



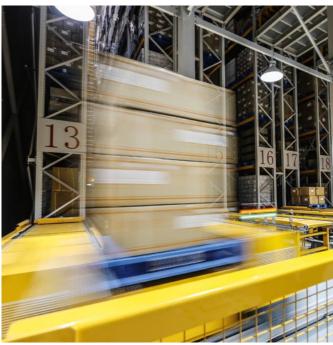
sensor PRO

LIGHT STRONG PROTECTED

Safety light curtains and light grids for protecting access to hazardous safety areas on machines + plants.

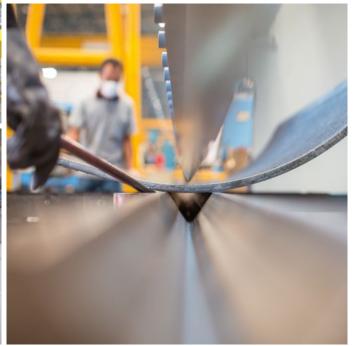














CUSTOMIZED PROTECTION

FOR THE EFFICIENT MACHINE OPERATION.

Wieland is your expert and reliable partner for safe solutions. For over 40 years, we have been offering customized concepts for machine safety with our safety solutions and safety products.

Particularly in the case of frequent interventions in the production process, machines must be maximally safe. Optoelectronic protective devices are ideally suited for this purpose. They protect danger zones and machine entrances efficiently and ergonomically. The light curtains and light grids from Wieland Electric combines a slim and robust design with maximum reliability and functionality for the safety of your machines.

AS A SOLUTION FOR ...

- + FINGER PROTECTION
- + HAND PROTECTION
- + PERSONAL PROTECTION

SPECIAL FEATURES

+ Approved M12 connection technology with up to 100 m cable length







- + Sturdy metal housing with integrated slot mounting
- + Configuration via wiring
- + Integrated laser alignment



SENSOR PRO SLC LIGHT CURTAIN

Easy + fast + reliable

Our high-quality sensor PRO SLC light curtains meet all requirements for finger, hand and body protection and also reliably protect machine operation. In combination with our configurable samos® PRO COMPACT safety controller, sensor PRO SLC offers safe all-round protection.



FEATURES

- + Safety light curtain AOPD type 4
- + Beam resolution 14, 20, 30 + 40 mm
- + Protection field heights 300 1800 mm

HIGHER EQUIPMENT AVAILABILITY

- Easy adjustment and stable operation through slim and rigid housing
- Parameterization without PC or DIP switch through simple wiring in the control cabinet
- The integrated Double-Scan technology avoids unwanted shutdown even in harsh operating conditions
- Clear diagnostic and status messages in the 7-segment display ensure shorter downtimes
- Cable lengths up to 100 m with unshielded connection cables ensure greater operational flexibility and reduced costs even under difficult EMC conditions

FASTER DURING COMMISSIONING + SERVICE

- The 3-zone alignment indicator reduces assembly time and simplifies adjustment
- The wide range of SLC products permits optimal and cost-effective design of rotective devices
- Easy to connect via standard M12 connection technology
- Fast installation and removal on the machine through a system configuration in the control cabinet
- Selectable transmission channels and range reduction prevent mutual interference
- Simplified planning of safeguards because every SLC safety light curtain from 0 m to the maximum range can be implemented



SENSOR PRO SLC

MATCHING FUNCTIONS FOR EVERY PROTECTION TASK

All important contactless safety functions on machines and equipment can be realized by means of the two function versions, Standard and Professional of the SLC series.

SLC STANDARD

- LED display
- Range reduction
- Selectable transmission channels
- Automatic start

SLC PROFESSIONAL

- LED display
- Range reduction
- Selectable transmission channels
- Automatic start
- 7-segment display

- Beam blankingg
- Muting function
- Device linking
- Variable scan modess
- Manual start / restart interlock



SLC PROFESSIONAL - MORE FUNCTIONALITY

- Programmable beam blanking and reduced resolution
- Integrated muting function for transportation of material through a protection zone
- Device linking for the connection of further safety outputs
- Variable scan-modes for uninterrupted operation, even in the case of hurtling chips

SAMOS® PRO COMPACT - COMPACT SAFETY

Find out more about our innovative safety controller for easy automation of presses and control of our sensor PRO SLC light curtain series.



SAMOS® PRO COMPACT

Safety controllers for machines + plants

Part No. 0881.1



SENSOR PRO SLC APPLICATIONS

PRESS BRAKE

Blanking for objects that remain permanently in the protective field (e.g. work table) and reduced resolution for material feed.



PUNCHING PRESS

Beam blanking ("fixed blanking") with or without tolerance for tool change and material transport.



PICK & PLACE ROBOT APPLICATION

Protection when reaching into the danger zone of the Pick & Place station by means of SLC safety light curtain.



TRANSFER LINE

Access guarding on a transfer line.



SERIES SLC | TECHNICAL DATA SAFETY LIGHT CURTAIN

TECHNICAL DATA		
Function		safety light curtain
Function display		LED
Power supply circuit		
Rated voltage U _N		24 V DC
Current consumption (transmitter)		50 mA
Current consumption, no load (receiver	/transceiver)	150 mA
Operating voltage range U _R		0.8 - 1.2 x U _N
Electrical isolation supply circuit - conti	rol circuit	no
Protection field data	Resolution	Range / protective field height
	14 mm	0-6 m / 300-1800 mm
	20 mm	0 - 15 m / 300 - 1800 mm
	30 mm	0 - 10 m / 300 - 1800 mm
	40 mm	0 - 20 m / 300 - 1800 mm
Output circuit OSSD		
Number		2
Type		Transistor outputs PNP
Short circuit and cross circuit monitoring	ng	yes
Switching current (max., per output)		380 mA
Leakage current (max.)		200 μΑ
Switching voltage, high active (UB - 1V)		18.0 - 27.0 V
Switching voltage, low		0 - 2,5 V
Line resistance / line length		$< 200 \Omega / \le 100 m$
Response time		4 - 39 ms, device-dependent
Safety Related Data		
PL (EN ISO 13849-1)		up to PL e
Category (EN ISO 13849-1)		up to category 4
SIL (IEC 61508)		up to SIL 3
SIL _{CL} (EN IEC 62061)		up to SIL _{ct} 3
Type (EN IEC 61496)		Type 4
B _{10D}		NA
PFH _D		7,73 x 10 ⁻⁹ 1/h
T_{M}		20 years
General data		
Creepage distances and clearances bet		EN 60664-1
Protection degree according to EN 60529		IP65
Ambient temperature / storage temper	ature	-30 °C - +55 °C / -30 °C - +70 °C
Connection		M12, 5-pole (Transmitter) M12, 8-pole (Receiver)
Weight		0.3 - 1.95 kg, device-dependent
Standards		EN 61496, EN ISO 13849-1, EN 62061
Approvals		TÜV, c-CSA-us



SERIES SLC 4 \mid DEVICE OVERVIEW



SAFETY LIGHT CURTAIN

TRANSMITTER

Protective field height	Resolution	14 mm	20 mm	30 mm	40 mm
hhhh [mm]	Туре	SLC-4TR14-hhhh	SLC-4TR20-hhhh	SLC-4TR30-hhhh	SLC-4TR40-hhhh
0300		R1.541.0300.0	R1.542.0300.0	R1.543.0300.0	R1.544.0300.0
0450		R1.541.0450.0	R1.542.0450.0	R1.543.0450.0	R1.544.0450.0
0600		R1.541.0600.0	R1.542.0600.0	R1.543.0600.0	R1.544.0600.0
0750		R1.541.0750.0	R1.542.0750.0	R1.543.0750.0	R1.544.0750.0
0900		R1.541.0900.0	R1.542.0900.0	R1.543.0900.0	R1.544.0900.0
1050		R1.541.1050.0	R1.542.1050.0	R1.543.1050.0	R1.544.1050.0
1200		R1.541.1200.0	R1.542.1200.0	R1.543.1200.0	R1.544.1200.0
1350		R1.541.1350.0	R1.542.1350.0	R1.543.1350.0	R1.544.1350.0
1500		R1.541.1500.0	R1.542.1500.0	R1.543.1500.0	R1.544.1500.0
1650		R1.541.1650.0	R1.542.1650.0	R1.543.1650.0	R1.544.1650.0
1800		R1.541.1800.0	R1.542.1800.0	R1.543.1800.0	R1.544.1800.0

RECEIVER STANDARD

Protective field height	Resolution	14 mm	20 mm	30 mm	40 mm
hhhh [mm]	Туре	SLC-4ST14-hhhh	SLC-4ST20-hhhh	SLC-4ST30-hhhh	SLC-4ST40-hhhh
0300		R1.551.0300.0	R1.552.0300.0	R1.553.0300.0	R1.554.0300.0
0450		R1.551.0450.0	R1.552.0450.0	R1.553.0450.0	R1.554.0450.0
0600		R1.551.0600.0	R1.552.0600.0	R1.553.0600.0	R1.554.0600.0
0750		R1.551.0750.0	R1.552.0750.0	R1.553.0750.0	R1.554.0750.0
0900		R1.551.0900.0	R1.552.0900.0	R1.553.0900.0	R1.554.0900.0
1050		R1.551.1050.0	R1.552.1050.0	R1.553.1050.0	R1.554.1050.0
1200		R1.551.1200.0	R1.552.1200.0	R1.553.1200.0	R1.554.1200.0
1350		R1.551.1350.0	R1.552.1350.0	R1.553.1350.0	R1.554.1350.0
1500		R1.551.1500.0	R1.552.1500.0	R1.553.1500.0	R1.554.1500.0
1650		R1.551.1650.0	R1.552.1650.0	R1.553.1650.0	R1.554.1650.0
1800		R1.551.1800.0	R1.552.1800.0	R1.553.1800.0	R1.554.1800.0

RECEIVER PROFESSIONAL

Protective	Resolution	14 mm	20 mm	30 mm	40 mm
field height hhhh [mm]	Туре	SLC-4PR14-hhhh	SLC-4PR20-hhhh	SLC-4PR30-hhhh	SLC-4PR40-hhhh
0300		R1.571.0300.0	R1.572.0300.0	R1.573.0300.0	R1.574.0300.0
0450		R1.571.0450.0	R1.572.0450.0	R1.573.0450.0	R1.574.0450.0
0600		R1.571.0600.0	R1.572.0600.0	R1.573.0600.0	R1.574.0600.0
0750		R1.571.0750.0	R1.572.0750.0	R1.573.0750.0	R1.574.0750.0
0900		R1.571.0900.0	R1.572.0900.0	R1.573.0900.0	R1.574.0900.0
1050		R1.571.1050.0	R1.572.1050.0	R1.573.1050.0	R1.574.1050.0
1200		R1.571.1200.0	R1.572.1200.0	R1.573.1200.0	R1.574.1200.0
1350		R1.571.1350.0	R1.572.1350.0	R1.573.1350.0	R1.574.1350.0
1500		R1.571.1500.0	R1.572.1500.0	R1.573.1500.0	R1.574.1500.0
1650		R1.571.1650.0	R1.572.1650.0	R1.573.1650.0	R1.574.1650.0
1800		R1.571.1800.0	R1.572.1800.0	R1.573.1800.0	R1.574.1800.0

SENSOR PRO SLD LIGHT GRID

Strong + Innovative + Economic

Our high-performance light grids ensure safety and efficiency in the workplace. sensor PRO SLD provide reliable personal protection in the hazardous area of machines and plants.



FEATURES

- + Safety light grid AOPD Type 4
- + 2, 3 and 4 beam resolutions
- + High ranges up to 70 m can be implemented
- + Available as transmitter-receiver or transceiver systems

INCREASED RELIABILITY

- Robust aluminum housing in IP67
- Operating temperature range -30 °C to +55 °C permits implementation even in the harshest environments
- Multi-beam scanning avoids unwanted terminations
- Mutual interference is avoided through the adjustable range reduction when implementing multiple systems
- Robust device columns with spring-loaded base mounting and integrated alignment aid are available for the free-standing implementation

FASTER DURING COMMISSIONING, OPERATION + SERVICE

- The integrated laser alignment aid (optional) permits precise mounting and reduces the startup times of the SLD system
- Parameterization without PC or DIP switch through simple wiring in the control cabinet
- Easy installation and diagnosis with the help of the 7-segment display
- Clearly visible status and muting indicators Enable remote diagnostics
- Plug & Play due to M12 connection technology

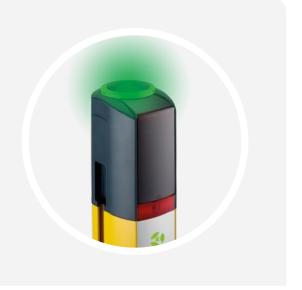


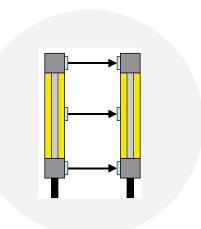
SENSOR PRO SLD

INTEGRATED MUTING

Decentralized security function on-board

- Optional time- or sequence-controlled 2- or 4-sensor muting
- Partial muting (the highest light beam stays active)
- Integrated muting/status indicator light





SLD STANDARD - THE STRONG SAFETY LIGHT GRID

The safety light grid SLD Standard each consist of a transmitter and a receiver unit and are thus suitable for highest ranges.

SLD STANDARD

- LED display
- Multi-scan technology
- Range reduction
- Laser alignment aid (optional)
- Automatic start

SLD UNIVERSAL - THE INNOVATIVE SAFETY LIGHT GRID

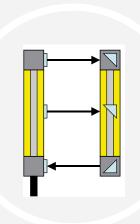
The safety light grids consist of an integrated SLD universal transmitter/receiver unit and a passive reflector unit without electrical connection.

SLD UNIVERSAL STANDARD

- Transceiver system
- LED display
- Multi-scan technology
- Automatic start

SLD UNIVERSAL PROFESSIONAL

- Transceiver system
- LED display
- Multi-scan technology
- Manual start / restart interlock
- External device monitoring (EDM)
- 7-segment display
- Muting function / Muting lamp integrated



SENSOR PRO SLD APPLICATIONS

PACKAGING MACHINE

Sequential 2-sensor-muting for exits of the danger zone.



SHEET METAL PROCESSING MACHINE

Multi-sided safeguarding of a sheet metal processing machine by SLD safety light grids and SLD deflection mirrors.



PACKAGING MACHINE

Safety light grids SLD Professional with timecontrolled 2-sensormuting at a packaging machine.



PACKAGING MACHINE

Operation guarding on palletizer systems with safety light grids SLD.



SERIES SLD | TECHNICAL DATA

SAFETY LIGHT GRIDS

Function display Power supply circuit Rated voltage U Current consumption (transmitter) Current consumption (transmitter) Current consumption (transmitter) Current consumption (transmitter) Doperating voltage range U Operating voltage range V Operating v	TECHNICAL DATA		
Power supply circuit Rated voltage U _k	Function		safety light grid
Rated voltage U	Function display		LED
Current consumption (transmitter) 50 mA Current consumption, no load (tecelver/transceiver) 150 mA Operating voltage range U ₂ 0.8 ± 1.2 × U ₃ Electrical isolation supply circuit - control circuit no Protection field data Beams Range (device-dependent) 2 0.5 - 50 m / 20 - 70 m / 0.5 - 8 m a 3 0.5 - 50 m / 20 - 70 m / 0.5 - 6 m a 4 0.5 - 50 m / 20 - 70 m 0.5 - 6 m Output circuit OSD 2 7 m is stor outputs PNP Number 2 38 m is store circuit monitoring ja Switching current (max., per output) 380 mA 380 mA Leakage current (max.) 200 µA Switching voltage, low 0 - 2,5 V Switching voltage, low 0 - 2,5 V Line resistance line length 25 ms Safety Related Date Up to category (** No 13849-1) Li (FC 61508) Up to category (** No 13849-1) Sil. (FC 61508) Up to Sil. 3 Sil. (FC 61696) Type 4 B _{min} NA PPH, a 6,	Power supply circuit		
Current consumption, no load (receiver/transceiver) 150 mA Operating voltage range Ua (lactivation control circuit) no Electrical Isolation supply circuit - control circuit no Protection field data Beams Range (device-dependent) 2 0.5 - 50 m / 20 - 70 m / 0.5 - 8 m 3 0.5 - 50 m / 20 - 70 m / 0.5 - 6 m When the control of the control o	Rated voltage U _N		24 V DC
Operating voltage range U _a 0.8 - 1.2 x U _n Electrical isolation supply circuit - control: rout no Protection field data Beams Range (device-dependent) 0.5 - 50 m / 20 - 70 m / 0.5 - 8 m 0.5 - 50 m / 20 - 70 m / 0.5 - 6 m 1 3 0.5 - 50 m / 20 - 70 m Output circuit OSSD Number 2 1/2 7 ransistor outputs PNP Short-circuit monitoring ja Short-circuit monitoring ja Switching current (max, per output) 380 mA Switching voltage, ligh active (UB - 1V) 18.0 - 27.8 V Switching voltage, ligh active (UB - 1V) 18.0 - 27.8 V Switching voltage, ligh active (UB - 1V) 18.0 - 27.8 V Switching voltage, ligh active (UB - 1V) 18.0 - 27.8 V Switching voltage, ligh active (UB - 1V) 19.0 - 2,5 V Line resistance / line length 200 Ω Safety Related Data Up to PL e Category (RN ISO 13849-1) Up to Sil. 3 Sil. (EC 61508) Up to Sil. 3 Sil. (EC 61508) Up to Sil. 3 Sil. (EC 61508)	Current consumption (transmitte	er)	50 mA
Protection field data	Current consumption, no load (re	eceiver/transceiver)	150 mA
Protection field data Beams Range (device-dependent) 2 0.5 - 50 m / 20 - 70 m / 0.5 - 8 m 3 0.5 - 50 m / 20 - 70 m / 0.5 - 6 m 0-5 - 50 m / 20 - 70 m 0.5 - 50 m / 20 - 70 m Output circuit OSSD SWIENING Number 2 Short-circuit monitoring ja Switching current (max., per output) 380 mA Leakage current (max) 200 µA Switching voltage, high active (UB - IV) 18.0 - 27.8 V Switching voltage, high active (UB - IV) 18.0 - 27.8 V Switching voltage, high active (UB - IV) 18.0 - 27.8 V Switching voltage, high active (UB - IV) 18.0 - 27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length 200 Q Response time 200 Q Safety Related Data Up to PLe Leacegory (EN ISO 13849-1) up to Category 4 Stil (EC 61508) up to SIL 3 SIL (EC 61508) up	Operating voltage range U _B		0.8 - 1.2 x U _N
2 0.5 - 50 m / 20 - 70 m / 0.5 - 8 m 3 0.5 - 50 m / 20 - 70 m / 0.5 - 6 m 4 0.5 - 50 m / 20 - 70 m / 0.5 - 6 m 4 0.5 - 50 m / 20 - 70 m Output circuit OSSD Number 2 1 Transistor outputs PNP Short-circuit monitoring	Electrical isolation supply circuit	- control circuit	no
Section Se	Protection field data	Beams	Range (device-dependent)
Output circuit OSSD Number 2 Short-circuit monitoring ja Switching current (max., per output) 380 mA Leakage current (max) 200 μA Switching voltage, high active (UB-1V) 18.0-27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length < 200 Ω		2	0.5 - 50 m / 20 - 70 m / 0.5 - 8 m
Output circuit OSSD Number 2 Type Transistor outputs PNP Short-circuit monitoring ja Switching current (max., per output) 380 mA Leakage current (max) 200 μA Switching voltage, high active (UB-1V) 18.0 - 27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length < 200 Ω		3	0.5 - 50 m / 20 - 70 m / 0.5 - 6 m
Number 2 Type Transistor outputs PNP Short-circuit monitoring ja Switching current (max., per output) 380 mA Leakage current (max.) 200 μA Switching voltage, high active (UB - 1V) 18.0 - 27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length 200 Ω Response time 25 ms Safety Related Data PL (EN ISO 13849-1) Line Category (EN ISO 13849-1) up to category 4 Stl. (EC 61508) up to SIL_3 SIL (EC 61508) up to SIL_3 Type (EN IEC 62061) up to SIL_3 Type (EN IEC 61496) Type 4 B ₁₀₀ NA PPH _b 6,5 x 10° 1/h Ceneral data 20 years General data Creepage distances and clearances between the circuits EN 60664-1 Protection degree according to EN 60529 IP67 Ambient temperature / storage temperature -30°C - +55°C / -40°C - +75°C Connection M12 (5 pole / 8 pole) device-dependent		4	0.5 - 50 m / 20 - 70 m
Type Transistor outputs PNP Short-circuit monitoring ja Switching current (max., per output) 380 mA Leakage current (max.) 200 μA Switching voltage, high active (UB- 1V) 18.0 - 27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length < 200 Ω	Output circuit OSSD		
Short-circuit monitoring ja Switching current (max., per output) 380 mA Leakage current (max.) 200 μA Switching voltage, high active (UB - IV) 18.0 - 27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length < 200 Ω	Number		2
Switching current (max., per output) 380 mA Leakage current (max.) 200 μA Switching voltage, high active (UB - 1V) 18.0 - 27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length < 200 Ω	Туре		Transistor outputs PNP
Leakage current (max.) 200 μA Switching voltage, high active (UB - IV) 18.0 - 27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length < 200 Ω	Short-circuit monitoring		ja
Switching voltage, high active (UB - 1V) 18.0 - 27.8 V Switching voltage, low 0 - 2,5 V Line resistance / line length < 200 Ω	Switching current (max., per outp	out)	380 mA
Switching voltage, low 0 - 2,5 V Line resistance / line length < 200 Ω	Leakage current (max.)		200 μΑ
Line resistance / line length < 200 Ω	Switching voltage, high active (U	B - 1V)	18.0 - 27.8 V
Response time 25 ms Safety Related Data up to PL e Category (EN ISO 13849-1) up to category 4 Category (EN ISO 13849-1) up to SIL 3 SIL (IEC 61508) up to SIL 3 Type (EN IEC 62061) up to SIL 3 Type (EN IEC 61496) Type 4 B ₁₀₀ NA PFH D 6,6 x 10 ³ 1/h T _M 20 years General data EN 60664-1 Protection degree according to EN 60529 IP67 Ambient temperature / storage temperature -30 °C - +55 °C / -40 °C - +75 °C Connection M12 (5 pole / 8 pole) device-dependent Weight 1.4 - 2.2 kg, device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061	Switching voltage, low		0 - 2,5 V
Safety Related Data PL (EN ISO 13849-1) up to PL e Category (EN ISO 13849-1) up to category 4 SIL (IEC 61508) up to SIL 3 SILc_L (EN IEC 62061) up to SILc_3 Type (EN IEC 61496) Type 4 B ₁₀₀ NA PFH _D 6,6 x 10° 1/h T _M 20 years General data Creepage distances and clearances between the circuits EN 60664-1 Protection degree according to EN 60529 IP67 Ambient temperature / storage temperature -30°C - +55°C / -40°C - +75°C Connection M12 (5 pole / 8 pole) device-dependent Weight 1.4 - 2.2 kg, device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061	Line resistance / line length		< 200 Ω
PL (EN ISO 13849-1) up to PL e Category (EN ISO 13849-1) up to category 4 SIL (IEC 61508) up to SIL 3 SIL _{CL} (EN IEC 62061) up to SIL _{CL} 3 Type (EN IEC 61496) Type 4 B ₁₀₀ NA PFH _D 6,6 x 10-9 1/h T _M 20 years General data Creepage distances and clearances between the circuits EN 60664-1 Protection degree according to EN 60529 IP67 Ambient temperature / storage temperature -30 °C - +55 °C / -40 °C - +75 °C Connection M12 (5 pole / 8 pole) device-dependent Weight 1.4 - 2.2 kg, device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061	Response time		25 ms
Category (EN ISO 13849-1) SIL (IEC 61508) Up to SIL 3 SIL _{CL} (EN IEC 62061) Type (EN IEC 61496) Type 4 B ₁₀₀ NA PFH _D 6,6 x 10 ⁻⁹ 1/h 20 years General data Creepage distances and clearances between the circuits EN 60664-1 Protection degree according to EN 60529 Ambient temperature / storage temperature Connection M12 (5 pole / 8 pole) device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061	Safety Related Data		
SIL (IEC 61508) up to SIL 3 SIL _{CL} (EN IEC 62061) up to SIL _{CL} 3 Type (EN IEC 61496) Type 4 B ₁₀₀ NA PFH _D 6,6 x 10 ° 1/h T _M 20 years General data Creepage distances and clearances between the circuits EN 60664-1 Protection degree according to EN 60529 IP67 Ambient temperature / storage temperature -30 °C - +55 °C / -40 °C - +75 °C Connection M12 (5 pole / 8 pole) device-dependent Weight 1.4 - 2.2 kg, device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061	PL (EN ISO 13849-1)		up to PL e
$SIL_{CL} (EN IEC 62061) \qquad up to SIL_{CL} 3$ $Type (EN IEC 61496) \qquad Type 4$ $B_{100} \qquad NA$ $PFH_{D} \qquad 6,6 \times 10^{\circ} 1/h$ $T_{M} \qquad 20 \text{ years}$ $General data$ $Creepage distances and clearances between the circuits \qquad EN 60664-1$ $Protection degree according to EN 60529 \qquad IP67$ $Ambient temperature / \text{ storage temperature} \qquad -30 \circ \text{C} - +75 \circ \text{C}$ $Connection \qquad M12 (5 \text{ pole} / 8 \text{ pole}) \text{ device-dependent}$ $Weight \qquad 1.4 - 2.2 \text{ kg, device-dependent}$ $Standards \qquad EN 61496, EN ISO 13849-1, EN 62061$	Category (EN ISO 13849-1)		up to category 4
Type (EN IEC 61496) Type 4 NA PFH _D NA $6,6 \times 10^{-9} 1/h$ 7_M 20 years General data Creepage distances and clearances between the circuits Protection degree according to EN 60529 Ambient temperature / storage temperature Connection M12 (5 pole / 8 pole) device-dependent Standards Type 4 NA NA NA 10 9 10	SIL (IEC 61508)		up to SIL 3
B ₁₀₀ NAPFHD D6,6 x 10° 1/hTM General data20 yearsCreepage distances and clearances between the circuitsEN 60664-1Protection degree according to EN 60529IP67Ambient temperature / storage temperature-30 °C - +55 °C / -40 °C - +75 °CConnectionM12 (5 pole / 8 pole) device-dependentWeight1.4 - 2.2 kg, device-dependentStandardsEN 61496, EN ISO 13849-1, EN 62061	SIL _{CL} (EN IEC 62061)		· GE
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Type (EN IEC 61496)		Type 4
T _M 20 years General data Creepage distances and clearances between the circuits EN 60664-1 Protection degree according to EN 60529 IP67 Ambient temperature / storage temperature -30 °C - +55 °C / -40 °C - +75 °C Connection M12 (5 pole / 8 pole) device-dependent Weight 1.4 - 2.2 kg, device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061	B _{10D}		
General data Creepage distances and clearances between the circuits EN 60664-1 Protection degree according to EN 60529 IP67 Ambient temperature / storage temperature -30 °C - +55 °C / -40 °C - +75 °C Connection M12 (5 pole / 8 pole) device-dependent Weight Standards EN 61496, EN ISO 13849-1, EN 62061	PFH _D		6,6 x 10 ⁻⁹ 1/h
Creepage distances and clearances between the circuits EN 60664-1 Protection degree according to EN 60529 IP67 Ambient temperature / storage temperature -30 °C - +55 °C / -40 °C - +75 °C Connection M12 (5 pole / 8 pole) device-dependent Weight 1.4 - 2.2 kg, device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061	T _M		20 years
Protection degree according to EN 60529 Ambient temperature / storage temperature -30 °C - +55 °C / -40 °C - + 75 °C Connection M12 (5 pole / 8 pole) device-dependent Useight 1.4 - 2.2 kg, device-dependent EN 61496, EN ISO 13849-1, EN 62061	General data		
Ambient temperature / storage temperature -30 °C - +55 °C / -40 °C - +75 °C Connection M12 (5 pole / 8 pole) device-dependent Weight 1.4 - 2.2 kg, device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061			EN 60664-1
ConnectionM12 (5 pole / 8 pole) device-dependentWeight1.4 - 2.2 kg, device-dependentStandardsEN 61496, EN ISO 13849-1, EN 62061			
Weight 1.4 - 2.2 kg, device-dependent Standards EN 61496, EN ISO 13849-1, EN 62061	Ambient temperature / storage to	emperature	•
Standards EN 61496, EN ISO 13849-1, EN 62061	Connection		
	Weight		
Approvals TÜV, c-CSA-us	Standards		
	Approvals		TÜV, c-CSA-us

Note: For the connection of safety light grids SLD shielded cables are mandatory.



SERIES SLD | DEVICE OVERVIEW



SAFETY LIGHT GRIDS

TRANSMITTER

Туре	Description	Part. no.	P.U.
SLD-4TR2-0-50	Transmitter, 2 beams, range 50 m	R1.641.2050.0	1
SLD-4TR2-1-50	Transmitter, 2 beams, range 50 m, laser alignment aid	R1.641.2150.0	1
SLD-4TR2-1-70	Transmitter, 2 beams, range 70 m, laser alignment aid	R1.641.2170.0	1
SLD-4TR3-0-50	Transmitter, 3 beams, range 50 m	R1.641.3050.0	1
SLD-4TR3-1-50	Transmitter, 3 beams, range 50 m, laser alignment aid	R1.641.3150.0	1
SLD-4TR3-1-70	Transmitter, 3 beams, range 70 m, laser alignment aid	R1.641.3170.0	1
SLD-4TR4-0-50	Transmitter, 4 beams, range 50 m	R1.641.4050.0	1
SLD-4TR4-1-50	Transmitter, 4 beams, range 50 m, laser alignment aid	R1.641.4150.0	1
SLD-4TR4-1-70	Transmitter, 4 beams, range 70 m, laser alignment aid	R1.641.4170.0	1

RECEIVER STANDARD

Туре	Description	Part. no.	P.U.
SLD-4ST2-0-50	Receiver-Standard, 2 beams, range 50 m	R1.642.2050.0	1
SLD-4ST2-1-50	Receiver-Standard, 2 beams, range 50 m, laser alignment aid	R1.642.2150.0	1
SLD-4ST2-1-70	Receiver-Standard, 2 beams, range 70 m, laser alignment aid	R1.642.2170.0	1
SLD-4ST3-0-50	Receiver-Standard, 3 beams, range 50 m	R1.642.3050.0	1
SLD-4ST3-1-50	Receiver-Standard, 3 beams, range 50 m, laser alignment aid	R1.642.3150.0	1
SLD-4ST3-1-70	Receiver-Standard, 3 beams, range 70 m, laser alignment aid	R1.642.3170.0	1
SLD-4ST4-0-50	Receiver-Standard, 4 beams, range 50 m	R1.642.4050.0	1
SLD-4ST4-1-50	Receiver-Standard, 4 beams, range 50 m, laser alignment aid	R1.642.4150.0	1
SLD-4ST4-1-70	Receiver-Standard, 4 beams, range 70 m, laser alignment aid	R1.642.4170.0	1

UNIVERSAL

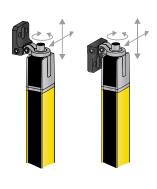
Туре	Description	Part. no.	P.U.
SLD-4US2-0-00	Universal-Standard, 2 beams	R1.644.2000.0	1
SLD-4US3-0-00	Universal-Standard, 3 beams	R1.644.3000.0	1
SLD-4UP2-0-00	Universal-Professional, 2 beams	R1.648.2000.0	1
SLD-4UP3-0-00	Universal-Professional, 3 beams	R1.648.3000.0	1
SLD-4UP2-2-00	Universal-Professional, 2 beams, muting lamp	R1.648.2200.0	1
SLD-4UP3-2-00	Universal-Professional, 3 beams, muting lamp	R1.648.3200.0	1
SLD-MIR2-0-08	Mirror, 2 beams, range 8 m	R1.606.2008.0	1
SLD-MIR3-0-06	Mirror, 3 beams, range 6 m	R1.606.3006.0	1
SLD-MIR3-0-08	Mirror, 3 beams, range 8 m	R1.606.3008.0	1

SERIES SLC

MOUNTING ACCESSORIES



The **SLX-MO-RO1** and **SLX-MO-RO2** swivel mount sets are used for wall mounting of the SLC series (360° horizontal orientation possible).



SERIES SLD

MOUNTING ACCESSORIES





The swivel mount set **SLX-MO-RO-SET1** (**SLX-MO-RO-SET1S** with shock absorber) is used for wall mounting of Transmitter, Receiver and Transceiver from series SLD (240° horizontal adjustment possible).

The swivel mount set **SLX-MO-RO-SET2** (**SLX-MO-RO-SET2S** with shock absorber) is used for wall mounting of Mirror from series SLD (240° horizontal adjustment possible).



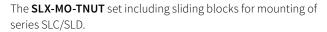


Туре	Description	Part no.	P.U.
SLX-MO-RO1	Rotative bracket 360°, 2 pcs., inkl. 1 pcs. SLC cylinder	R1.591.0006.0	1
SLX-MO-RO2	Rotative bracket 360°, 2 pcs., inkl. 1 pcs. SLC cylinder	R1.591.0020.0	1
SLX-MO-RO-SET1	Set with SLX-MO-RO-B + SLX-MO-RO-C + screws	R1.591.0011.0	1
SLX-MO-RO-SET2	Set with 2 x SLX-MO-RO-C + screws	R1.591.0012.0	1
SLX-MO-RO-SET1-S	Set with SLX-MO-RO-B, SLX-MO-RO-C + screws + shockabsorber	R1.591.0013.0	1
SLX-MO-RO-SET2-S	Set with 2 x SLX-MO-RO-C + screws + shockabsorber	R1.591.0014.0	1

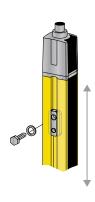
MOUNTING ACCESSORIES







The **SLX-MO-L** and **SLX-MO-Z** sets are used for wall mounting of series SLC/SLD in combination with sliding blocks SLX-MO-TNUT.

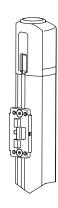




SLX-MO-CLIP

SLX-MO-Z

The **SLX-MO-CLIP** is used for fixed mounting of series SLC/SLD in device columns SLX-COL.



Туре	Description	Part no.	P.U.
SLX-MO-L	L-Bracket, 2 pcs.	R1.591.0004.0	1
SLX-MO-Z	Z-Bracket, 2 pcs.	R1.591.0005.0	1
SLX-MO-TNUTM6	Set slot nut with M6-screw thread, 10 pcs.	R1.591.0001.0	1
SLX-MO-CLIP	Clamp bracket, for installation in device column	R1.591.0009.0	1
SLX-MO-CLIP2	Set clamp bracket, for installation in device column, 2 pcs.	R1.591.0010.0	1

MOUNTING ACCESSORIES



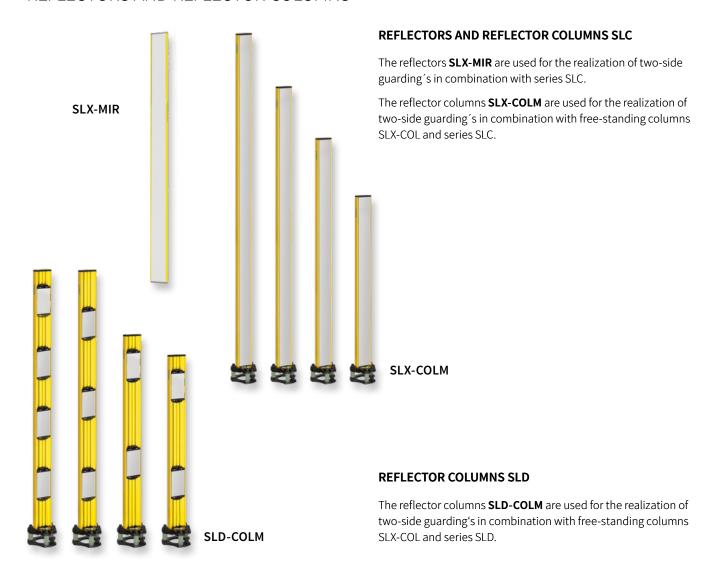
CONNECTION CABLES SLC/SLD

The connection cables **SLX-CAB-M12** (shielded and unshielded) are used for the electrical connection of series SLC/SLD by M12-connector (5- or 8-pole). For the connection of safety light grids SLD shielded cables are mandatory.

Туре	Description	Part no.	P.U.
SLX-CAB-M12-S0505	Connection cable M12, 5-pole, length 5m, shielded	R1.600.0505.0	1
SLX-CAB-M12-S0510	Connection cable M12, 5-pole, length 10m, shielded	R1.600.0510.0	1
SLX-CAB-M12-S0515	Connection cable M12, 5-pole, length 15m, shielded	R1.600.0515.0	1
SLX-CAB-M12-S0525	Connection cable M12, 5-pole, length 25m, shielded	R1.600.0525.0	1
SLX-CAB-M12-S0550	Connection cable M12, 5-pole, length 50m, shielded	R1.600.0550.0	1
SLX-CAB-M12-S0805	Connection cable M12, 8-pole, length 5m, shielded	R1.600.0805.0	1
SLX-CAB-M12-S0810	Connection cable M12, 8-pole, length 10m, shielded	R1.600.0810.0	1
SLX-CAB-M12-S0815	Connection cable M12, 8-pole, length 15m, shielded	R1.600.0815.0	1
SLX-CAB-M12-S0825	Connection cable M12, 8-pole, length 25m, shielded	R1.600.0825.0	1
SLX-CAB-M12-S0850	Connection cable M12, 8-pole, length 50m, shielded	R1.600.0850.0	1
SLX-CAB-M12-0505	Connection cable M12, 5-pole, length 5m, unshielded	R1.500.0505.0	1
SLX-CAB-M12-0510	Connection cable M12, 5-pole, length 10m, unshielded	R1.500.0510.0	1
SLX-CAB-M12-0515	Connection cable M12, 5-pole, length 15m, unshielded	R1.500.0515.0	1
SLX-CAB-M12-0525	Connection cable M12, 5-pole, length 25m, unshielded	R1.500.0525.0	1
SLX-CAB-M12-0550	Connection cable M12, 5-pole, length 50m, unshielded	R1.500.0550.0	1
SLX-CAB-M12-0805	Connection cable M12, 8-pole, length 5m, unshielded	R1.500.0805.0	1
SLX-CAB-M12-0810	Connection cable M12, 8-pole, length 10m, unshielded	R1.500.0810.0	1
SLX-CAB-M12-0815	Connection cable M12, 8-pole, length 15m, unshielded	R1.500.0815.0	1
SLX-CAB-M12-0825	Connection cable M12, 8-pole, length 25m, unshielded	R1.500.0825.0	1
SLX-CAB-M12-0850	Connection cable M12, 8-pole, length 50m, unshielded	R1.500.0850.0	1



REFLECTORS AND REFLECTOR COLUMNS



OVERVIEW OF DEVICES | PART NUMBERS

Туре	Description	Part no.	P.U.
SLX-COLM-1000	Reflector column, persistant 1000 mm	R1.594.1000.0	1
SLX-COLM-1300	Reflector column, persistant 1300 mm	R1.594.1300.0	1
SLX-COLM-1600	Reflector column, persistant 1600 mm	R1.594.1600.0	1
SLX-COLM-1900	Reflector column, persistant 1900 mm	R1.594.1900.0	1
SLX-MIR-0150	Reflector, length: 210 mm	R1.595.0150.0	1
SLX-MIR-0300	Reflector, length: 360 mm	R1.595.0300.0	1
SLX-MIR-0450	Reflector, length: 510 mm	R1.595.0450.0	1
SLX-MIR-0600	Reflector, length: 660 mm	R1.595.0600.0	1
SLX-MIR-0750	Reflector, length: 810 mm	R1.595.0750.0	1
SLX-MIR-0900	Reflector, length: 960 mm	R1.595.0900.0	1
SLX-MIR-1050	Reflector, length: 1110 mm	R1.595.1050.0	1
SLX-MIR-1200	Reflector, length: 1260 mm	R1.595.1200.0	1
SLX-MIR-1350	Reflector, length: 1410 mm	R1.595.1350.0	1
SLX-MIR-1500	Reflector, length: 1560 mm	R1.595.1500.0	1
SLX-MIR-1650	Reflector, length: 1710 mm	R1.595.1650.0	1
SLX-MIR-1800	Reflector, length: 1860 mm	R1.595.1800.0	1
SLX-MIR-FIX2	Bracket for SLX-MIR-reflector, 2 pcs.	R1.595.0002.0	1
SLD-COLM2-0900	Reflector column, reflector distance: 500 mm; total heigth: 900 mm	R1.604.0900.0	1
SLD-COLM2-1060	Reflector column, reflector distance: 500 mm; total heigth: 1060 mm	R1.604.1060.0	1
SLD-COLM3-1360	Reflector column, reflector distance: 400 mm; total heigth: 1360 mm	R1.604.1363.0	1
SLD-COLM4-1360	Reflector column, reflector distance: 300 mm; total heigth: 1360 mm	R1.604.1364.0	1
SLD-MIR	Replacement reflector for SLD reflector columnn	R1.604.0001.0	1

DEVICE COLUMNS



The device columns **SLX-COL** are used for a free-standing installation of series SLC/SLD.



OVERVIEW OF DEVICES

Туре	Description	Part no.	P.U.
SLX-COL-0900	Device column, profile heigth: 820 mm; total heigth: 900 mm	R1.593.0900.0	1
SLX-COL-1000	Device column, profile heigth: 980 mm; total heigth: 1060 mm	R1.593.1000.0	1
SLX-COL-1300	Device column, profile heigth: 1280 mm; total heigth: 1360 mm	R1.593.1300.0	1
SLX-COL-1600	Device column, profile heigth: 1580 mm; total heigth: 1660 mm	R1.593.1600.0	1
SLX-COL-1900	Device column, profile heigth: 1880 mm; total heigth: 1960 mm	R1.593.1900.0	1
SLX-COL-2500	Device column, profile heigth: 2480 mm; total heigth: 2560 mm	R1.593.2500.0	1
SLX-COL-BASE	Replacement pedestal for columns with spring elements	R1.593.0001.0	1
SLX-COLP-0900	2 protective glasses for SLX-COL device column; length: 820 mm	R1.592.0900.0	1
SLX-COLP-1000	2 protective glasses for SLX-COL device column; length: 980 mm	R1.592.1000.0	1
SLX-COLP-1300	2 protective glasses for SLX-COL device column; length: 1280 mm	R1.592.1300.0	1
SLX-COLP-1600	2 protective glasses for SLX-COL device column; length: 1580 mm	R1.592.1600.0	1
SLX-COLP-1900	2 protective glasses for SLX-COL device column; length: 1880 mm	R1.592.1900.0	1

SERIES SLD/SLC

OTHER ACCESSORIES





The external laser-alignment device **SLX-ACC-LASER** (for direct mounting on series SLX/SLD) and **SLX-ACC-LASERCOL** (for mounting on a device column SLX-COL) are used for the adjustment of the optical system of series SLC/SLD.

The test rods **SLX-ACC-TEST** are used for functional testing of protective areas realized by series SLC.

SLX-ACC-LASER



Туре	Description	Part no.	P.U.
SLX-ACC-LASERCOL	External laser adjustment device, for fixing in device column	R1.596.0003.0	1
SLX-ACC-LASER	External laser adjustment device	R1.596.0002.0	1
SLX-ACC-TEST2040	Test bar, 20/40 mm	R1.596.2040.0	1
SLX-ACC-TEST1430	Test bar, 14/30 mm	R1.596.1430.0	1
SLX-ACC-MKEY	Magnet key for activation of laser adjustment device	R1.596.0001.0	1

MUTING ACCESSORIES





The Muting-Set **SLX-MUTC-SET2P** is used for realizing a 2-sensor cross muting e.g. in combination with device columns SLX-COL to be ordered separately or directly onto the SLD safety light grids.

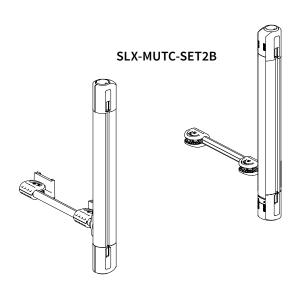
The Muting-Set **SLX-MUTC-SET4** (no figure) is used for realizing a 4-sensor-sequence-muting, e.g. in combination with device columns SLX-COL to be ordered separately or directly onto the SLD safety light grids.

The Muting-Set **SLX-MUTC-SET2B** (see figure below) is used for set-up a 2-sensor sequential muting system, e.g. in combination with the SLX-COL device columns to be ordered separately, or directly onto the SLD safety light grids.

OVERVIEW OF DEVICES

Туре	Description	Part no.	P.U.
SLX-MUTC-SET2P	SLX-muting-sensor-set for 2-sensor-parallel-muting, incl. 2 sensor units, 2 reflector units, pre-assembled, distance 8 m, 2 m cable with plug M12	R1.597.0008.0	1
SLX-MUTC-SET4	SLX-muting-sensor-set for 4-sensor-sequencial-muting, incl. 4 sensor units, 4 reflector units, pre-assembled, distance 8 m, 2 m cable with plug M12	R1.597.0007.0	1
SLX-MUTC-SET2B	SLX-muting-sensor-set for 2-sensor-sequencial-muting, incl. 2 sensor units, 2 reflector units, pre-assembled, distance 8 m, 2 m cable with plug M12	R1.597.0006.0	1
SLX-MUT-REFLEX	Reflector	R1.597.0015.0	1
SLX-MUT-BOX4-BT	Sensor connector box for 4 muting sensors, with mounting plate	R1.597.0019.0	1
SLX-MUT-BOX4-BT-L	Sensor connector box for 4 muting sensors, with L-mounting bracket	R1.597.0021.0	1

Further muting accessories are available on request.



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