



WIND ENERGY

FOCUS **WIND**

Electrical solutions for
wind energy plants.

A middle-aged man with grey hair and glasses, wearing a white button-down shirt, is leaning on a white table. He is looking towards the camera with a slight smile. The background shows a bright office environment with large windows and blinds.

“As experts in LED lighting and safety technology, we can help you plan and realize your wind energy plant.”

STEFAN KADUR

Market Manager Renewables / Wind energy

FOCUS WIND

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COMPONENTS, SYSTEMS AND SERVICES FOR YOUR REQUIREMENTS.

We are the experienced and reliable partner you need to fulfill your wind tower requirements with safety, efficiency, and pluggability. For over 40 years, with our connector systems, we have been offering sophisticated products and customized concepts for energy distribution, light technology, and safety systems as well as retrofit solutions.

Short planning times and quick completion dates are the norm in this industry. Our modular system not only shortens project time-lines, it also allows facilities to be connected to the grid with greater speed and safety.

Our installation systems are impressively flexible and easy to use. Thanks to pluggable electrical interfaces, you can even set up your tower's internal lighting, including the maintenance sockets, in a systematic and modular fashion at the same time as the tower is being manufactured. The **Plug & play concept** reduces the traditional installation effort by up to **70 %**.

SYSTEM SOLUTIONS FOR:

- + MANUFACTURERS OF WIND ENERGY PLANTS
- + TOWER MANUFACTURERS
- + WIND FARM OPERATORS
- + SERVICING COMPANIES



MODULAR SYSTEM

All our system components are designed to work together and meet the normative demands of wind energy plants.



SAVINGS

Minimized planning- and installation times reduce costs. Maintenance-free components provide extra added value over the lifecycle of the facility.



PREFABRICATION

100 % prefabricated and tested system components enable a flawless electrical installation process. Tower manufacturers save valuable time and resources.

ADVANTAGES FOR YOUR AREAS OF APPLICATION.

Our system components offer additional benefits and will impress your clients thanks to the minimal maintenance required.



SUPERIOR HANDLING

The cost effectiveness of the facility greatly depends on the respective prefabrication. The higher the degree of prefabrication, the lower the total cost. Our industrially prefabricated, tested, and pluggable components can easily be assembled and plugged into each other even before they leave the factory.



SAFE PLANT OPERATION

Wind power plants pay for themselves faster if they function flawlessly and safely and require little maintenance. The flexibility and operational reliability of our solutions make a decisive contribution here, reducing maintenance downtime a minimum.



MODULAR INSTALLATION SYSTEM

We offer a standardized modular system for electrification, lighting, UPS, and service elevators. We are a full-service provider for these applications and also your partner when it comes to the generation of sustainable added value for the plant. Our system reduces the installation time by 70 %.

APPLICATIONS FOR OUR PRODUCTS + SOLUTIONS:



Outdoor lighting



Indoor lighting



Uninterruptible power supplies for the tower lighting



Electrical installation



Control cabinet



Service elevator



Retrofit

FOR PLANNERS + ENGINEERS

- Reduction in planning complexity with fewer components
- 3D data of all components of the RST® connector system can be integrated easily into any planning tool
- The available 6 mm² connection enables installations with minimal voltage drop in accordance with the standard even at tower heights in excess of 140 m

FOR PLANT MANUFACTURERS

- Greater flexibility thanks to combinable system components
- Shorter tower delivery times
- International product approvals

FOR TOWER MANUFACTURERS

- Reduction in installation time
- Coordinated and pre-tested installation kit for each tower segment
- Faster completion of tower segments
- Shorter tower delivery times

FOR PLANT OPERATORS + SERVICING COMPANIES

- Virtually maintenance-free lighting system thanks to central battery management
- Central UPS concept enables simple battery replacement (tower base)
- Full light power output immediately, even at low temperatures
- Easy retrofitting of a norm-compliant lighting system in old installations

YOUR ADVANTAGES AT A GLANCE.



A vertical metal tower with a grid pattern. A black cable runs vertically down the tower. Various electrical components are attached to the cable: a white rectangular module near the top, a blue circular component, a red circular component, and a grey rectangular box at the bottom. The background is a light grey gradient.

RST®

THE **ROUND** CABLE SYSTEM

Robust components with protecting rating IP69 –
quick and easy to access cable routing.

The RST® round cable system creates entirely new installation possibilities. Complete tower parts can be pre-assembled and tested, regardless of their intended destination. The individual modules are then simply joined together as part of the

construction process. This saves time during the assembly, reduces the potential for error, and increases safety. Even changes required at short notice can be implemented without difficulty. Installations with a tower height in excess of 140 m can easily be achieved.

SYSTEM FEATURES

- + Robust + touch-safe
- + Easy to access cable routing
- + Easy extension or modification
- + Integrated locking devices and strain relief
- + Cable cross-section up to 6 mm² finely stranded possible
- + Protection rating IP69
- + International approvals (UL, CCC, VDE)

Further information on the
RST® system can be found here:



RST® KATALOG

Pluggable electrical installation
with highest IP rating (IP6X)

Part No. 0690.1

RETROFIT FOR TOWER LIGHTING SOLUTIONS

Complete system for simple, standard-compliant retrofitting of safety lighting.

Extending the operational life of existing wind turbines is of utmost importance. The verification of the functionality and stability of critical components such as turbine control, braking systems and safety systems are key factors in the assessment of onshore wind turbines. Work and safety lighting are a major part of the assessment testing. Here, Wieland Electric supports plant operators with a complete system that can be installed quickly and easily without having to dismantle the existing lighting.

The centrally supplied safety lighting system, which is based on a secondary voltage of 48 V DC (SELF) or normal mains voltage of 230 V AC, enables at least 30 minutes of illumination after a mains failure. Longer timeframes can be achieved with stronger batteries. Wieland Electric offers a central battery solution as well as modern, safe LED technology that is easy to maintain. Optionally, a lighting simulation with documentation of the lighting values at workplaces and escape routes can also be performed.



YOUR ADVANTAGE

- + min. 30-minute safety lighting
- + No removal of the existing lighting necessary
- + Complete kit - all plug and play
- + One tower - 1 day

Further information on the topic retrofit can be found here:



RETROFIT FOR WIND TURBINES

Lighting solution for standards-compliant continued operation.

Part No. 0437.1



EFFICIENT PLUG & PLAY ENERGY DISTRIBUTION



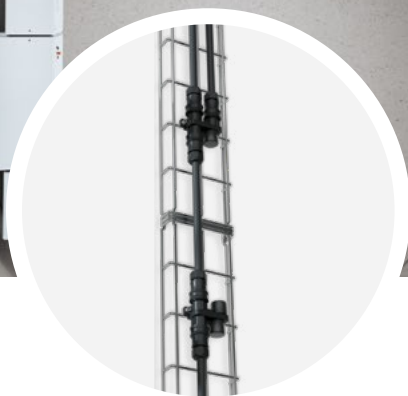
ENERGY DISTRIBUTION

With RST® we offer an innovative installation system for power distribution based on the modular principle.



POWER ANYWHERE

Thanks to a pluggable system, sockets of various designs can be placed anywhere in the tower.



SEGMENT TRANSITION

Segment transitions can be bridged easily in a pluggable manner.



APPLICATION

Our installation systems offer perfect infrastructure cabling for every component of a wind energy plant. Plug all the components, such as lighting, maintenance sockets, control cabinet, and service elevator, together quickly, safely, and flawlessly – before they even leave the factory or on the construction site.



SOLUTIONS

- Industrially prefabricated system components
- RST® round cable system with high IP protection for cables and connectors



BENEFITS

- Fast, easy, and safe installation
- High functional reliability through prevention of mismatching
- Simple adjustment of the installation to local conditions
- Easy extensions possible throughout the life of the plant thanks to pluggable components

- + Shorter planning times
- + Installation time reduced by 70 %
- + Easy to access cable routing

LED LIGHTING IN THE TOWER EXTREMELY EFFICIENT + LOW MAINTENANCE



LIGHTING

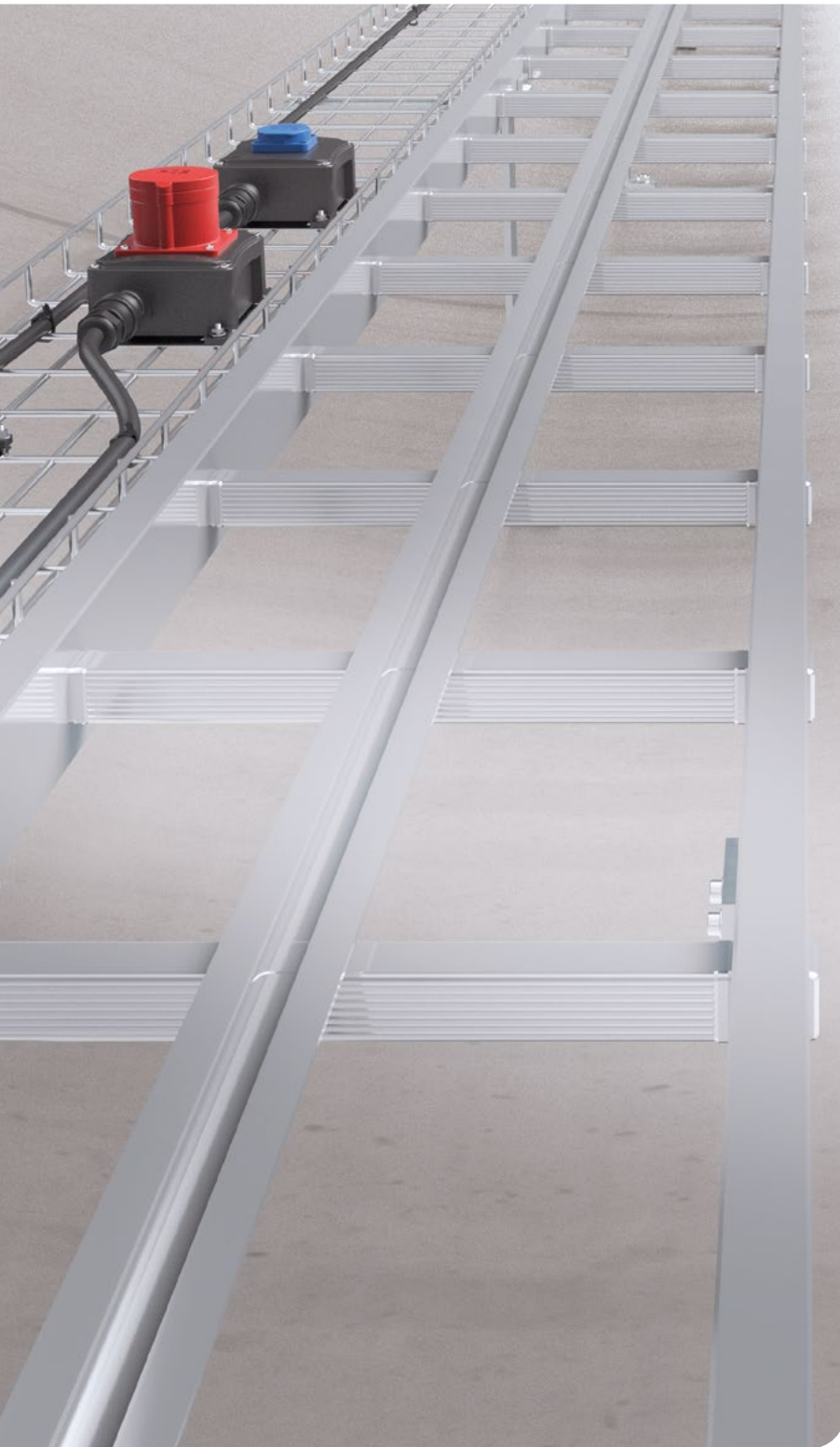
For optimum illumination in the tower we offer various LED lights to choose from – pluggable, powerful, and ideal for smooth operation of the plant as they are maintenance-free.

LUMINAIRE ASSEMBLY

Our fastening systems make it easy to assemble luminaires in the tower. In tubular steel towers, luminaires can be fastened to the tower wall directly using magnets or to the cable basket tray using quick-mounting plates without the use of tools.

LIGHTING SIMULATION

On request, we will produce a lighting simulation for you beforehand, showing how the tower will later be illuminated. In this way, you implement tower lighting in compliance with standards from the outset and save time during verification.



APPLICATION

Lighting in the tower is absolutely vital and contributes to the safety of the service personnel. Standard and emergency lighting is supplied with a powerful UPS. Our robust lights are installed 100,000 up in towers around the world.



SOLUTIONS

- LED lights as a plug & play component
- Usable as lighting + emergency lighting
- Flexible assembly options



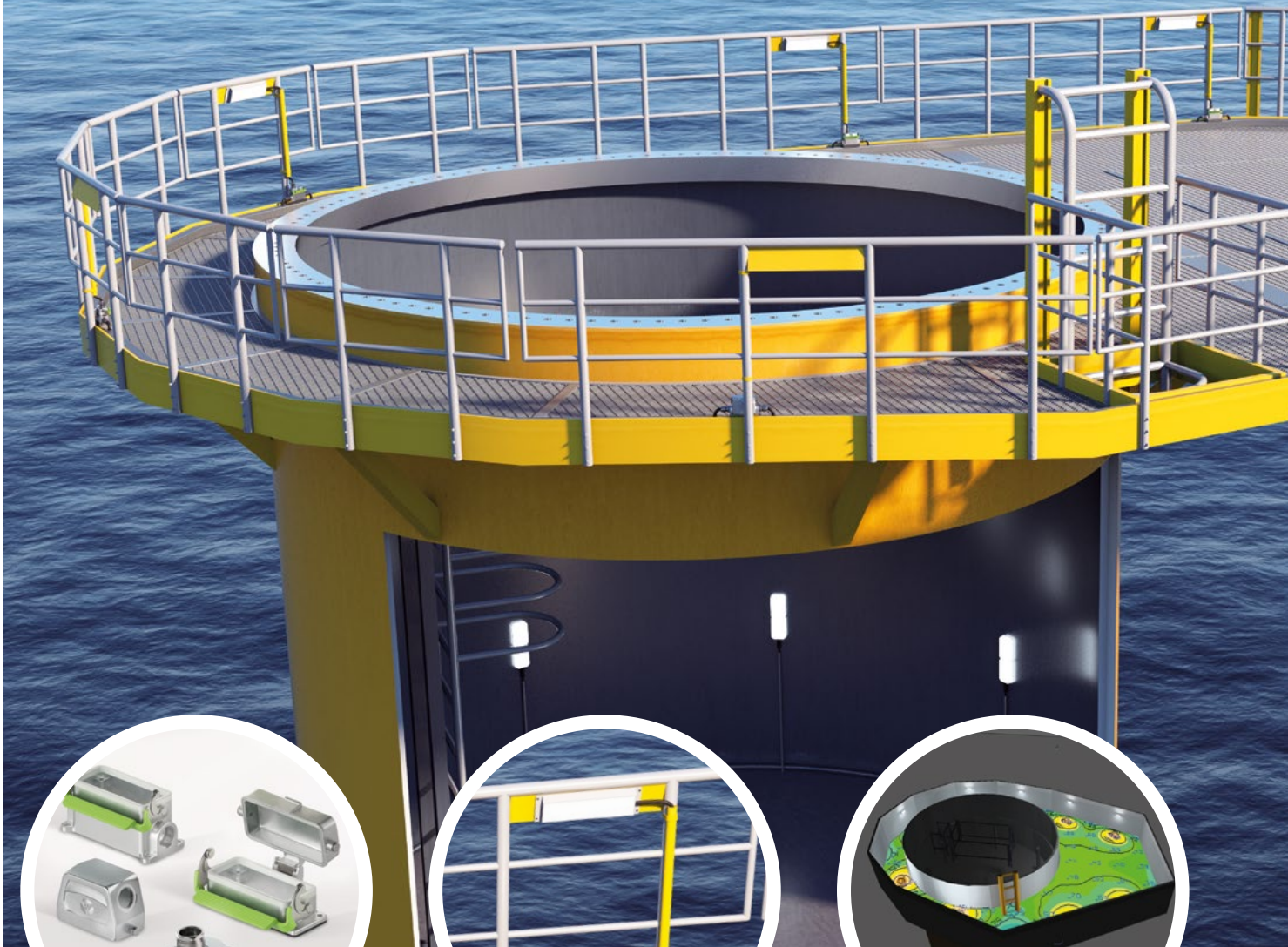
BENEFITS

- Energy-saving LED technology
- Satisfies the requirements for emergency lighting (DIN EN 60598-2-22)
- Suitable for extreme temperature ranges (-40 °C to +70 °C)
- Resists shock and vibrations
- Corrosion-resistant

- + Maintenance-free LED lights
- + 24 – 120 V DC or 230 V AC/DC
- + 2,000 lumens



LED LIGHTING FOR OFFSHORE APPLICATIONS



EMC CONCEPT

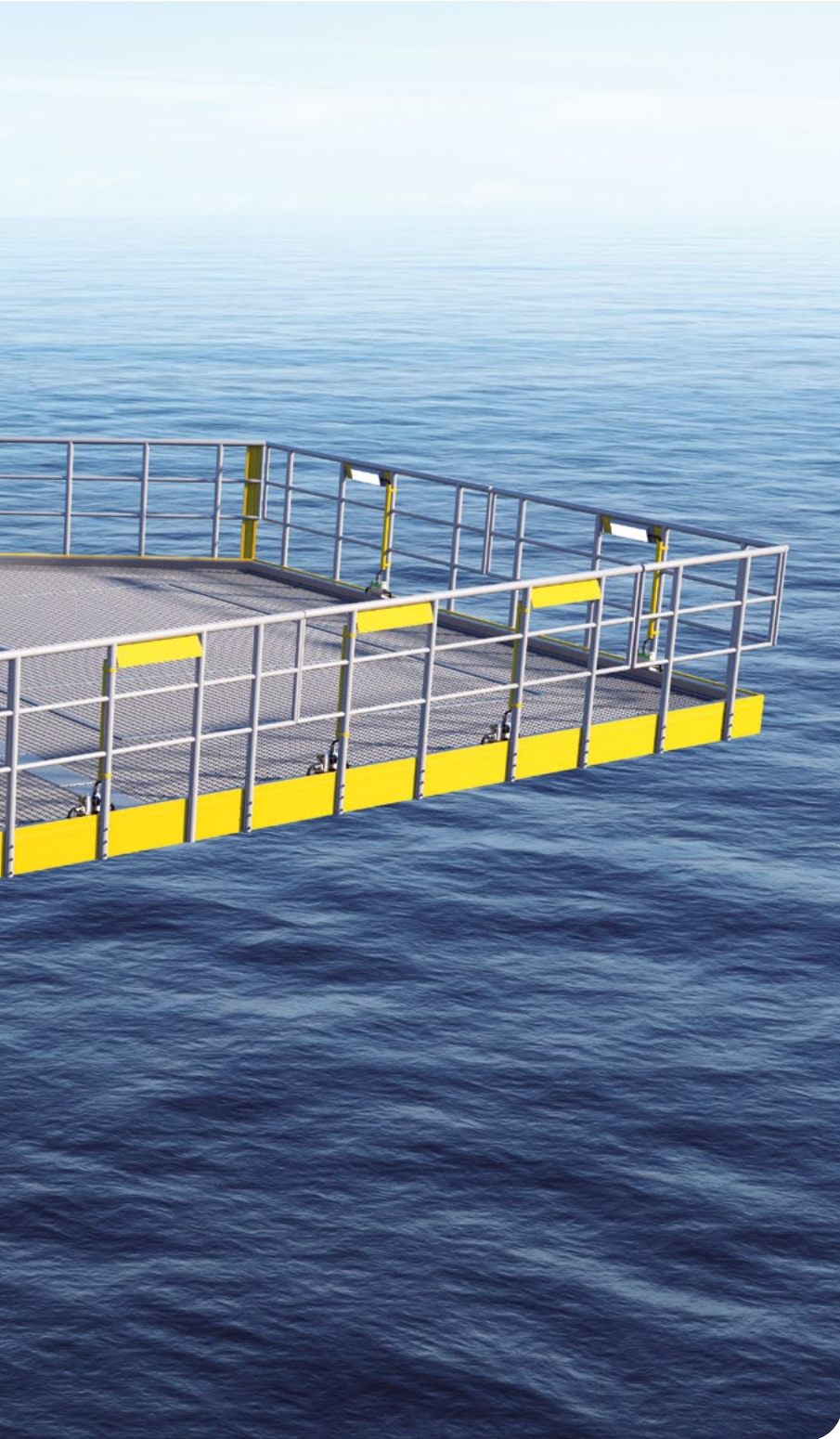
With the reovs® industrial connector, we offer integrated EMC cabling. This is resistant to salt water and provides reliable protection against electromagnetic interference to ensure safe operation in harsh environments.

LIGHTING

The pluggable podis® LED PRO luminaire is perfect for offshore wind turbines. With more than 2000 lumens, it offers reliable, maintenance-free lighting. It is resistant to salt and seawater, ideal for the harsh conditions at sea.

LIGHTING SIMULATION

On request, we can create a lighting simulation that shows the illumination of the offshore tower, the helicopter deck, the transition pieces and the emergency power lighting. This ensures standard-compliant lighting and saves time during verification.



APPLICATION

The external lighting of offshore wind turbines, especially on helidecks and transition pieces, is essential for safety. Our podis® LED PRO is protected against interference, such as transients, with an overvoltage protection circuit. It ensures optimum working conditions at sea.



SOLUTIONS

- 24/48 V DC supply voltage
- LED luminaire as a plug & play component
- Integration in "tower sets" with cables, plugs, etc.
- More than 2,000 lumens luminosity
- Pluggable and maintenance-free



BENEFITS

- Suitable for harsh environments at sea
- Can be integrated into existing lighting systems
- One item number for one tower "kit set"
- One-stop-shop Wieland Electric - all solutions from a single source
- Cost-efficient solution

- + 24 V/48 V DC for most offshore applications
- + Salt and seawater resistant
- + Robust IP69/IK10/C5 "M"



SOLUTIONS FOR SAFE PLANT OPERATION



MOTION MONITORING

With the samos® PRO MOTION module you will make your plant safe and compliant with the latest machinery directives. Easy to integrate – even as a retrofit measure.

ANALOG VALUE MONITORING

Record analog values quickly and safely, and report them to higher-level control systems. Preventive permanent monitoring of system-relevant pressures and temperatures.

SAFETY COMPONENTS

Numerous safety components to protect both people and the plant, e.g. sensor PRO for the field levels and safe RELAY or samos® PRO COMPACT for the control cabinet.

**APPLICATION**

Control and monitoring of safety-related functions, from EMERGENCY-STOP over analog value processing to speed monitoring in the wind energy plant.

**SOLUTIONS**

- samos® PRO MOTION – safety controller for speed monitoring and analog value recording
- safe RELAY safety relay for easy, low-cost monitoring of safety sensors
- sensor PRO safety switch ensures effective protection of people

**BENEFITS**

- License-free software with graphical user interface
- Documentation at the touch of a button
- Maximum safety up to level PL e
- We support conformity procedures, including risk assessment, verification, validation, and documentation

**SAMOS® PRO COMPACT
IN THE SERVICE ELEVATOR**

The samos® PRO COMPACT safety controller reliably and safely controls the service lift in accordance with standards.



SAFETY KATALOG
Safe System Solutions for
Automation Technology
Part No. 0860.1

- + Safety controller modularly expandable
- + Meets the requirements of EN 81-44 (elevators in wind energy plants)
- + Operating temperature range -20 °C to +65 °C

RELIABLE POWER SUPPLIES



WIDE-VOLTAGE POWER SUPPLY UNIT

With the wide-voltage power supply units in the wipos PSW series, you are equipped for a wide range of network applications. Withstands a short-term overvoltage of 800 V DC for 3s. Suitable for AC/DC and DC/DC operation.



UPS COMPACT SOLUTION

You are carefree with the programmable Backup UPS System for uninterrupted operation in the case of a power failure. The latest battery technologies from 12 - 58 V DC are supported.



REDUNDANCY

Ensured redundancy for parallel operation of power supplies.



APPLICATION

Ensuring battery-supported power supplies for the lighting of wind turbines. Reliable DC power supply for automation/control technology .



SOLUTIONS

- Complete UPS system with the core component wipos UPS 20-960
- Wide-voltage input range power supply units from the wipos PSW series
- Support for the most common battery technologies (lead, nickel, lithium, SuperCap)



BENEFITS

- Wide input and output voltage ranges AC and DC for global use
- Parameterizable UPS control unit
- Customized engineering



WIPOS CATALOG
Power supplies for
machines and systems
Art.No. 0821.1

COMPLETE UPS SYSTEMS

We develop customized solutions according to your application requirements. In the event of a power failure, our battery-backed UPS ensures safe lighting.

- + Redundant secure power supply
- + Powerful + efficient
- + Temperature application range
-40 °C to +70 °C



wieland

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