT Fuse	Replaceable device fuse on the supply network side
⑧	AC power supply	AC 230 V male GST15i3 black L PE N (Installation - Fig. 3+4)
⑨	Air control fan out	for 3-level fan motor female GST15i5 N PE 1 2 3 (installation - Fig. 3)
⑩	Valve 1 control	Optional valve output for actuation of 0…10 V or PWM. Connection of Plug GST15i3 see Fig. 3+4.
⑪	KNX Bus Input / Output	Male / female BST14i2 green coding (Installation Fig. 3)

Assembly (see reverse, Figure 2)

Step 1: **Connection of the modules**

1.1 Attach and latch the left protective cover (Fig. 2)
1.2 Attach the optional extension module to the base module and latch it audibly (Fig. 2).
1.3 Attach and latch the right protective cover (Fig. 2)

Step 2: **Optional: Fastening on mounting rail or assembly frame**

2.1 Use a screwdriver to pull the locking base upwards on the module.
2.2 Place the module on the mounting rail.
2.3 Press down the locking base. The module is installed on the mounting rail.

Step 3: **Plug in and secure the cable**

3.1 Plug in the cable in accordance with its code.
3.2 Optionally plug in the cable on the extension module in accordance with its code.
3.3 For assembly frames: use cable ties to fasten cables to the assembly frame.

Technical data

Mains connection	
Rated voltage	230 VAC, -15 % / +10 %, 50/60 Hz (GST15i3 black)
Device mains fuse	5 A time-lag 250 V 5x20 mm (accessible from outside)
KNX bus connection	
Bus voltage KNX TP1	24 VDC (- 10 % / +20 %)
Current consumption	max. 10 mA
Valve outlet	**Note:** Mixed operation is not possible
PWM	DC24 V max 4.5 VA, (GST15i3 brown)
0…10V	0 V…10 V / max. 10 mA, Assignment pin 1 + 2 (GST15i3 brown)
Fan outlet	AC 230 V / 5 A 3-stage (GST15i5)
Max. switching power	1250 VA
Environmental conditions	
Usage area	Indoors, in dry rooms, protected against weather
Climate resistance	Class 3K5 (EN 50491-2)
Ambient temperature	-5 to +45 °C
Storage temperature	-25 to +70 °C
Mounting method	Ceiling, floor, wall mounting, on even surface, fixed installation, surface mounted (plaster), mounting rail TH35-7.5
Housing	
Material	Plastic, halogen-free
Color	Light gray, similar to RAL 7035 / black, similar to RAL 9005
Fire resistance	UL94 V-2
Fire load	Approx. 2 kWh
Dimensions (W, L, H)	160 mm, 149 mm, 44 mm (with right and left end caps)
Electric safety	
Protection class	I
Protection type	IP20 (as per EN 60529)
Pollution degree	2
Overvoltage category	III
Approvals	
KNX	KNX-certified
CE marking	According to EMC directive and low voltage directive Standards complied with: EN 50491-5-1, EN 50491-5-2, EN 50491-5-3

Manual
with detailed information about programming, commissioning and servicing:
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Abbildung 1: Bedien- und Funktionselemente
Figure 1: Controls and functional elements

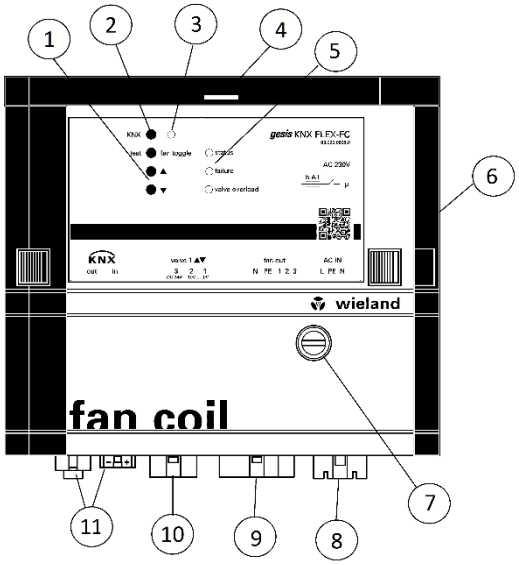


Abbildung 2: Montage
Figure 2: Installation

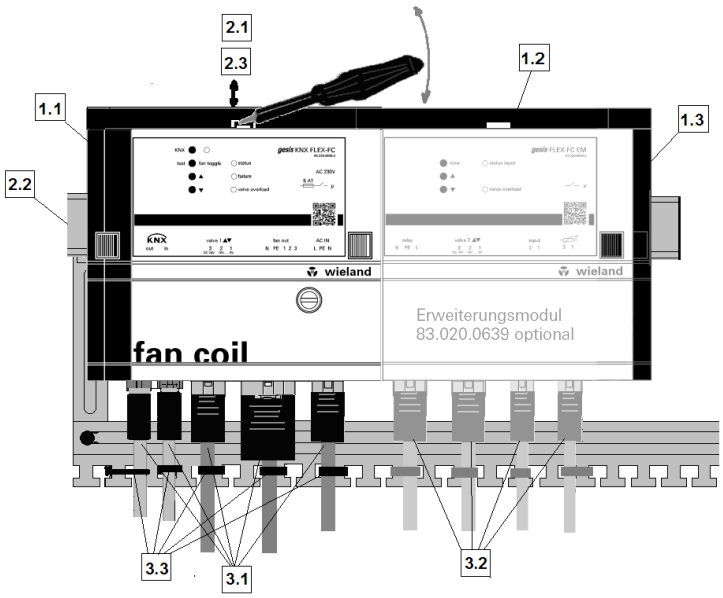
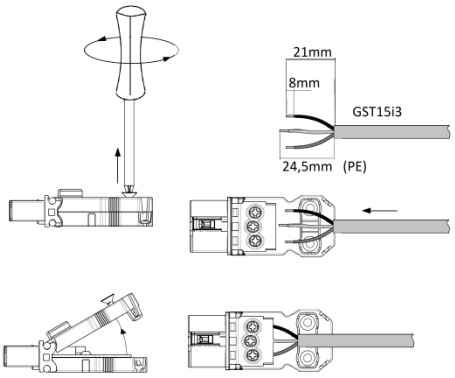
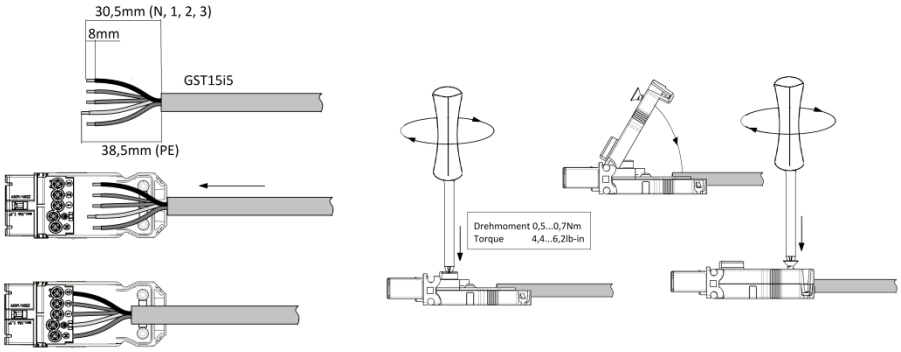


Abbildung 3: Montage Stecker
Figure 3: Installation connectors

GST15i3 (91.932.3853.0 / 91.932.3053.1 / 91.931.3053.1)



GST15i5 (91.952.4053.1)



BST14i2 (93.422.0553.1 / 93.421.0553.1)

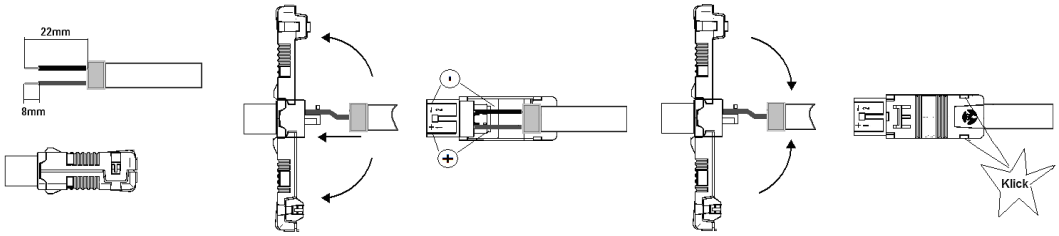
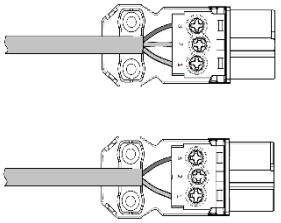


Abbildung 4:
Figure 4:

GST15i3 (91.932.3853.0) Anschluss der Ventile / Connection valve

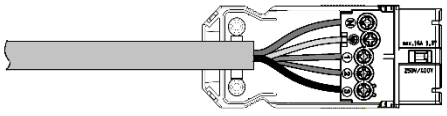


Ventil 0V...10V
Valve 0V...10V
PIN1 0V
PIN2 0V...10V
PIN3 24V

Ventil PWM 24V
Valve PWM 24V
PIN1 0V
PIN2 NC
PIN3 24V PWM

GST15i5 (91.952.4053.1) Anschluss Lüftermotor / Connection fan

Lüfterstufe Fan speed	GST18i5 PIN	Kabel	Cable
1	1	braun	brown
2	2	schwarz	black
3	3	grau	gray
	N	blau	blue
	PE	grün/gelb	green/yellow



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