



WIND ENERGY

HELLO **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 is a bright, modern office space 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

HELLO WIND

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SOLUTIONS FROM ENGINEERING TO SERVICING.

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, podis® and RST®, 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:



Lighting



Electrical installation



Control cabinet



Service elevator



Retrofit

FOR PLANNERS + ENGINEERS

- Reduction in planning complexity with fewer components
- 3D data for all components can be integrated easily into any planning tool
- The available 6 mm² connection enables installations with minimal voltage drop 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

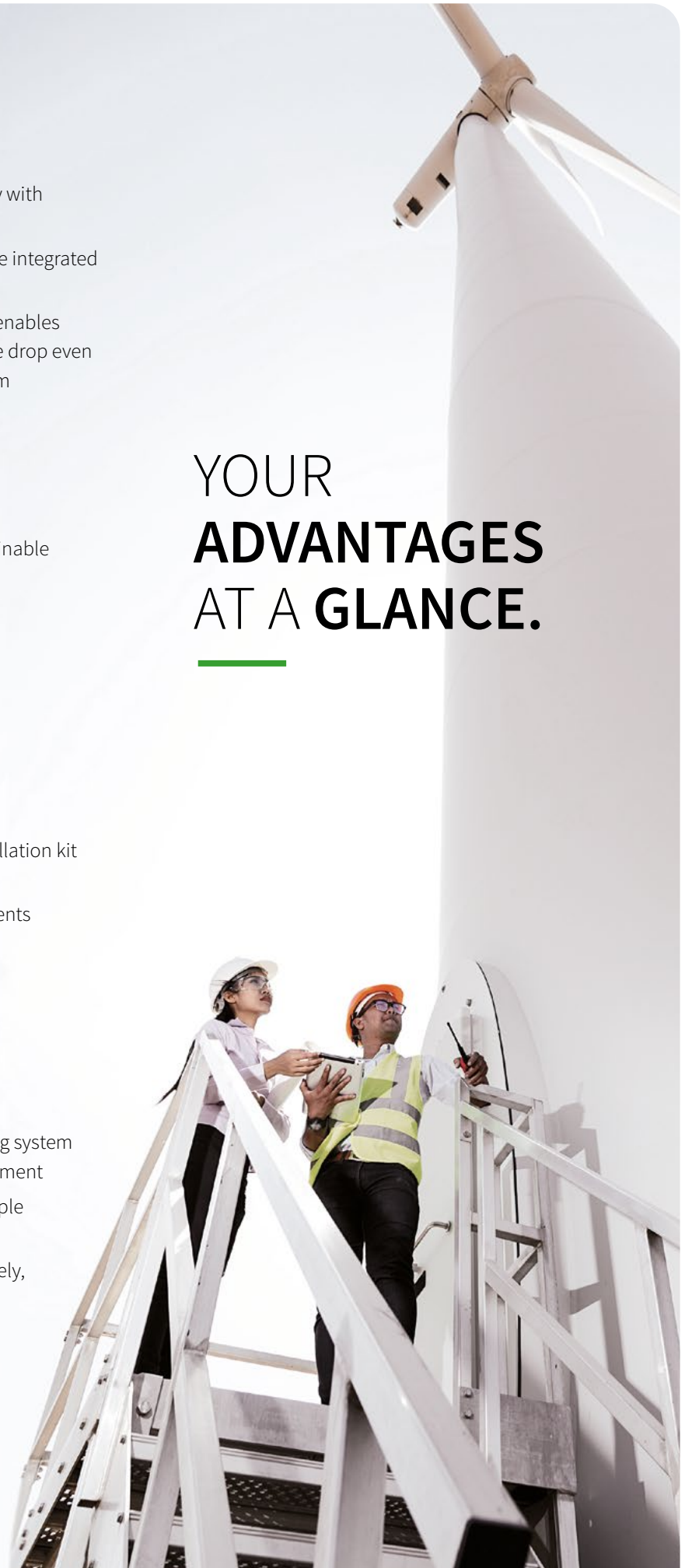
FOR TOWER MANUFACTURERS

- 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

YOUR ADVANTAGES AT A GLANCE.





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

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

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** SOLUTIONS FOR **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.



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



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

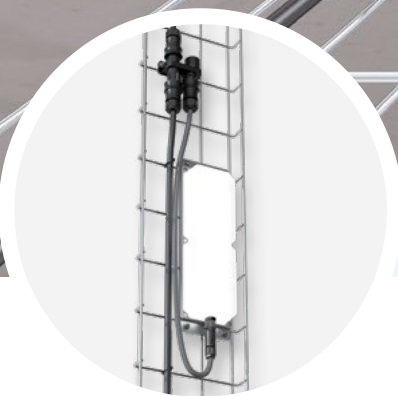
- Industrially prefabricated system components
- RST® round cable system with high IP protection for cables and connectors



ADVANTAGES

- 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

LED **LIGHTING** SOLUTIONS EXTREMELY EFFICIENT + LOW-MAINTENANCE



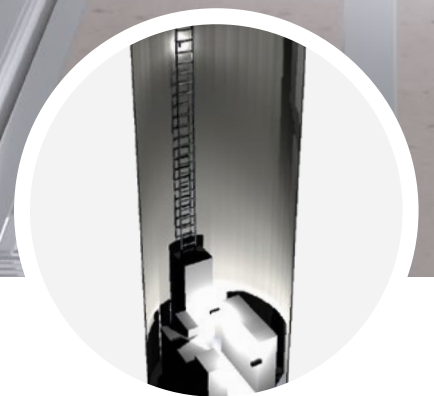
LIGHTING

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.



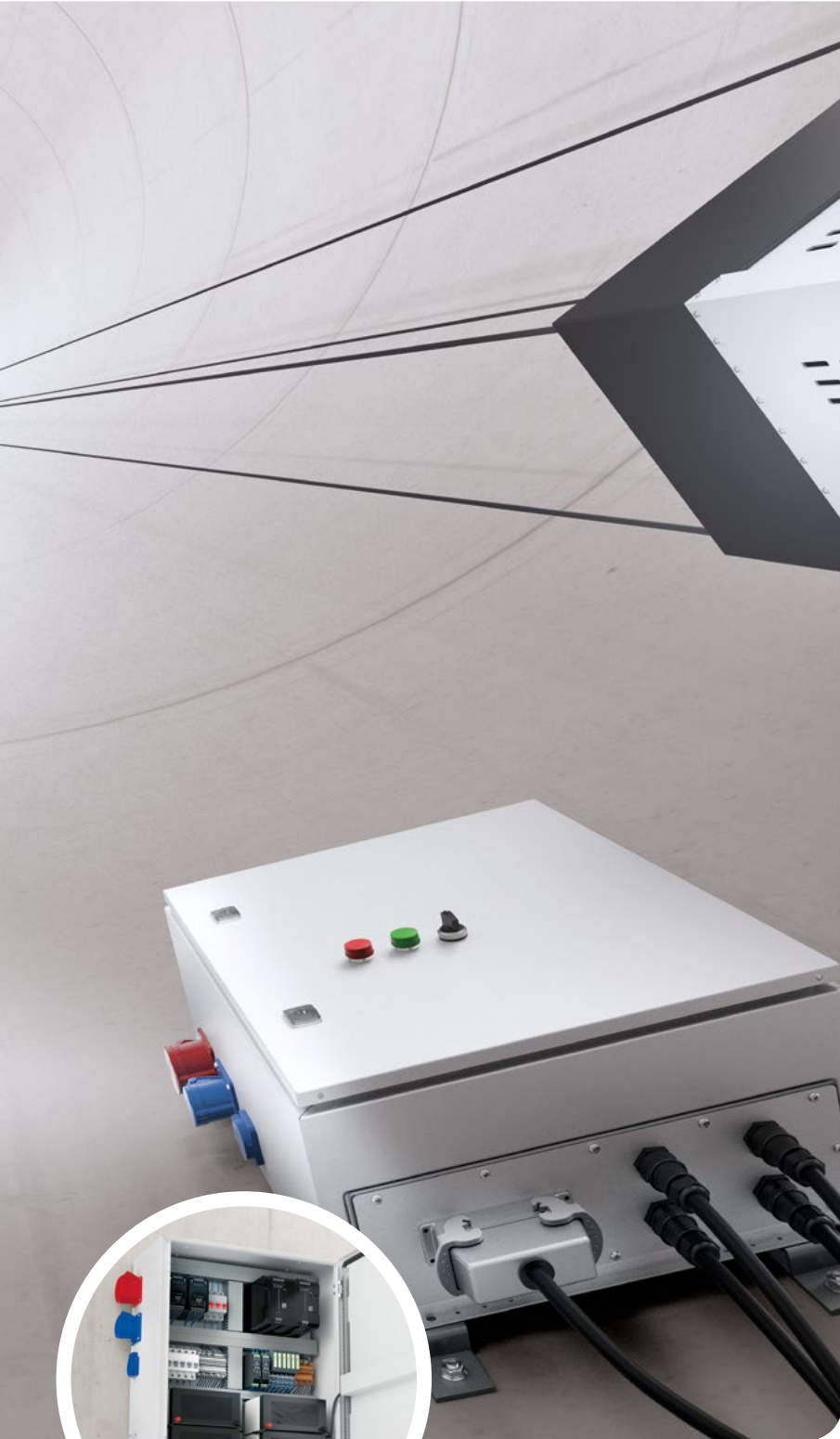
LUMINAIRE ASSEMBLY

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.



UPS

Even in the event of a power failure, the UPS with its battery backup supplies energy to the lighting, thereby ensuring that staff can descend safely.



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 luminaires are used in towers all over the world.



SOLUTIONS

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



ADVANTAGES

- 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



SOLUTIONS FOR **SIGNALS + DATA**



FIBER-OPTIC TECHNOLOGY

For reliable data transmission over long distances between the top box and the bottom box as well as throughout the wind farm.



DATA TECHNOLOGY

The wienet switches have been designed to convey data purposefully to their destination in extremely rough conditions.



REMOTE MAINTENANCE

Our remote maintenance components will provide a simple and secure communication connection for your plant – today and in the future.

**APPLICATION**

Our smart technology for communication, signals, data, and controls guarantees lower maintenance costs and maximum availability for any wind energy plant in the world – whether onshore or offshore.

**SOLUTIONS**

- EMC-safe data communication
- Switches extendable with fibre-optic converters
- Networkability of plant technology via switches and routers
- Control cabinet interfaces simple and EMC-protected

**ADVANTAGES**

- Data + signals available at any time
- Remote solution for simple remote maintenance worldwide
- Pluggable complete system including connection technology right up to and inside the control cabinet

CONNECTION TECHNOLOGY

With the RST® round connectors and the robust revos® industrial connectors you can connect your control cabinet safely and permanently.

- + Plannable servicing using remote monitoring
- + Field-proven components for the control cabinet

SOLUTIONS FOR SAFE PLANT OPERATION



SPEED MONITORING

With the samos® PRO COMPACT 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 COMPACT PLUS compact 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



ADVANTAGES

- Safety controller, extendable with function modules
- License-free software with graphical user interface
- Documentation at the touch of a button
- Maximum safety up to level PL e

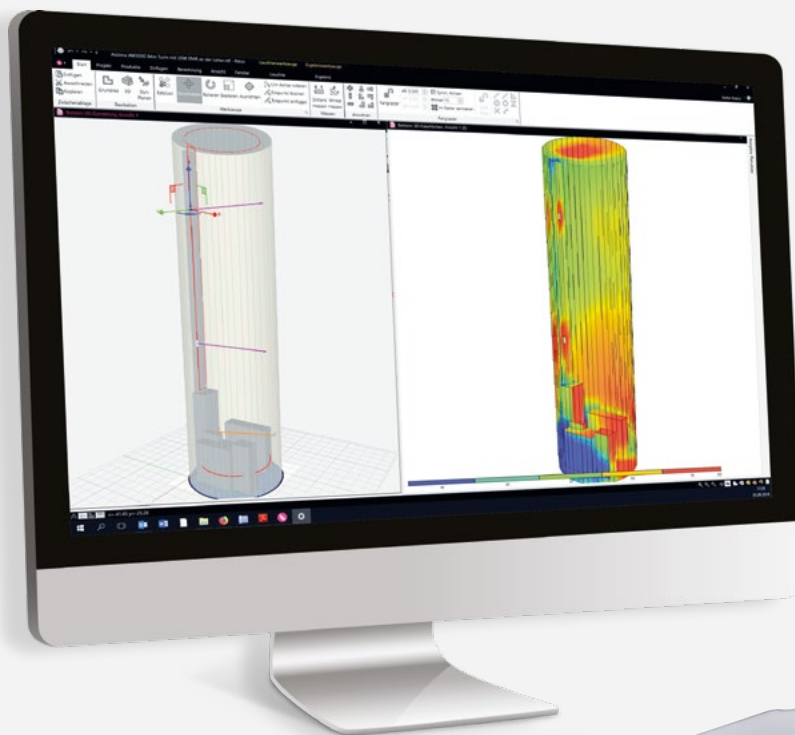
UPS IN THE TOWER + SERVICE ELEVATOR

A UPS integrated in the control cabinet and elevator box safeguards the emergency lighting in the event of a power failure.

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

BRILLIANT **PLANNING:** THANKS TO LIGHTING **SIMULATION**

We will verify our LED lighting concept for your plant using software.



- + Realistic
- + Forward-looking
- + Results-oriented
- + Compliant with standards



DO YOU NEED A LIGHTING SIMULATION?

As a specialist of many years' standing in "light" in towers as a field of application, we support client projects with the implementation of lighting and emergency

lighting even during the planning phase. As an expert we include all aspects of the design, layout, power supply, and assembly.

Get in touch with us. Our experienced specialists will discuss the details with you during an initial consultation.



INFO TO GO

All brochures from Wieland Electric are available for download on our website.



<https://www.wieland-electric.com/en/support/downloads>

Interesting for you

ELECTRICAL SOLUTIONS FOR WIND ENERGY PLANTS



RST® KATALOG

Pluggable electrical installation with highest IP rating (IP6X)
Part No. 0690.1

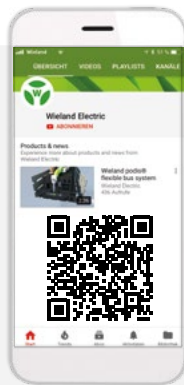


SAFETY KATALOG

Safe System Solutions for Automation Technology
Part No. 0860.1



Wieland on YouTube
See our solutions in motion



<https://www.youtube.com/user/WielandElectric>



Technical consultation
Industry Solutions

Email: industry@wieland-electric.com

Worldwide: <https://wie.li/contactinternational>



ONLY ONE TAP AWAY

Our Wieland E-Shop
Over 25,000 products - anytime

In our online store you will find all the information about our products, prices, and technical data.

Order easily and conveniently online, and check availability.

<https://eshop.wieland-electric.com>

Scan QR code – view products in the E-SHOP.





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