

Pioneering Energy Solutions

Solutions for renewable energies

Version 2024



Weidmüller 

Pioneering Energy Solutions

Solutions for renewable energies

Pioneering Energy Solutions

Power generation

Wind energy

Photovoltaics

Power transmission and energy storage

Energy storage

Hydrogen

DC Microgrids

Energy utilisation

e-mobility

Appendix

Service and support

Index

Index Type / Index Order No.

Contents

A

B

C

D

E

F

V

X

Pioneering energy solutions

Efficient solutions for the energy transition

Smart Industrial Connectivity: Electrification, automation, digitalisation, electrical connectivity, electromobility and renewable energies - markets in which Weidmüller is at home. Throughout its 170-year history, Weidmüller has been a pioneer in innovative products, supporting and promoting technological and social change. Sustainability is taking on an increasingly relevant role in this context. We support the change with our products and solutions for the energy transition.

Power generation

Wind energy

Maximum performance and availability of wind turbines

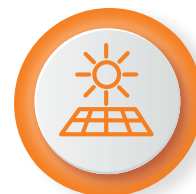
With many years of industry experience, Weidmüller is the expert for condition monitoring, digitalisation, lighting and connectivity for the wind industry. In addition to control cabinet components, we offer solutions for condition monitoring of rotor blades and screw connections, complete LED systems for the tower, nacelle and hub, as well as customised housing solutions.



Photovoltaics

Efficient installation and operation of photovoltaics

Weidmüller offers a wide range of combiner boxes, monitoring solutions and components for ground-mounted photovoltaic systems and rooftop systems to meet your individual requirements: Benefit from our many years of experience in the photovoltaic industry, the know-how of our experts and our global network.



Power transmission and energy storage

Energy storage systems

Solutions and products for battery energy storage systems (BESS)

The storage of renewable energy contributes significantly to the optimal use of this future-oriented energy source. With our industrial connectivity and digitalisation solutions, we offer an extensive range of solutions for energy storage systems. Be it for battery management, power back-up, connectivity or Ethernet communication.



Hydrogen

Unleash the power of hydrogen with us

From energy production to storage to consumption: the production and efficient use of hydrogen is a multi-layered process requiring the close interlinking and coordination of a large number of technical components. As a specialist in Smart Industrial Connectivity, Weidmüller supports its customers around the world with products, solutions and services. We offer specific solutions to support the expansion of the hydrogen industry, including our condition monitoring system for electrolyser stacks.



DC Microgrids

The use of direct current technology in industrial plants makes an important contribution to the energy transition and will become the new standard in the years to come. This is because a DC-based microgrid achieves not only a much higher level of energy efficiency, but also greater grid quality and security of supply. As a pioneer in the research and development of DC technology, we already offer an extensive range of DC ready solutions and components.



Energy utilisation

e-mobility

Charge for the change: Charging infrastructure for a sustainable future

Electric vehicles play a key role in the energy transition. Weidmüller offers practical solutions for the implementation of charging infrastructure for the private and commercial sector. Our AC SMART wallbox family allows easy, app-controlled charging and can be connected to inverters and backend systems. Our SMARTcharge load management system prevents peak loads when there are several charging points. Our charging cables, accessories and components complete our portfolio for a simple electrical installation.

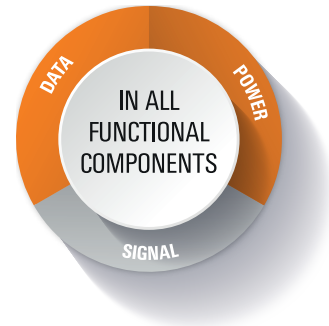


ResMa®

Software for process and energy optimization

Optimize your processes with the intelligent energy management that can be combined to Industrial IoT.

ResMa® is a diverse system that supports you in recognizing and documenting energetic and process-based potentials and deriving measures for optimization. For this purpose, a number of special and extensive evaluation options are available.



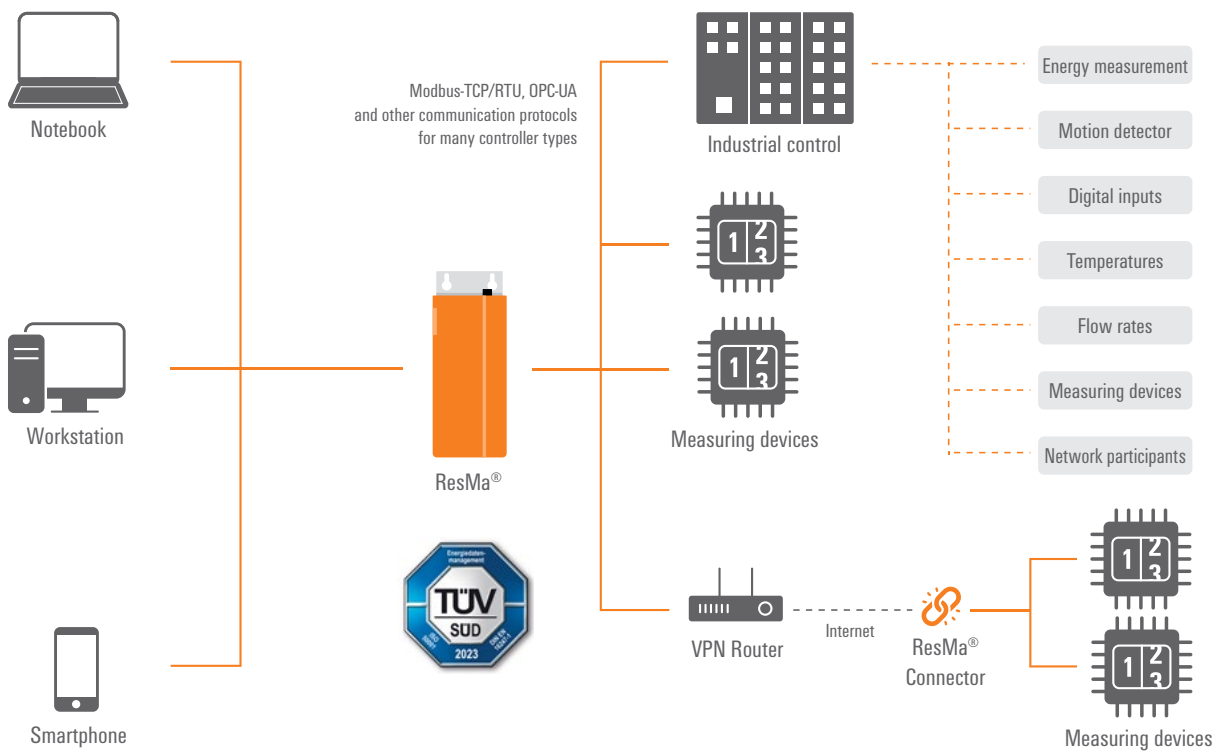
Your benefits at a glance:

- Recording of energy and production data
- Correlation and regression analysis
- Automatic reporting
- connectivity and easy integration to common measurement and existing systems
- ISO 50001 certified



For more information, visit our website:
www.weidmuller-gti-software.com





One software solution - a wide range of evaluation options

- Use as energy data management software according to ISO 50 001
- Process optimization based on production/process data
- Data collection and provision for external evaluation options such as AI tools

ResMa® components:



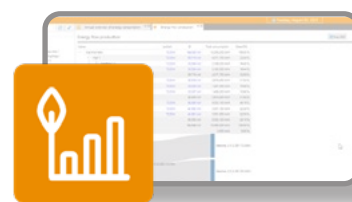
ResMa® Basic

Preparation, presentation and analysis of data from the production environment



ResMa® Production

Detailed analysis of machines and systems



ResMa® Energy

DIN EN ISO 50001 zertifiziertes Energiemanagementsystem



ResMa® Recipe Management

Preparation, presentation and analysis of Recipes for quality improvement



ResMa® Regression Analysis

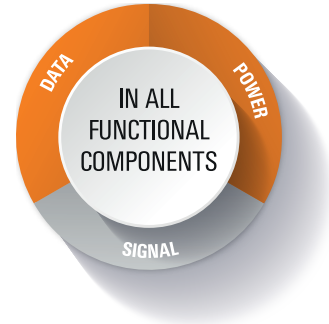
Regression analyses for optimization and investment decisions

PROCON-WEB

Broadly scalable Web-HMI/SCADA solution

The innovative HMI PROCON-WEB is the ideal human-to-machine interface. It addresses the requirements of the user and utilises the capabilities of modern technology.

PROCON-WEB is particularly easy to use. A web browser is all you need to be able to analyse and control individual machines or a complete production flow.



Your benefits at a glance:

- Modern intuitive UI can be adapted to your corporate design
- Flexible and high performance
- Open via interfaces and plug-ins and APIs
- Powerful alarming, logging and historian functions



For more information, visit our website:
www.weidmuller-gti-software.com





Important system features are the basis for a powerful and open system

- Adaptive design for device-specific interfaces: laptops, tablets, smartphones, wearables
- Support for a comprehensive range of communication drivers, incl. OPC-UA
- Multi-lingual function and country-specific keyboard layouts
- Simple engineering without programming expertise

PROCON-WEB components



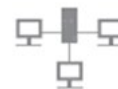
PROCON-WEB Designer

Project management tool for your individual HMI



PROCON-WEB Server (Runtime)

Communication hub between machine and user



PROCON-WEB Client

Machine operation, evaluation and maintenance

Choose from two variants

PROCON-WEB ES for embedded systems as a platform-neutral solution or **PROCON-WEB SCADA** as a windows-application for complex tasks.

Wind energy

Wind energy	Introduction	A.2
	LED solutions and circular connectors	A.6
	BLADEcontrol® rotor blade monitoring	A.30
	BOLTcontrol bolt breakage detection	A.36
	TwinCap® condition monitoring for blade bearings	A.38
	High-performance components for wind turbines	A.42
	Customised solutions	A.66
	Success story: Lanthan Safe Sky	A.72
	Success story: SAITEC floating wind turbine	A.74
	Success story: Caribbean flair for BLADEcontrol®	A.76



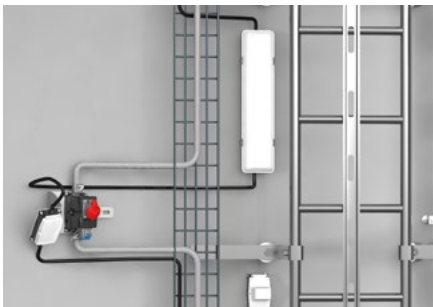
Elevate your wind turbine performance

Connectivity, Lighting & Monitoring Solutions

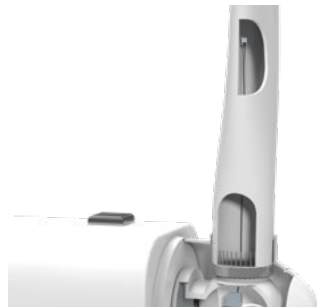


With many years of experience in the industry, Weidmüller is the expert for condition monitoring, digitalisation, lighting and connectivity for the wind industry. In addition to control cabinet components, we offer solutions for condition monitoring of rotor blades and bolted joints, complete LED systems for tower, nacelle and hub as well as customised enclosure solutions.

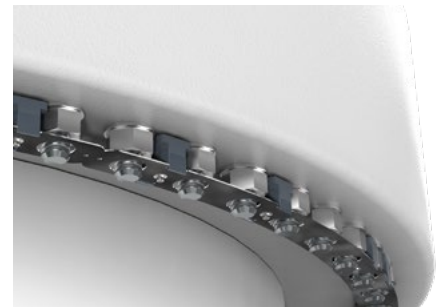
1 LED solutions and circular connectors



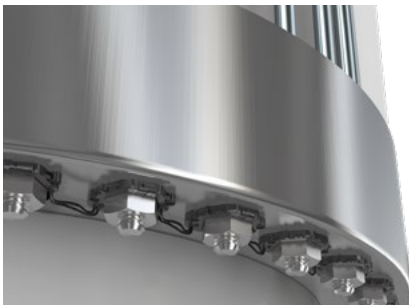
2 BLADEcontrol® rotor blade monitoring



3 BOLTcontrol bolt breakage detection



4 TwinCap® condition monitoring for blade bearings



5 High-performance components for wind turbines



6 Customised solutions



For further information, technical specifications or additional services, please visit our website:
www.weidmueller.com/wind



Customised solutions for the wind industry

Operate wind turbines more efficiently with our tailored solutions for maximum profitability



Nowadays, the wind energy sector is faced with the challenge of meeting growing profitability requirements. Manufacturers of wind turbines are continuously seeking possibilities to reduce the LCOE (levelised cost of energy). Weidmüller meets this need with reliable components and customised solutions that reduce investment and operating costs. Condition monitoring and data-driven business models including Data Analytics have become essential for enhanced asset management. In these fields of automation and digitalisation, Weidmüller is able to provide tried-and-tested solutions to reduce downtimes and increase yield.



1 LED solutions and circular connectors

- IP67 protection class
- Cost and energy efficient
- Vibration- and shock-resistant
- Full power in an instant
- Temperature-insensitive
- Low power consumption
- Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)



2 BLADEcontrol® rotor blade monitoring

- Lifetime extension of the rotor blades
- Increased turbine availability
- Additional yield through reduced downtimes
- Enhanced repair planning
- Optimised turbine efficiency



3 BOLTcontrol bolt breakage detection

- Maximum safety
- Protection against consequential damage to the wind turbine
- Reduction of downtimes and repair costs
- Adaptation to individual requirements of the turbine type



4 TwinCap® condition monitoring for blade bearings

- Detect critical bolt damages
- Continuous monitoring 24/7
- Additional yield through reduced downtimes
- Predictable repairs



5 High-performance components for wind turbines

- Automation technology
- Communication technology
- Electrical Package
- Switch and secure
- High-performance power supplies



6 Customised solutions

- Concept elaboration
- Prototyping
- Circuit diagram preparation
- Integration and testing
- Mechanical construction
- Serial production
- Software development
- After-sales support

We bring the light to where you need it!

Reliable illumination for a safe working environment inside your wind turbine



Our broad portfolio of LED products is the perfect fit for your wind turbine. Whether you need to illuminate the nacelle, the hub or the tower, Weidmüller ensures a safe working environment with bright and reliable LEDs even in the challenging environmental conditions of a wind turbine. Onshore or offshore, the durable Weidmüller LEDs perform consistently.

With years of application knowhow and experience, our engineers will tailor the solution that you need to meet your application specific illumination requirements. What is so special about it? We provide a set solution with not only LEDs but also pre-assembled cables, mounting sheets, outlet boxes and a battery-backed feed-in solution - all under one article number to make the order process feel like a walk in the park. Wherever you need light, we help you. According to the motto: „We bring the light to where you need it.“ Our LEDs are developed according to IEC standard 60598-2-22 (specifies requirements for emergency luminaires).

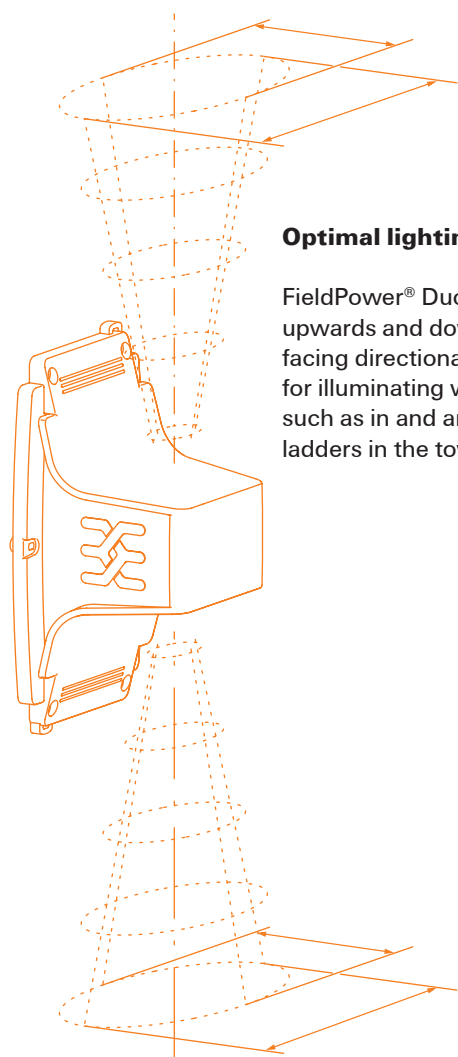






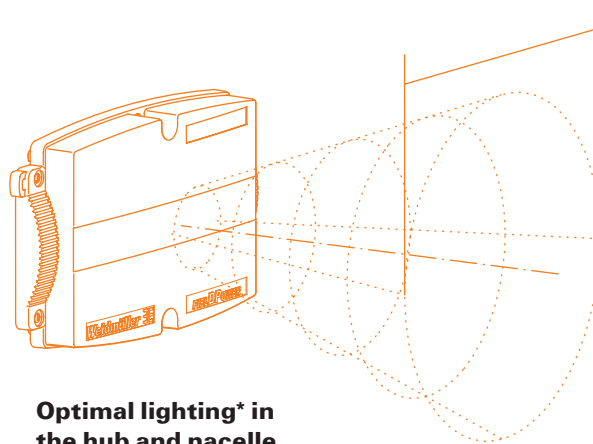
Take advantage of an up to 100% customised system design

Thanks to our proven FieldPower® concept



Optimal lighting* in the tower

FieldPower® Duo LED with upwards and downwards facing directional light. Ideal for illuminating wall sections, such as in and around the ladders in the tower.

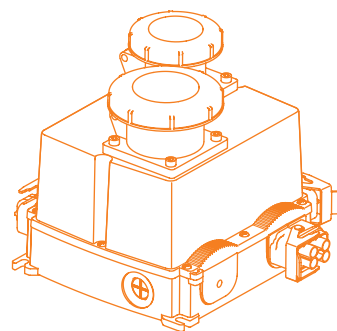


Optimal lighting* in the hub and nacelle

FieldPower® Mono LED K with collimators for directional lighting. Ideal for illuminating work areas requiring high levels of lighting in a small space.

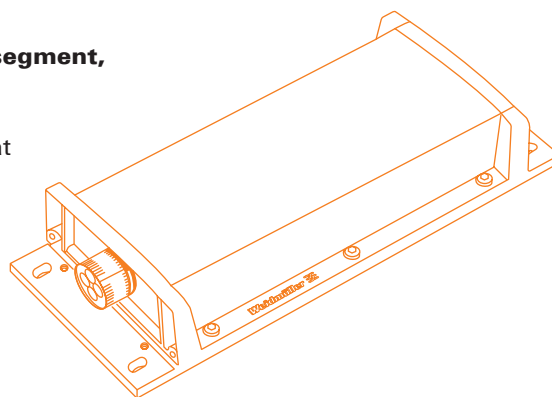
Optimum power supply

Individual positioning of compact power outlets. For quick access to power in all sections and levels of the turbine.



Powerful illumination* for bottom segment, nacelle and more:

Our 20W WIPL is robust and powerful at the same time. A perfect fit for all areas where a little more light is needed.





* Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

The benefits of using an LED system

We have enlightening arguments to back up our claim



LED lamps currently provide the most advanced and long-term cost-effective lighting concept on the market. They are much more efficient, compact, robust and durable than conventional strip lights – and far easier to handle.



Temperature-insensitive

LED lamps are considerably less sensitive to extreme temperatures and temperature fluctuations than conventional forms of lighting.



Full power in an instant

LED lamps achieve full luminosity the moment they are switched on – even in emergency mode. Their fast response behaviour means that visual warning and error messages are also an option.



Well protected

Enclosures with enhanced IP protection classes make FieldPower® LED lamps impervious to the ingress of dirt and moisture.



Flexibility due to AC & DC Versions

A wide input range of 100...250 V AC or 21.5...60 V DC makes LED lamps suitable in all sections of a wind turbine.



Vibration-resistant

LED lamps continue to work reliably for long periods even when subjected to strong vibrations. This allows them to be used in all locations and reduces the cost of maintenance and replacements.



Exceptional energy efficiency

The high energy efficiency of LED lights make them economical to use over the long term in all areas of wind turbine applications.



Shock-resistant

Even severe shocks have hardly any impact on LED lamps. This makes them easy to transport and also reduces downtimes for installation and replacements.



Cost-effective installation

Voltages from 21.5 V DC to 60 V DC enable conductors with small cross sections to be used. This significantly reduces materials and investment costs.



Weidmüller LED system for wind turbines

Advantages of the LED system



Costs



Quality



- Pluggable system
- No qualified electrician required for installation
- Tower builder saves installation time



- UPS system as backup for DC power supply in the event of a power failure
- Safe service



- Simple attachment with magnets or along the cable duct
- Tower builder saves installation time



- Suitable on- and offshore



- Easy to test with a test case (including battery and power supply)
- Tower builder saves time



- Mounting plates for LEDs and distribution boxes up to 100% customer-specific
- No waste of space, light on site



- Individual, assembly-friendly packaging of all components
- Tower builder saves time



- All components are optimally coordinated and can be easily expanded thanks to the flexible platform concept



- Predefined labeling of all components in accordance with the ePlan and assembly instructions
- Tower builder saves time



- Maintenance-free (zero failures in the field)



- Tested LED strings for reduced testing processes in the application
- Tower builder saves time

You benefit from the advantages of a system solution

We supply you with everything from a single source under one article number



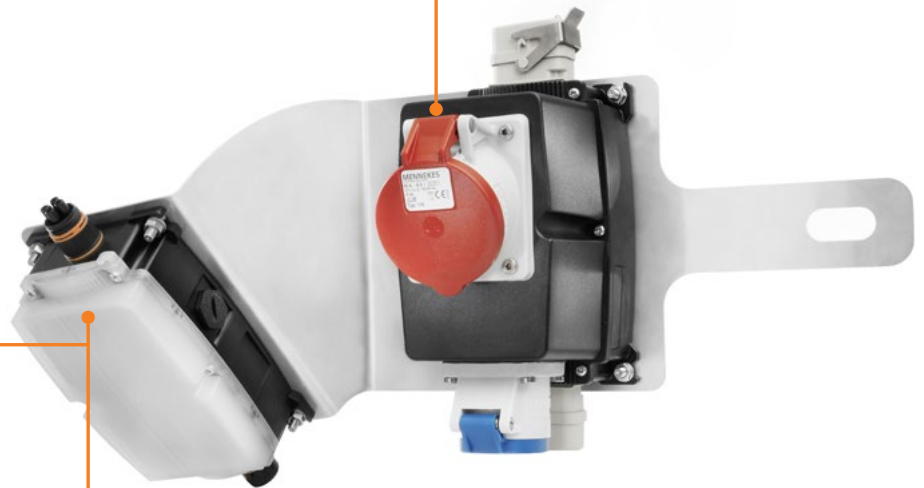
Weidmüller LED-solutions has everything you need to light up the interior of your wind turbines and supply them with power. Even during power cuts we ensure a reliable illumination with our battery-backed feed-in solution.

Individual outlets

The FieldPower® system enables customised use of compact power outlets at all levels and in all locations. This means that service staff, for instance, always have perfect access to power and thus save valuable time.

FieldPower® Mono LED* FieldPower® Mono LED K*

Non-directional lighting for illuminating entire rooms and larger areas. Provides optimum working conditions in the nacelle, hub and on the platforms.



FieldPower® Duo LED*

Lights facing both upwards and downwards for lighting up the wall area. Ideal for illuminating the ladders in the tower.



Pre-assembled cables

On request, we can supply power cables assembled according to your individual requirements. They are ready to install and equipped with our proven plug-in connectors.



Complete power supply system

We provide you with a power supply solution that is precisely tailored to specific requirements and environmental conditions. This includes everything from the power supply unit through to a UPS with central battery and any suitable add-on modules.



Feed-In Box

For 48V DC feed-in to our Fieldpower LED tower lighting. In the event of power loss, continued operation is ensured for 60 minutes.

- Power supply PRO MAX
- Fuse protection device
- Control Unit WCU for inspection and alert
- Test mode battery
- 230 V Schuko, 230 V CEE, 400 V CEE
- Cooling fan/ Heating (option)
- On / Off Switch, Status LEDs
- Multiplug feed-in (Harting or compatibel)
- Supply LED strings AC/DC
- Supply Outlets 230 V / 400 V
- Details acc. to customers Specs

Control Unit

The remote monitoring system provides status messages on the condition of the lighting system and can be easily integrated into existing wind farm systems. It also provides an option for controlling a visual alarm system in the tower as a perfect complement to existing monitoring systems.



* Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

LED customized solution

That's how your tower solution could look like



Pre-assembled system acc.to customers demands for wind turbine generators

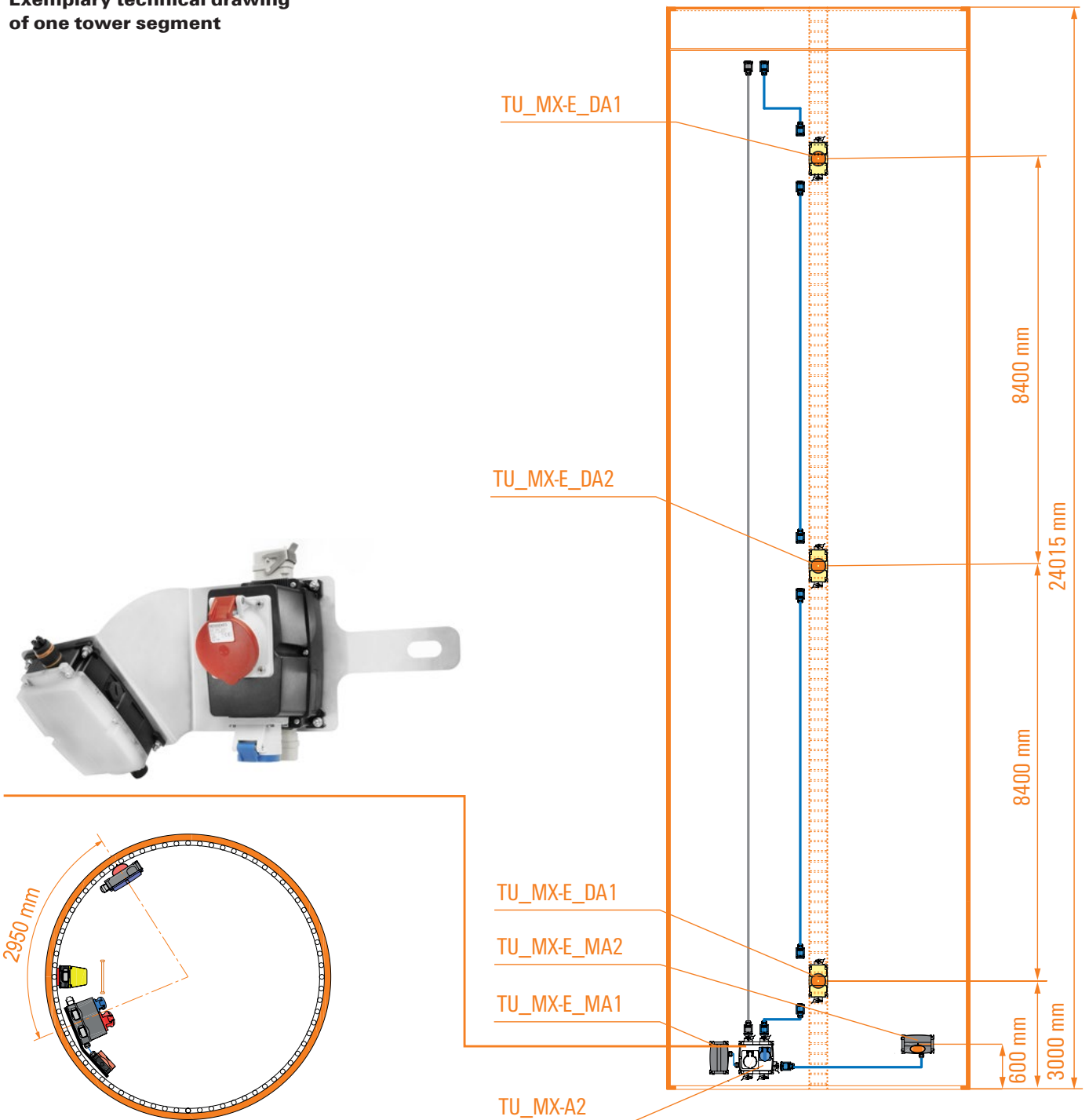
- Non-directional lighting for illuminating entire rooms and larger areas.
Provides optimum working conditions in the nacelle, hub and on the platforms.
- Bidirectional lighting for the perfect illumination of the ladder steps
- Easy fixing along cable channel or with magnets
- Fixing plates of LEDs and Outlet boxes up to 100% customised acc. to customer needs
- Pluggable segment to segment
- Reduced cable sizes
- Defined labeling of all components acc. to E-Plan and installation manual
- Individual, easy fitting packages of all components
- LED luminaires developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

Tested LED strings reduced test procedure at tower manufacturer.

Easy expansion, platform concept



Exemplary technical drawing of one tower segment



FieldPower® DUO LEDs - bidirectional lighting for ladders, stairs and more

Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

FP DUO AC RC MF



FP DUO DC RC MF SP



Technical data

Rated data to EN 60598-1	
Input voltage	100...250 V AC
Power rating	6 W
Rated current	25 mA @ 230 V AC
General data	
Amplitude of acceleration	5 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.25...1.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	Cool White, 6000K
Light current	496 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	I
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	I
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
EMC	
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	
Approvals	
UL 94 flammability rating	V-0
Note	

Input voltage	100...250 V AC
Power rating	6 W
Rated current	25 mA @ 230 V AC
General data	
Amplitude of acceleration	5 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.25...1.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	Cool White, 6000K
Light current	496 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	I
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	I
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
EMC	
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	
Approvals	
UL 94 flammability rating	V-0
Note	

Input voltage	20...60 V DC
Power rating	5 W
Rated current	20 mA @ 48 V DC
General data	
Amplitude of acceleration	5 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.5...2.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	Cool White, 6000K
Light current	496 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	II
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	II
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
EMC	
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	
Approvals	CE; CULUS; UKCA
UL 94 flammability rating	V-0
Note	

Ordering data

without magnet	
with magnet	
Note	

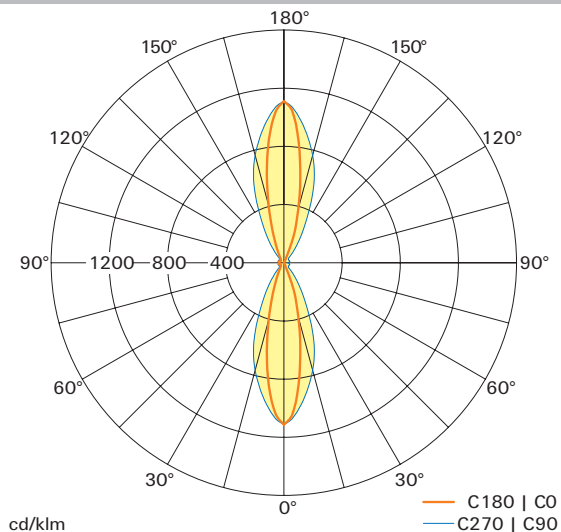
Type	Qty.	Order No.
FP DUO AC RC MF	1	2856890000
FP DUO AC RC MF MA	1	2891740000
Note		

Type	Qty.	Order No.
FP DUO DC RC MF SP	1	2815580000
FP DUO DC RC MF MA SP	1	2815570000
Note		

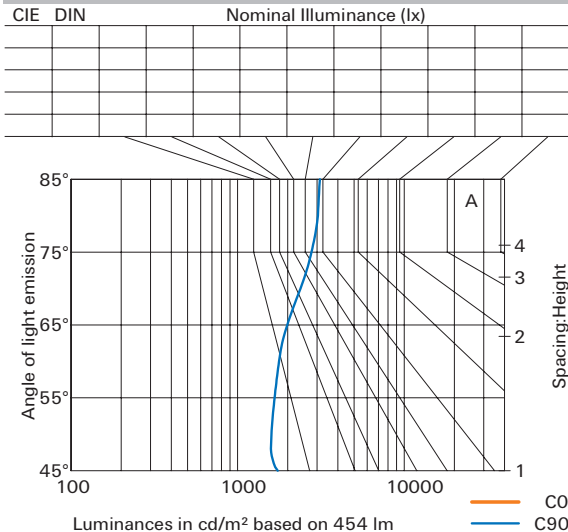




FP DUO LED DC



Söllner



FP DUO LED DC

Mounting height	Average illuminance	Beam Diameter
1 m	413 lux	0.41 m
2 m	103 lux	0.82 m
3 m	46 lux	1.24 m
4 m	26 lux	1.65 m
5 m	17 lux	2.06 m

496 lm Half beam angle 23° $\eta = 100\%$

Glare Evaluation

X = 4 H, Y = 8 H	S = 0.25 H
Reflection factors	70/50/20
UGR transversal	14.9
UGR axial	16.6

Classification

LITG	C63
EN	
BZ	
UTE	0.50 B + 0.50 T
CIE Flux Codes	79 86 93 50 100

Technical Description

Light exit	Cuboid 0.148 x 0.100 x 0.010 m
Lamps	1 x LED 5 W
Nominal luminous flux	496 lm
Nominal power	4.9 W
LOR	100 %

Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

* in preparation

FieldPower® Mono K LED – spotlighting for the important areas

Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

FP MONO K AC RC MF



FP MONO K DC RC MF SP



Technical data

Rated data to EN 60598-1

Input voltage
Power rating
Rated current

General data

Amplitude of acceleration
Amplitude of deflection
Connector cross-section, min./max
Efficiency class (according to EU Directive No. 874/2012)
Halogen
Height
Insulation voltage
LED operating life
Light colour (CCT)
Light current
Mounting position, installation notice
Peak acceleration, type L
Pollution severity
Protection class
Protection degree
Shape of the LED module
Shock resistance EN 60721-3-3
Short-circuit protection
Silicone
Surge voltage category
Type of connection
Type of mounting
Vibration resistance EN 60721-3-3

EMC

Interference immunity test acc. to
Interference radiation

Approvals

Approvals
UL 94 flammability rating

Note

Ordering data

without magnet
with magnet

Note

Input voltage	100...250 V AC
Power rating	6 W
Rated current	25 mA @ 230 V AC
Amplitude of acceleration	5 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.25...1.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	Cool White, 6000K
Light current	454 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	I
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	I
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	
UL 94 flammability rating	V-0

Type	Qty.	Order No.
FP MONO K AC RC MF	1	2856880000
FP MONO K AC RC MF MA	1	2891720000

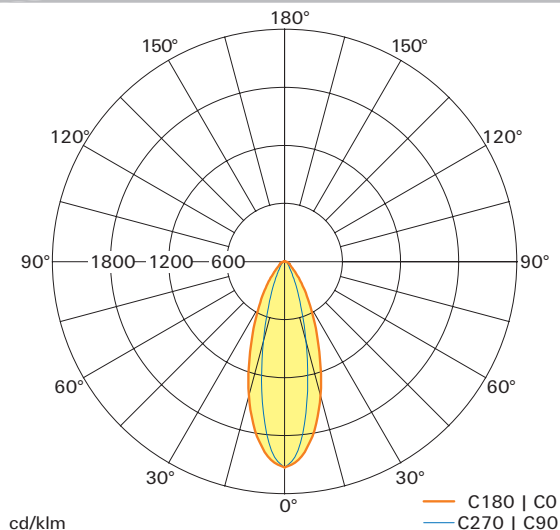
Input voltage	20...60 V DC
Power rating	5 W
Rated current	20 mA @ 48 V DC
Amplitude of acceleration	5 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.5...2.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	Cool White, 6000K
Light current	454 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	II
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	II
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	CE; CULUS; UKCA
UL 94 flammability rating	V-0

Type	Qty.	Order No.
FP MONO K DC RC MF SP	1	2815540000
FP MONO K DC RC MF MA SP	1	2815550000



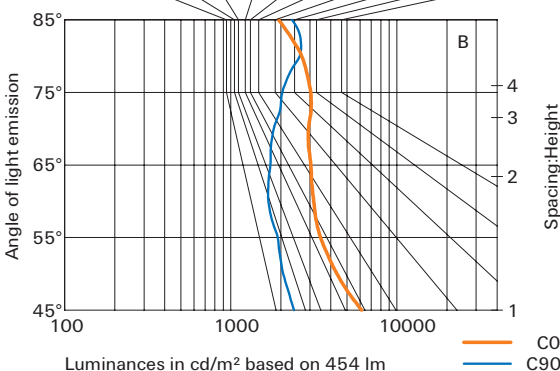


FP MONO LED K DC



Söllner

CIE	DIN	Nominal Illuminance (lx)									
A	A	2000	1000	750	500		300				
B	1		2000	1500	1000	750	500	300			
C					2000		1000	500	300		
D	2						2000	1000	500	300	
E	3							2000	1000	500	300



FP MONO LED K DC

Mounting height	Average illuminance	Beam Diameter
1 m	518 lux	0.73 m
2 m	129 lux	1.46 m
3 m	58 lux	2.19 m
4 m	32 lux	2.92 m
5 m	21 lux	3.65 m

φ=454 lm Half beam angle=2x20° LOR=100%

Glare Evaluation

X = 4 H, Y = 8 H	S = 0.25 H
Reflection factors	70/50/20
UGR transversal	17.7
UGR axial	15.1

Classification

LITG	A71
EN	
BZ	
UTE	0.99 A + 0.01 T
CIE Flux Codes	83 93 98 99 100

Technical Description

Light exit	Cuboid 0.148 x 0.100 x 0.010 m
Lamps	1 x LED 5 W
Nominal luminous flux	454 lm
Nominal power	4.4 W
LOR	100 %

Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

Fieldpower® Mono LED - general room illumination for working areas inside the tower, nacelle and hub

Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

FP MONO AC RC MF



FP MONO DC RC MF SP



Technical data

Rated data to EN 60598-1

Input voltage	100...250 V AC
Power rating	6 W
Rated current	25 mA @ 230 V AC

General data

Amplitude of acceleration	5 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.25...1.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	Cool White, 6000K
Light current	393 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	I
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	I
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary

EMC

Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015

Approvals

Approvals	
UL 94 flammability rating	V-0

Note

Ordering data

without magnet	
with magnet	

Note

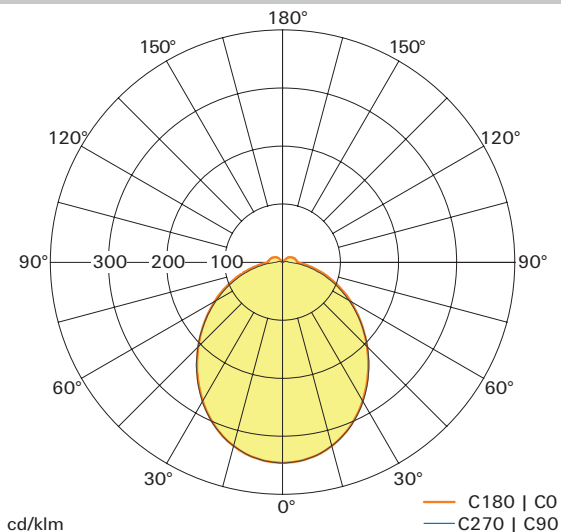
Type	Qty.	Order No.
FP MONO AC RC MF	1	2856870000
FP MONO AC RC MF MA	1	2891700000

Type	Qty.	Order No.
FP MONO DC RC MF SP	1	2815470000
FP MONO DC RC MF MA SP	1	2815480000



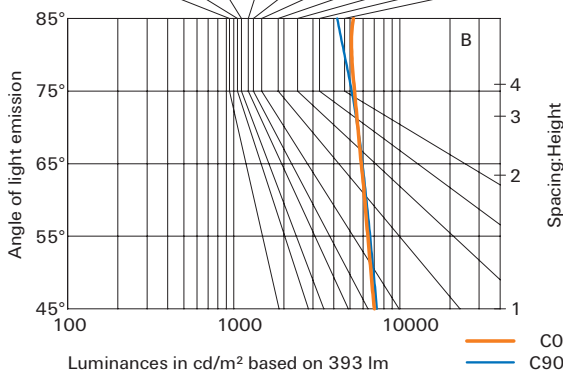


FP MONO LED DC

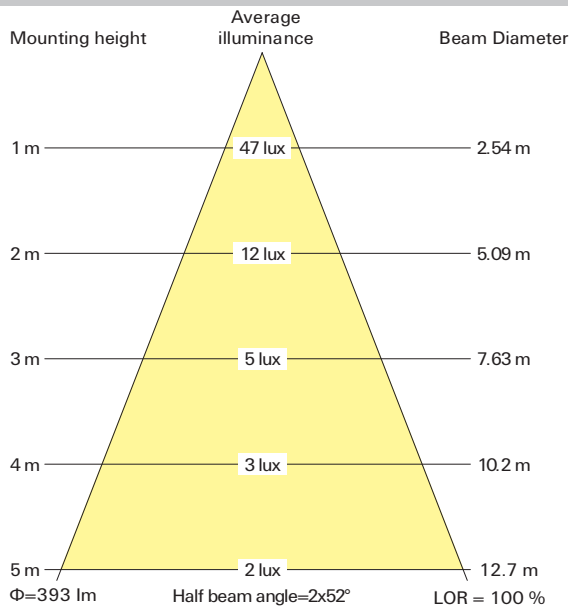


Söllner

CIE	DIN	Nominal Illuminance (lx)								
A	A	2000	1000	750	500		300			
B	1	2000	1500	1000	750	500	300			
C				2000		1000	500	300		
D	2					2000	1000	500	300	
E	3						2000	1000	500	300



FP MONO LED DC



Glare Evaluation

X = 4 H, Y = 8 H	S = 0.25 H
Reflection factors	70/50/20
UGR transversal	22.9
UGR axial	22.5

Classification

LITG	A41
EN	
BZ	
UTE	0.94 D + 0.06 T
CIE Flux Codes	47 77 93 94 100

Technical Description

Light exit	Cuboid	0.148 x 0.100 x 0.010 m
Lamps	1 x LED	5 W
Nominal luminous flux	393 lm	
Nominal power	4.8 W	
LOR	100 %	

Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

The WIPL - powerful illumination for all areas where a little more light is needed

Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

WIPL 20W DC RC M



WIPL 20W DC RC MF



Technical data

Rated data to EN 60598-1	
Input voltage	21.5...60 V DC
Power rating	20 W
Rated current	420 mA @ 48 V DC
General data	
Amplitude of acceleration	50 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.5...2.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	5700K
Light current	2000 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	II
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	II
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
EMC	
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	
Approvals	CE; CULUS; UKCA
UL 94 flammability rating	V-0
Note	

Input voltage	21.5...60 V DC
Power rating	20 W
Rated current	420 mA @ 48 V DC
Amplitude of acceleration	50 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.5...2.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	5700K
Light current	2000 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	II
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	II
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	CE; CULUS; UKCA
UL 94 flammability rating	V-0
Note	

Input voltage	21.5...60 V DC
Power rating	20 W
Rated current	420 mA @ 48 V DC
Amplitude of acceleration	50 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.5...2.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	5700K
Light current	2000 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	II
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	II
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	CE; CULUS; UKCA
UL 94 flammability rating	V-0
Note	

Ordering data

without magnet	
with magnet	
Note	

Type	Qty.	Order No.
WIPL 20W DC RC M	1	2820600000
WIPL 20W DC RC M MA	1	2820610000
Note		

Type	Qty.	Order No.
WIPL 20W DC RC MF	1	2856730000
WIPL 20W DC RC MF MA	1	2856740000
Note		



The WIPL - powerful illumination for all areas where a little more light is needed

Developed and intended to be used in accordance with DIN EN 60598-2-22 (specifies requirements for emergency luminaires)

WIPL AC RC M



WIPL AC RC MF



Technical data

Rated data to EN 60598-1	
Input voltage	100...250 V AC
Power rating	25 W
Rated current	100 mA @ 230 V AC
General data	
Amplitude of acceleration	50 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.25...1.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	5700K
Light current	2000 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	I
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	I
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
EMC	
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	
Approvals	
UL 94 flammability rating	V-0
Note	

Ordering data

without magnet	
with magnet	
Note	

Input voltage	100...250 V AC
Power rating	25 W
Rated current	100 mA @ 230 V AC
General data	
Amplitude of acceleration	50 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.25...1.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	5700K
Light current	2000 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	I
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	I
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw mounting
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
EMC	
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	
Approvals	
UL 94 flammability rating	V-0
Note	

Type	Qty.	Order No.
WIPL 20W AC RC M	1	2856860000
WIPL 20W AC RC M MA	1	2891800000
Note		

Input voltage	100...250 V AC
Power rating	25 W
Rated current	100 mA @ 230 V AC
General data	
Amplitude of acceleration	50 m/s ² (@ 9-200 Hz)
Amplitude of deflection	1.5 mm (2-9 Hz)
Connector cross-section, min./max	0.25...1.5 mm ²
Efficiency class (according to EU Directive No. 874/2012)	E
Halogen	No
Height	≤ 3000 m
Insulation voltage	<500 V (housing/PE)
LED operating life	> 50.000 h
Light colour (CCT)	5700K
Light current	2000 lm
Mounting position, installation notice	Arbitrary
Peak acceleration, type L	70 m/s ²
Pollution severity	2
Protection class	I
Protection degree	IP67
Shape of the LED module	Other
Shock resistance EN 60721-3-3	Class 3M3 portable
Short-circuit protection	Yes, internal
Silicone	No
Surge voltage category	I
Type of connection	Plug-in round connector with fixed number of poles
Type of mounting	Screw
Vibration resistance EN 60721-3-3	Class 3M3 sinusoidal, stationary
EMC	
Interference immunity test acc. to	Acc. to EN 61547
Interference radiation	acc. to EN 55015
Approvals	
Approvals	
UL 94 flammability rating	V-0
Note	

Type	Qty.	Order No.
WIPL 20W AC RC MF	1	2891790000
WIPL 20W AC RC MF MA	1	2891810000
Note		



IP 68 circular connectors

Screwable and clickable circular connectors

A



Our robust IP 68 round connectors enable quick and easy connection of cables and your application of choice.

- IP 68 protection class
- Screwable and clickable connection possible
- 2, 3 or 5 poles
- Cable connectors, panel connectors, h-distributor, protective caps and mounting tool available
- Smart and compact design to reduce installation times





Screwable circular connectors



- Plugs and sockets for installation in your application
- 2 pins
- IP 66/ IP 68
- Fast, screwable connection



- Plugs and sockets for connection to cables
- 2 pins
- IP 66/ IP 68
- Fast, screwable connection



- H-distributors
- 4 pins
- IP 68
- Fast, screwable connection



- Sealing cap for plugs and sockets
- Protection against dust and water during transport, connection and operation



- Mounting tool for the circular connectors above

Clickable circular connectors



- Plugs and sockets for installation in your application
- 3 pins
- IP 66/ IP 68
- Fast, screwable connection



- Plugs and sockets for connection to cables
- 3 or 5 pins
- IP 66/ IP 68
- Fast, screwable connection

Round connectors IP68 - connection technology for every use

RC F/M P2 SP

RC F/M P2 M20 SP



Technical data

Cable diameter, min./max.	7...13.5 mm
Coding	none
Conductor cross-section, min./max.	0.5...2.5 mm ²
Contact material	Brass
Contact surface	Brass
Min. dismantling length	25 mm
Protection degree	IP68
Rated current	17.5 A
Rated impulse withstand voltage	4 kV
Rated voltage	450 V
Shield connection	No
Stripping length	6
General data	
Housing main material	PA 66
Number of poles	2
Reverse polarity protection	Yes
Interlock	Twist locking
Type of connection	Screw connection
Approvals	
Approvals	CE
UL 94 flammability rating	V-0
Note	

Cable diameter, min./max.	7...13.5 mm
Coding	none
Conductor cross-section, min./max.	0.5...2.5 mm ²
Contact material	Brass
Contact surface	Brass
Min. dismantling length	25 mm
Protection degree	IP68
Rated current	17.5 A
Rated impulse withstand voltage	4 kV
Rated voltage	450 V
Shield connection	No
Stripping length	6
General data	
Housing main material	PA 66
Number of poles	2
Reverse polarity protection	Yes
Interlock	Twist locking
Type of connection	Screw connection
Approvals	
Approvals	CE
UL 94 flammability rating	V-0
Note	

Cable diameter, min./max.	7...13.5 mm
Coding	none
Conductor cross-section, min./max.	0.5...2.5 mm ²
Contact material	Brass
Contact surface	Brass
Min. dismantling length	25 mm
Protection degree	IP68
Rated current	17.5 A
Rated impulse withstand voltage	4 kV
Rated voltage	450 V
Shield connection	No
Stripping length	7
General data	
Housing main material	PA 66
Number of poles	2
Reverse polarity protection	Yes
Interlock	Twist locking
Type of connection	Screw connection
Approvals	
Approvals	CE
UL 94 flammability rating	V-0
Note	

Ordering data

Female	
Pin	
Note	

Type	Qty.	Order No.
RC F P2 SP	1	2903200000
RC M P2 SP	1	2903190000

Type	Qty.	Order No.
RC F P2 M20 SP	1	2860640000
RC M P2 M20 SP	1	2860650000

RC F/M P3 C



7...13 mm
none
0.25...1.5 mm ²
Brass
Brass
25 mm
IP68
17.5 A
2.5 kV
500 V
No
6
PA 66
3
Click locking
PUSH IN
V-0

Type	Qty.	Order No.
RC F P3 C SP	1	2992970000
RC M P3 C SP	1	2992960000

RC F/M P3 M20 C



7...13 mm
none
0.25...1.5 mm ²
Brass
Brass
25 mm
IP68
17.5 A
2.5 kV
500 V
No
6
PA 66
3
Click locking
PUSH IN
V-0

Type	Qty.	Order No.
RC F P3 M20 C SP	1	2992990000
RC M P3 M20 C SP	1	2992980000

RC F/M P5 C



7...13 mm
none
0.25...1.5 mm ²
Brass
Brass
25 mm
IP68
17.5 A
2.5 kV
500 V
No
6
PA 66
5
Click locking
PUSH IN
V-0

Type	Qty.	Order No.
RC F P5 C	1	2934520000
RC M P5 C	1	2934530000



H-distributor

RC D 4/4P



Technical data

Coding	none
Conductor cross-section, min./max.	0.5...2.5 mm ²
Contact material	Brass
Contact surface	Brass
Protection degree	IP68
Rated current	17.5 A
Rated impulse withstand voltage	4 kV
Rated voltage	450 V
Shield connection	No
Stripping length	7
General data	
Housing main material	PA 66
Number of poles	2
Reverse polarity protection	Yes
Interlock	Twist locking
Approvals	
Approvals	CE
UL 94 flammability rating	V-0

Note

Ordering data

Type	Qty.	Order No.
RC D 4/4P	50	2819550000

Note

Protective caps

PC RC F/M



Technical data

General data	
Protection degree	IP68
UL 94 flammability rating	V-2
Operating temperature	-40 °C...85 °C

Note

Ordering data

Type	Qty.	Order No.
Female	200	2820090000
Pin	200	2833850000
Note		



Get the most out of your system

BLADEcontrol® – more transparency for maximum yield



BLADEcontrol® is the pioneer in rotor blade monitoring. The well-known condition monitoring system increases turbine availability, reduces downtimes and ensures optimum efficiency. With broad knowledge and many years of experience in the wind power industry, we bring transparency to your turbine to increase cost efficiency, revenue and turbine safety. In this way, you improve efficiency and reduce your risks in the long term.

The rotor blades of a wind turbine are exposed to particularly high stresses. Gusts of wind, storms, icing or lightning can cause minor damage that is not visible from the ground. This kind of damage is often only detected during routine maintenance, by which point the amount of repair work required will have considerably increased. In the worst-case scenario, the wind turbine may need to be shut down for weeks, meaning that no power will be generated.

The BLADEcontrol® monitoring system continuously records the condition of each rotor blade individually and detects even minor changes. 24 hours a day, 365 days a year. As a result, problems are identified much earlier than with visual inspections, and it prevents damage from progressing in an uncontrolled manner. This reduces the risk of expensive repairs and increases the economic efficiency of the entire turbine.

The sensitive BLADEcontrol® sensor system detects damage right from its initial stages. This allows you to take appropriate measures in good time, helping to avoid any system downtime. Only in the case of serious damage does BLADEcontrol® send a signal to the turbine control system, which can then stop the turbine immediately and prevent blade breakage.

In addition to damage to the rotor blades themselves, BLADEcontrol® also detects aerodynamic imbalances, loose parts in the blade and misalignments of the hub or pitch. This way, the system makes an additional contribution to the operational reliability of the turbine and helps to ensure a high energy yield.

BLADEcontrol® is a monitoring system for rotor blades that has been continuously certified by Germanischer Lloyd (now: DNV) since 2008. It is the leading solution for rotor blade damage detection and in terms of monitoring experience.



After a lightning strike, for example, there is a high risk that damage may progress unnoticed. Thanks to continuous rotor blade monitoring with BLADEcontrol®, you are always on the safe side.



Calculate your individual return on investment
www.weidmueller.com/roi_calculator



Be aware of when icing becomes critical

BLADEcontrol® enables automatic restart



Cold and darkness make winter the peak season for supplying power. With decreasing yields from solar and water power, the demand for wind energy is greater than ever. With falling temperatures, however, many wind turbines shut down automatically as a result of the ice sensor on the nacelle signalling a risk of icing.

Accurate ice detection

BLADEcontrol® measures the level of icing directly on the rotor blades, which move through the frosty air at a rate of up to 250 km/h at the blade tips. The icing conditions at the blade tip are considerably different than those on top of the turbine nacelle, where some systems place ice sensors. Thanks to its direct measurement of ice formation where it actually occurs, namely on the blades, BLADEcontrol allows especially accurate detection. This helps you avoid the risk of icing going unnoticed or of wind turbines being taken out of service unnecessarily when significant ice formation has not actually occurred on the blades.

Automatic restart

BLADEcontrol® detects not only when rotor blades reach a critical icing level – but also when the danger has passed. As a result, the wind turbine can be restarted automatically at any time, day or night. There is no need for any on-site visual inspections. The automatic restart function is officially recognised and certified by DNV.

Effective measurement principle

BLADEcontrol® is based on a simple physical principle: due to its added weight, the ice build-up changes the natural vibration behaviour of the rotor blade, which in turn reduces the vibration frequency. Thanks to the highly sensitive sensor system and unique evaluation method, the system can achieve a measurement resolution in the millimetre range for detecting ice formation. Measurements can be taken both during operation and when the installation is at a standstill. This means that the turbine blades can be automatically checked before every startup to ensure that the blades are sufficiently free of ice.





Effectively reduce repair and replacement costs

Early damage detection thanks to BLADEcontrol®

Although visual rotor blade inspection reveals any damage apparent from the outside, the time at which the damage occurred may have long since passed. The defect may have significantly worsened since then. With BLADEcontrol®, damage can already be detected at its initial stage.

Detection of even minor changes

BLADEcontrol® measures changes in the natural vibration behaviour of the rotor blade. This allows the system to detect damage inside the rotor blade that is not visible from the outside. This type of detection works reliably under all weather conditions.

Accurate measurement and evaluation

Acceleration sensors in each rotor blade allow extremely accurate measurements – highly sensitive, multidimensional, and compactly housed in a single module. BLADEcontrol® combines the data from the rotor blades in the hub and transmits it to the nacelle. An evaluation unit installed in the tower base analyses and documents the data on a continual basis. Damage is detected, classified in relation to its severity, and then forwarded on.

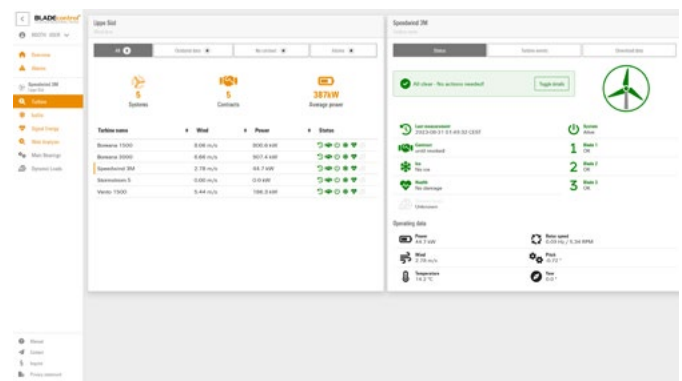
Fast response

BLADEcontrol® reports critical blade conditions directly to the turbine control system to enable a timely shutdown. All detected damage is simultaneously transmitted to the Weidmüller Monitoring Centre, where experts evaluate the data and prepare specific action recommendations for operators.

Simple status control

BLADEcontrol® WebVis is our online portal which enables you to check the status of your turbine at any time. The dashboard provides a quick overview of your entire turbine portfolio. The contents are logically grouped and various filter functions, such as direct switching to other turbines and time range selection, ensure an effective workflow. Detailed information is available for each turbine. If you have questions about the status, the contact button takes you directly to our monitoring experts.

The Weidmüller Monitoring Centre experts determine whether there is any further damage to the blade or main bearing, or even if there are dynamic imbalances, and immediately communicate the results to the customer. This allows our customers to optimize the planning of necessary repairs and eliminates high follow-up costs.



Invest cleverly – increase added value

Sustainable increase in yield with BLADEcontrol®



Cost efficiency and high profits are the most important factors when operating wind turbines. Continuous rotor blade monitoring with BLADEcontrol® has been proven to increase turbine availability and reduce maintenance and repair costs. The costs per installation are comparatively low, so the investment pays off quickly.

Quick amortisation

As the experience of our customers shows: BLADEcontrol® pays for itself after just a few years – and this applies to new and older turbines alike. The main reason for this is the increased yield thanks to the higher availability of turbines in winter months. As the turbine ages, however, the risk of rotor blade damage also increases. Early damage detection helps here to avoid unnecessarily high maintenance and repair costs, and therefore serves to optimise the efficiency of older turbines.

Easy retrofitting

BLADEcontrol® is already available for new turbines on request among many manufacturers. However, it is also easy to retrofit older systems. You tell us which functions you need, and we'll support you with the planning and carry out the installation and calibration for you, allowing you to increase the efficiency of your turbines just as you require.

BLADEcontrol® offers a certified solution for all application requirements:

- Reliable ice detection with automatic restart
- Damage detection with or without response of the machine control
- Damage monitoring and tracking with trend analysis by our Monitoring Centre

Secure yields with reduced cost risk

The total cost of a BLADEcontrol® system is only about ten percent of the cost of replacing a single 45-metre rotor blade. In other words, if just one blade replacement can be avoided over 20 years in a wind park with 10 turbines, then the purchase will have already paid off.



BLADEcontrol®
CONDITION MONITORING SYSTEM

The unique advantages:

- Early damage detection
- Automatic restart
- Damage prevention
- Reduced repair costs
- Increased power generation
- Improved efficiency



Calculate your individual return on investment
www.weidmueller.com/roi_calculator

Wind turbines compatible with BLADEcontrol®

BLADEcontrol® has already been installed in the following wind turbine types

Manufacturer	WPI type	Manufacturer	WPI type	Manufacturer	WPI type
ACCIONA wind power		KENERSYS		Vestas	
	Acciona AW1500		Kenersys K82		Vestas V90 1800KW
	Acciona AW116 3MW		Kenersys K100		Vestas V90 2MW Mk5
ALSTOM ECOTÉCNIA			Kenersys K110		Vestas V90 2MW Mk7
	ECO80	LEITNER			Vestas V90 3MW Mk8
CSIC (Chongqing) Haizhuang Windpower Equipment			Leitwind LTW80		Vestas V90 3MW Mk9
	H102-2.0MW		Leitwind LTW90-HH80		Vestas V90 2MW Mk3
	H93-2000L	LEITWIND			Vestas V90 2MW Mk8
Dongfang Electric Corporation			Leitwind LTW77-1500		Vestas V90
	DEC 1.5 MW	Mingyang Smart Energy Group			Vestas V90 2MW
	DEC 7.5-204		Mingyang MY1.5 SH-82		Vestas V100 Mk10B
Doosan			Mingyang MY2.0-104/85		Vestas V100-1.8 MW Mk7.4
	Doosan DS205-8MW		MySE3.0-135		Vestas V100-2.0 MW Mk10B
ENERCON GmbH		Mitsubishi Heavy Industries Europe			Vestas V100-1.8 MW Mk9
	Enercon E70/2000		Mitsubishi SeaAngel		Vestas V100-2.6 MW Mk9
	Enercon E82/2000	Nordex Energy			Vestas V100-2.0 MW Mk7H
	Enercon E-126 EP3		Nordex N60/1300 KW		Vestas V105/3450 Mk3A
eno energy systems			Nordex N80		Vestas V105/3600 Mk3A
	eno 100		Nordex N90		Vestas V110/2MW
	eno 114		Nordex N100		Vestas V112/3450 Mk3A
	eno 126		Nordex N117		Vestas V112/3600 Mk3A
	eno 140	Senvion			Vestas V112/3000
	eno 152		Senvion MM82		Vestas V112/3000 Mk1A
	eno 160 5.4 MW		Senvion MM92/2050		Vestas V112/3000 Mk1B
	eno 160 6.0 MW		Senvion MM100		Vestas V112/3300 Mk2A
Envision Energy			Senvion 3.XM 3.4M104		Vestas V112/3300 Mk2C
	Envision SC1 4MW		Senvion 3.XM 3.2M114		Vestas V112/3450 Mk2C
Fuhrländer			Senvion 3.XM 3.0M122		Vestas V112/3300 Mk3A
	Fuhrländer FL MD/77		Senvion 5M		Vestas V117/3300 Mk3B
	Fuhrländer FL 2500/90		Senvion 6.XM		Vestas V117/3300 Mk2A
	Fuhrländer FL 2500/100	Shanghai Electric Windpower Group			Vestas V117/3300 Mk2C
	Fuhrländer FL 2500/104		ShanghaiElectric 1.25MW		Vestas V117/3450 Mk2C
FWT			ShanghaiElectric W3600-90-116		Vestas V117/3450 Mk3A
	FWT 3000		ShanghaiElectric 6MW (SWT-6.0-172)		Vestas V117/3450 Mk3A
GE		Siemens			Vestas V117/3450 Mk3B
	GE 2.3		Siemens SWT-2.3-93		Vestas V117/4200 Mk3E
	GE 2.5-100		Siemens SWT-3.2-113		Vestas V117/3600 Mk3A
	GE 2.75-103		Siemens SWT-3.0-113		Vestas V126/3300 Mk3A
	GE 2.85-103		ADWEN M5000 - 116		Vestas V126/3300 Mk2A
	GE 3.2-103		Siemens SWT-4.2-130		Vestas V126/3300 Mk2C
	GE 4.2-117		Siemens SWT-3.6-130		Vestas V126/3450 Mk2C
	GE 2.5-120		ADWEN AD 5-135		Vestas V126/3450 Mk3A
	GE 2.75-120		Siemens SWT-3.15-142		Vestas V126/3450 Mk3B
	GE 2.X-127 (Legacy)		Siemens SG6.6-155		Vestas V126/3450 Mk2D
	GE 3.2-130		ADWEN AD 8-180		Vestas V126/3600 Mk3B
	GE 3.8-130		Siemens SWT-4.0-146		Vestas V126/3600 Mk3A
	GE 3.6-137	Sinovel Wind Technology			Vestas V136/3450 Mk3B
	GE 3.0-137		SL1500		Vestas V136/4000 Mk3E
	GE 3.4-137	SkyWind			Vestas V136/4200 Mk3E
	GE 3.8-137		SkyWind		Vestas V136/3450 Mk3A
	GE 4.8-158 Cypress	VENSYS Energy			Vestas V136/4200 Mk3F
	GE 5.3-158 Cypress		Vensys 1.5MW/77		Vestas V136/3000 Prototype
	GE 5.5-158 Cypress		Vensys 1.5MW/82		Vestas V136/3600 Mk3B
	GE 6.1-164 Cypress		Vensys 2.5MW/100		Vestas V136/3600 Mk3A
	GE Haliade-X 12		Vensys 2.5MW/112		Vestas V150/4000 Mk3E
Goldwind Science & Technology			Vensys 4.1MW/115		Vestas V150/4200 Mk3E
	Goldwind GW82		Vensys 3MW/120		Vestas V150/5600 Mk0A EnVentus
	Goldwind GW87		Vensys 3.8MW/126		Vestas V150/6000 Mk0A EnVentus
Guodian United Power Technology Company			Vensys 3.5MW/136		Vestas V150/4300 Mk3E
	Guodian UP86	Vestas			Vestas V162/6000 Mk0A EnVentus
Huolinhe			Vestas V80-2MW		Vestas V162/5600 Mk0A EnVentus
	DF2.0-87		Vestas V80 2MW Mk8		Vestas V162/6200 Mk0A EnVentus
			Vestas V90 2MW Mk8C		

If a specific WPI is not included in the list, this does not mean that this WPI cannot be equipped with BLADEcontrol®. Please contact us in these cases.



BOLTcontrol bolt breakage detection for wind turbines

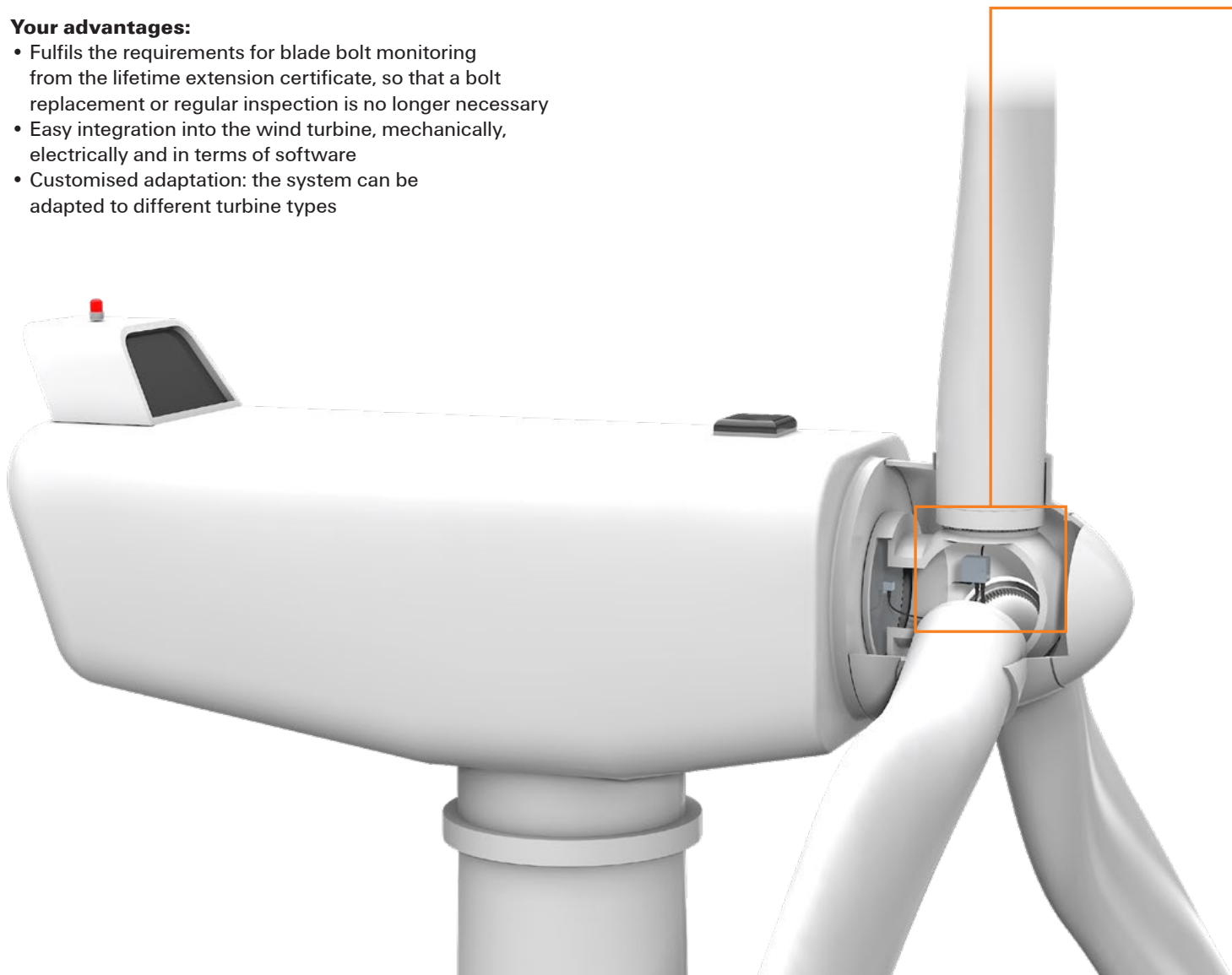
Monitor blade bearing bolts safely, permanently and easily



BOLTcontrol is a monitoring system that detects broken bolts in wind turbines. The system prevents consequential damage by holding the broken bolts securely in place. The patented monitoring system detects when a rotor blade bolt breaks and falls against the detection plate. By continuously monitoring the bolts, BOLTcontrol minimizes downtimes, reduces repair costs and ensures the safe continued operation of the turbine.

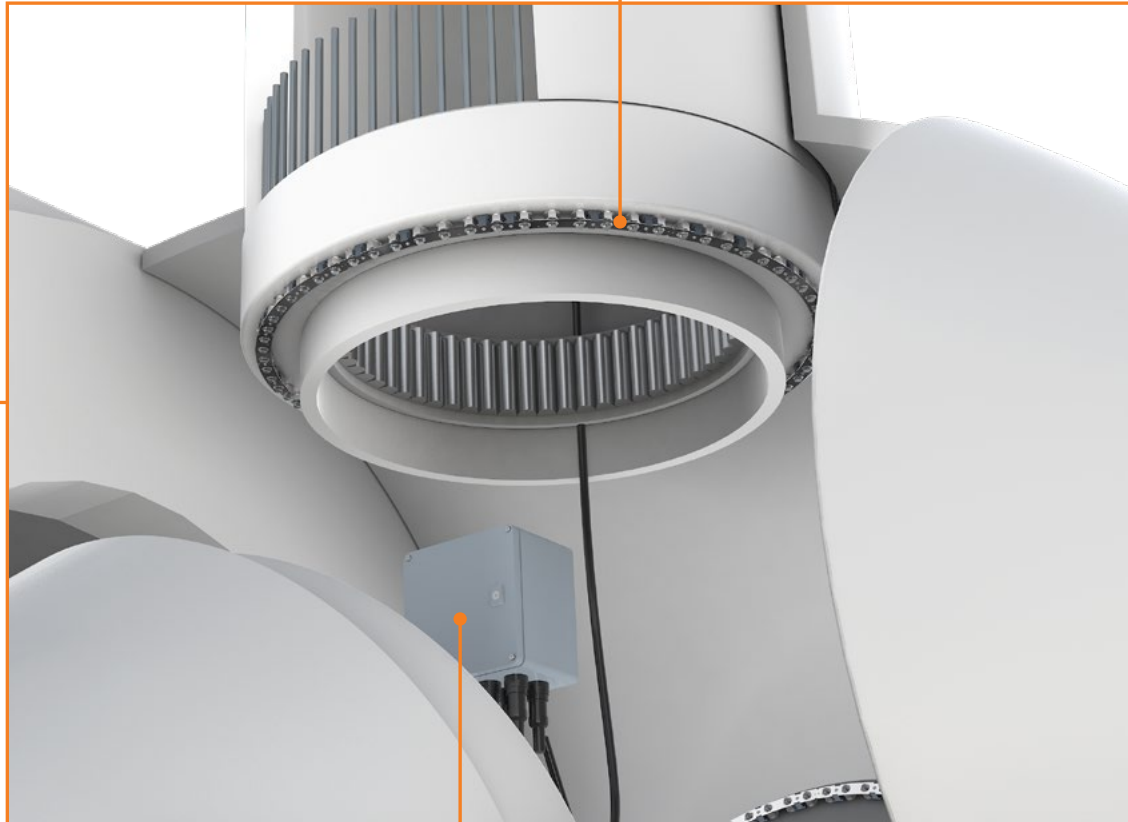
Your advantages:

- Fulfills the requirements for blade bolt monitoring from the lifetime extension certificate, so that a bolt replacement or regular inspection is no longer necessary
- Easy integration into the wind turbine, mechanically, electrically and in terms of software
- Customised adaptation: the system can be adapted to different turbine types





Detection plates for measuring and holding back broken bolts



Evaluation unit with interface to the control system

Detection plates for measuring and holding back broken bolts on the rotor blade bearing



Variants for different wind turbine types



Evaluation unit as a stand-alone device



Evaluation unit for cabinet integration



Early detection of damaged nuts

TwinCap® – Sensors for reliable condition monitoring



During the lifetime of a wind turbine, the bolts are exposed to dynamic forces that can lead to cracks, damages and fractures. For a safe and reliable operation of the wind turbine, every single bolt must be functional and undamaged.

A broken bolt nut is an indicator of a crack in the blade bearing of the rotor blades. As soon as a bolt nut cracks, the TwinCap sensors detect the damage by breaking the circuit in the sensor string. An evaluation unit signals the damage to the control system of the wind turbine in order to shut it down. This prevents cost-intensive consequential damage. The sensors, which are wired in series, are fixed to the screw flange by magnets, which allows the sensors to be mounted and dismantled easily and without tools. They are encapsulated by a casting compound and are therefore also suitable for offshore applications.

Weidmüller supplies the sensors and the evaluation unit including mounting accessories and connecting cables. By making minor customizations to the interfaces and the control of the evaluation unit, it is possible to create a customer-specific solution for other turbine types or applications.

Specifications:

- Detects a crack in bolt nuts of 2 mm at the outer edge of a M30 bolt nut
- Protection class IP68 / offshore robust
- Integrated LED to indicate a nut break
- Gold plated contacts
- Shock and vibration resistance
- Expected lifetime >10 years
- Temperature range -40...70 °C
- Mounting via magnetic feet





Sensors

- To detect nut breakages
- Daisy chain, minimized wiring
- Fixed with magnets
- Easy mounting and dismounting
- 24 V DC
- Up to 80 sensors in series

Evaluation unit

- Located in the blade root
- Integrated into the pitch system
- Automatic shutdown
- Multi input voltage range



Drag chain cable
connection between sensor string
and evaluation unit

Ordering data

Type	Description	Order No.
FRS TWC M30 SC 10	Sensor Set with 10 Start Caps	2881690000
FRS TWC M30 MC 25	Sensor Set with 25 Middle Caps	2861190000
FRS TWC M30 EC 10	Sensor Set 10 End Caps	2881700000
SAIBP-M-5A-4/8-M12	Field attachable connector, M12, Female socket, straight	2681620000
SAISP-M-5A-4/8-M12	Field attachable connector, M12, Male socket, straight	2681600000
SAIL-M12BG-4S10T	10m drag chain cable, M12, Female / open cable end	1283321000



TwinCap®

FRS TWC M30 SC 10

FRS TWC M30 MC 25



Technical data

Sensor specification		
Housing main material	PA66/6	PA66/6
Contact surface	gold plated	gold plated
Protection degree	IP68	IP68
Resistance against	grease, oil, lubricants	grease, oil, lubricants
Shock resistance	150 m/s ² @ 11 ms	150 m/s ² @ 11 ms
Vibration resistance	1.5 mm @ 9...200 Hz	1.5 mm @ 9...200 Hz
UL94 flammability rating	V-0	V-0
Type of connector	M12 male plug, 4 pin	Magnet
Type of mounting	Magnet	10 years
Expected lifetime	10 years	24 V DC
Electrical data		
Sensor supply voltage	24 V DC	24 V DC
Environmental ratings		
Operating temperature	-40...+70 °C	-40...+70 °C
Storage temperature	-40...+70 °C	-40...+70 °C
Temperature changes	up to 1 °C / min	up to 1 °C / min
Humidity	0...98 %	0...98 %
Approvals		
Standards	UL	UL
Certifications	TÜV	TÜV

Ordering data

Type	Qty.	Order No.	Type	Qty.	Order No.
FRS TWC M30 SC 10	10	2881690000	FRS TWC M30 MC 25	25	2861190000
Further information on request			Further information on request		

Note

FRS TWC M30 EC 10



PA66/6

gold plated

IP68

grease, oil, lubricants

150 m/s² @ 11 ms

1.5 mm @ 9...200 Hz

V-0

Magnet

10 years

24 V DC

-40...+70 °C

-40...+70 °C

up to 1 °C / min

0...98%

UL

TÜV

Type	Qty.	Order No.
FRS TWC M30 EC 10	10	2881700000
Further information on request		



Maximising system availability

Reliable and future-proof protection



The continuous increase in limit values within the standards, put great emphasis on the need for all-round, reliable surge protection. In response to these growing requirements the VPU, VSPC and VSSC lightning and surge protection series offer standard exceeding protection for all kinds of applications. Based on a combined varistor gas discharge technology the VPU series is a future orientated series of products that protect your energy grid and power supply at the highest level. However, you will not just be protecting your plant, but also your planning processes. Conformity with standards for at least five years means that you can minimise your planning iteration steps and the redesigns associated with them.

Many intelligent product features help installers during installation and maintenance specialists during their servicing of the lightning and surge protection system. Equipped in this way, the VPU series provides a long-lasting, safe and future-proof lightning and surge protection solution for your system.

Our pluggable VSPC surge protection is characterised by the highest protective functions with compact dimensions. The arrestors of the modules can be removed, measured or exchanged during running operation impedance-neutral – without interrupting the measuring circuit. These features make this product the ideal secure protection mechanism for interfaces within instrumentation and control circuits.





VARITECTOR Lightning and Surge Protection Solutions for wind energy generation

Protection for energy systems VPU I, VPU II and VPU III



Surge protection products effectively reduce the interference coupling that can occur from transient surge voltages, even significantly below the limits prescribed by insulation coordination according to EN 60664-3/DIN VDE 0110-3.

Protection for energy systems VPU II ASI



All products of the VPU AC series have optical signaling. Variants with a pre-warning display enable uninterrupted protection. The remote signaling output indicates the pre-warning status.

Protection for instrumentation and control (I&C) VSPC & VSSC



Overvoltage coupling along the conductor path may disturb or destroy sensitive signal inputs. It is important to provide protection in the immediate vicinity of I&C devices. Weidmüller's broad product range for the I&C sector offers products in a two-piece, pluggable design and modular terminals for tension clamp or screw connection.

Protection for data interfaces VDATA, VSPC & VSSC



"Data transmission" is the transfer of characters, numbers, statuses and measurements, between different, decentralised units. "Decentralised units" are controls, computers, measurement sensors and actuators. Appropriate overvoltage protection is essential for such sensitive areas.



Visit our website for more information
www.weidmueller.com/lightning-and-surge-protection

Advantage Status Indication (ASI)

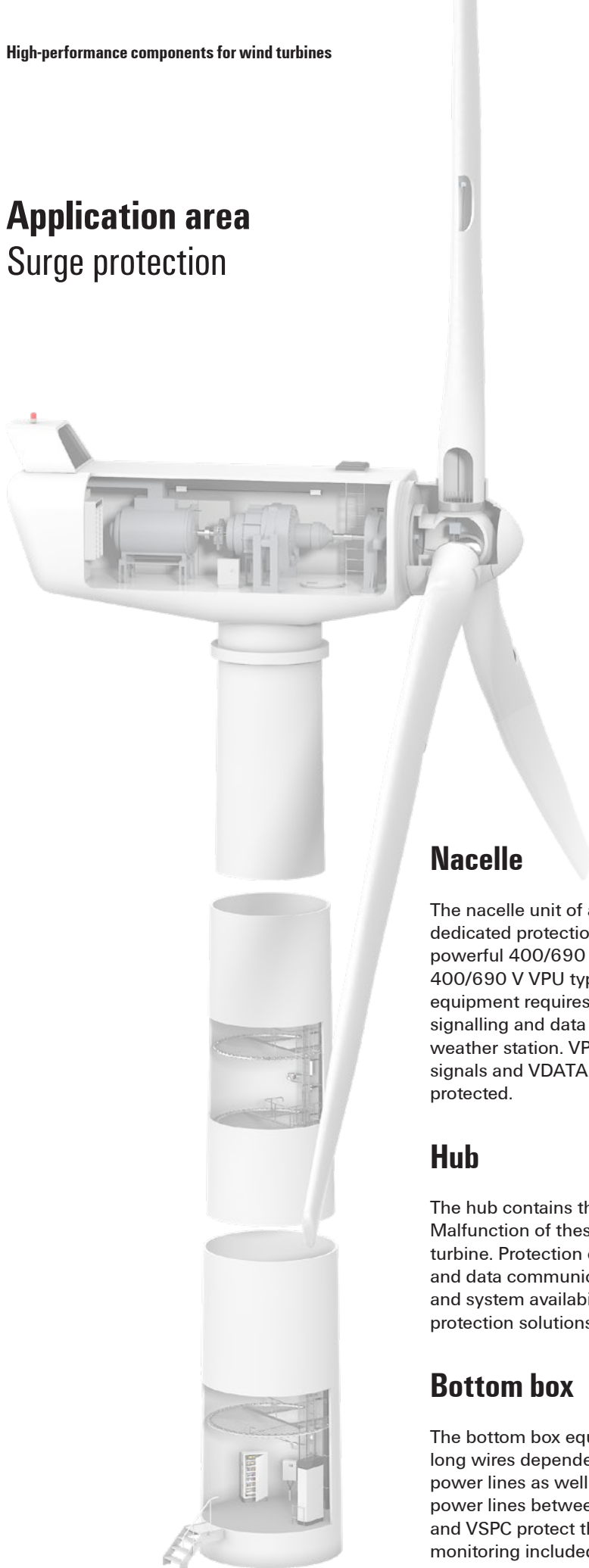
The VPU AC II Y series is equipped with ASI – Advanced Status Indication technology. The yellow status signal indicates that the product is approaching its performance limit due to frequent overvoltages. Your system is still protected because the arrester units are redundant with two varistors. If a varistor fails, full protection is still available. This status window and at the remote signaling contact. Only when showing the red status the arrester is completely disconnected from the power grid.



Application area

Surge protection

A



Nacelle

The nacelle unit of a wind turbine contains multiple systems that require dedicated protection concepts. Generator lines need to be protected with powerful 400/690 V protection units e.g. with a three-pole 400/690 V VPU type I and II classified protection unit. Sensor box equipment requires power line protection for 230 V supply as well as signalling and data line protection e.g. for the incoming signals from the weather station. VPU 300 V power components, VSPC for measurement signals and VDATA for ethernet lines ensures that the equipment is safely protected.

Hub

The hub contains the sensitive electronics of the pitch control systems. Malfunction of these systems could cause a total breakdown of the turbine. Protection concepts for the power supply, monitoring systems and data communication systems have to ensure a complete protection and system availability. VPU 300 V, VSPC and VDATA deliver total protection solutions for these kind of elements.

Bottom box

The bottom box equipment is connected to the top box equipment via long wires dependent upon the turbine type. This requires protection of power lines as well as signal lines at both ends. The same is true for the power lines between generator and inverter. VPU 400/690 V products and VSPC protect the lines reliably and if needed, with real time status monitoring included.



Hub and nacelle



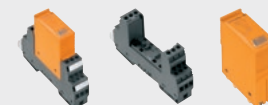
Type	Order No.
VPU AC II 1+1 R 300/50	2591070000
VSPC 4SL 24VAC R	8951600000
VSPC BASE 4SL FG R	8951760000
VDATA CAT 6	1348590000



Type	Order No.
VPU AC II 1+1 R 300/50 Y	2639340000



Type	Order No.
VSPC 4SL 24VAC R	8951600000
VSPC BASE 4SL FG R	8951760000
VSPC 2SL 24VAC R	8951640000
VSPC BASE 2SL FG R	8951780000



Nacelle and tower



Type	Order No.
VPU AC II 3 R 350/50	2591110000



Type	Order No.
VSPC 4SL 24VAC R	8951600000
VSPC BASE 4SL FG R	8951760000



Type	Order No.
VPU II 1 1000V/40kA AC	1473440000
VPU II 1 R 1000V/40kA AC	2811930000



Tower base



Type	Order No.
VPU AC II 3 R 300/50 Y	2639330000



Type	Order No.
VPU AC I 3+1 R 440/25 LCF	2619260000



Type	Order No.
VPU AC I 3+1 R 440/25 LCF	2619260000
VPU AC II 3 R 750/35	2591320000



Availability at the highest stage

Reliable and future-proof switching

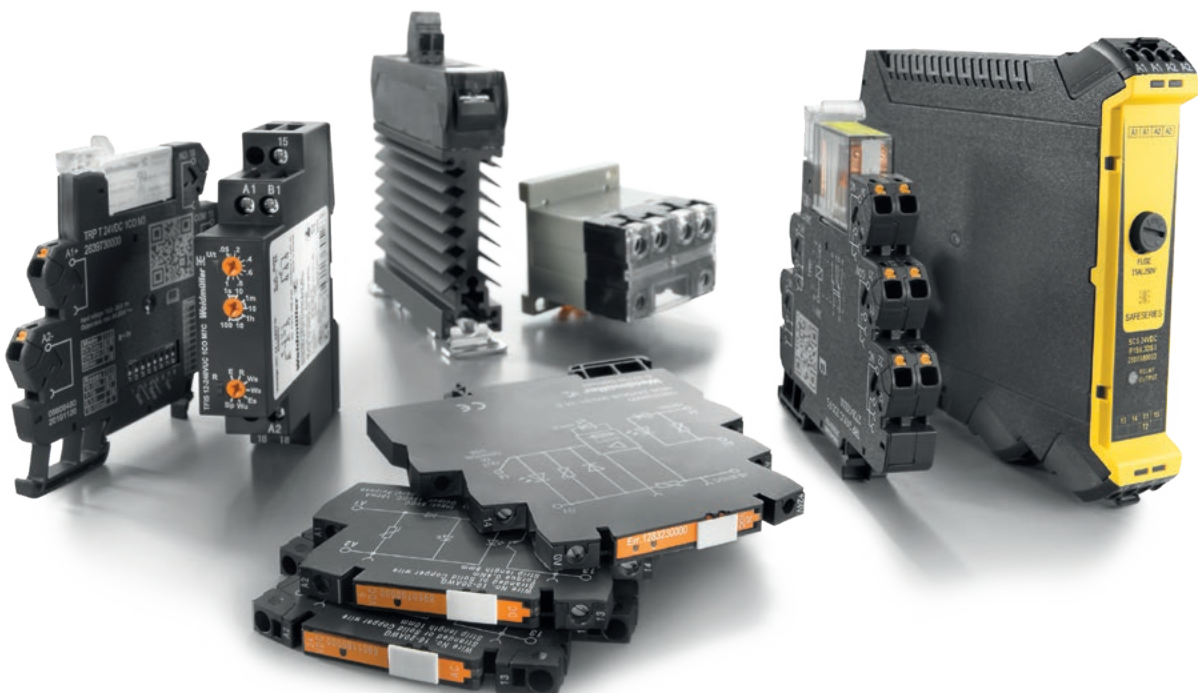


Whether switching, separating, amplifying or multiplying: Relays perform a multitude of different tasks in industrial applications - including in the wind industry. Optimizing the control cabinet infrastructure plays a decisive role in this. In response to these growing demands, Weidmüller offers a relay portfolio with decades of technical expertise combined with comprehensive understanding of the wind market.

Klippon® Relay offers high-quality relay modules and solid-state relays that meet wind turbines requirements. Thanks to PUSH IN technology, our relays can be installed easily, quickly and conveniently, resulting in a significant reduction in wiring time. In addition, the TERMSERIES product range offers multi-voltage inputs with an input voltage range of 24 - 230 V UC, which reduces the width of your stock.

Our relay range offer special designed relays with a special contact design to reliably switch LED lights. This for sure includes our 48 V DC tower lighting solutions from Weidmueller.

At the same time, the high vibration requirements for wind turbines are also met. Thus equipped, the Klippon® Relay series offers a durable, safe and quality-proof solution for the control cabinets of your wind turbine.

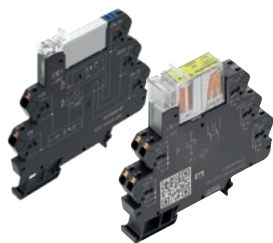




Best application fit

Tailored solutions based on standard products

Modular 6 mm relay modules **TERMSERIES**



- Pluggable relays and solid-state relays
- Easy replacement in a modular system
- Large illuminated ejection lever as status LED
- Integrated marker holder

Relays with extra high vibration resistancy **MCZ-TRAK**



- Tested according to DIN EN 50155
- Special requirements for:
 - Operating voltage
 - Temperature range
 - Shock and vibration resistance

High-quality universal relays **D-SERIES**



- Relays for the separation of input and output signals in industrial automation
- Pre-assembled KITS consisting of relay socket and retaining clip
- Tailor-made accessories from cross-connections to marker

All Weidmüller KITS (complete modules) are function- and insulation-tested

Selection guide for electro-mechanical relay modules



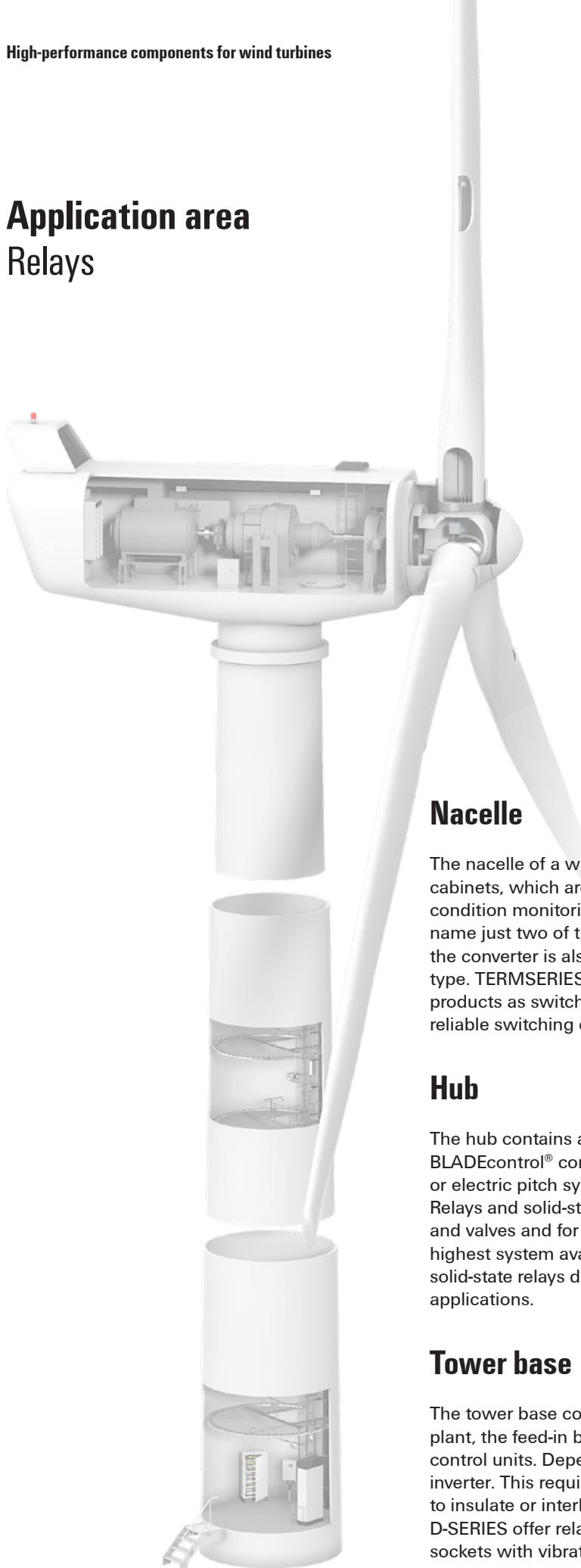
Our **digital selection** guide will assist you to find the right relay for safe and reliable switching of special loads.
www.weidmueller.com/relayselector



Application area

Relays

A



Nacelle

The nacelle of a wind turbine contains several systems and control cabinets, which are equipped with relays. These are switching unit for condition monitoring systems or the top box for general functions, to name just two of the many systems inside the nacelle. In some turbines, the converter is also located in the nacelle, this depends on the tower type. TERMSERIES relays and solid-state relays deliver space saving products as switching amplifier or for signal interlocking. Furthermore, for reliable switching of LED lights.

Hub

The hub contains a rotor blade heater that can be controlled by our BLADEcontrol® condition monitoring system. Furthermore, the hydraulic or electric pitch system for rotor blade adjustment is located in the hub. Relays and solid-state relays as reliable switching amplifier for contactors and valves and for signal insulation between different boxes ensure highest system availability on smallest place. TERMSERIES relays and solid-state relays deliver a wide range of products for these kind of applications.

Tower base

The tower base contains the switching unit for the ventilation of the plant, the feed-in box for the interior lighting of the tower and various control units. Depending on tower type, the tower base also contains the inverter. This requires relays for signal insulation and contact multiplying to insulate or interlock between the different systems. RIDERSERIES and D-SERIES offer relays with multiple channels and wiring optimized sockets with vibration resistant and fast PUSH IN connections.



Hub and nacelle



Type	Order No.
TRP 24VDC 1CO	2618000000
TRP 24VDC 1CO AU	2618110000
TRP 24-230VUC 1CO ED2	2663010000
MCZ R 48...110Vdc 1CO TRAK	8713910000
MCZ R 48...110VDC 1CO AU TRAK	8790500000

Type	Order No.
TOP 24VDC 230VAC1A	2618420000
TOP 24VDC 24VDC2A	2618720000
TOP 24-230VUC 24VDC2A ED2	2663080000

Type	Order No.
TRP 24VDC 1CO	2618000000



Nacelle and tower



Type	Order No.
TRP 24VUC 2CO FG	2706430000
RCIKITZ 24VDC 2CO LD/FG	1218390000

Type	Order No.
TRP 24VDC 1CO	2618000000
TRP 24VDC 1CO 16A	2618100000
TRP 24VDC 1NO HC	2618090000
TRP 24-230VUC 1NO HC ED2	2663130000
TRP 24-230VUC 2CO ED2	2663040000
TRP 24VDC 2CO	2618400000

Type	Order No.
TRP 24VDC 1NO HCP	2617930000
TRP 24-230VUC 1NO HCP ED2	2663140000



Tower base



Type	Order No.
DRIKITP 24VDC 2CO LD/PB	2576190000
DRMKITP 24VDC 4CO LD/PB	2576140000

Type	Order No.
TRP 24VUC 2CO FG	2706430000
RCIKITZ 24VDC 2CO LD/FG	1218390000



Switch-mode power supply units

Large product assortment – Tailored solutions for optimal fit.



The PROtop series is made for harsh environments, long lifetimes & high reliability. For instance is the PROtop providing guaranteed operating data at -40°C continuous operating and a very high vibration resistance. The new DCL technology for reliably tripping of circuit breaker is just as mandatory as the integrated ORing MOSFET for direct parallel connection or the optional plug-on communication modules for data monitoring or remote control.

Our PROmax series is a very good choice for moderate environmental conditions and provides a start-up temperature of -40°C. Even this series has a perfectly balanced and robust design for the use in wind mills and can withstand ambient temperature of up to 70°C.

The combination of load monitoring elements and potential distribution terminals saves up to 50 % space and up to 20% time with wiring work, while the flexible compatibility of numerous single-channel and four-channel variations optimises material costs. maxGUARD offers you the benefits of a modular, highly flexible system that can be optimally adapted to any application.





High-performance power supplies

Maximum power for all environments

Innovative power supply units **PROtop**



- Optimum efficiency levels (up to 95.3 %) for sustainable energy savings
- High dynamic range thanks to unique DCL technology
- Communication modules for condition monitoring
- Direct parallel connection through integrated ORing MOSFETs
- Wide range of approvals

Powerful supply unit **PROmax**



- Reliably copes with continuous overload of up to 20% or short-term peak loads of 300%
- Safe operation with high power reserves up to 60 °C and start-up at -40 °C
- Capable of handling continuous overload or transient peak loads with ease
- Suitable for confined spaces thanks to their low width

Intelligent electronic load monitoring **maxGUARD**



- Modular, highly flexible system that can be optimally adapted to any application
- Potential distributors with a 6.1 mm pitch ensure space-savings of up to 50 % on the rail
- Time savings of up to 20 % due to unique cross-connectors between load monitoring and potential distribution terminals
- Extreme ease of service during commissioning and maintenance
- Practical disconnecting lever for simple galvanic isolation of the load circuit

High performance and compact design **PRObas**

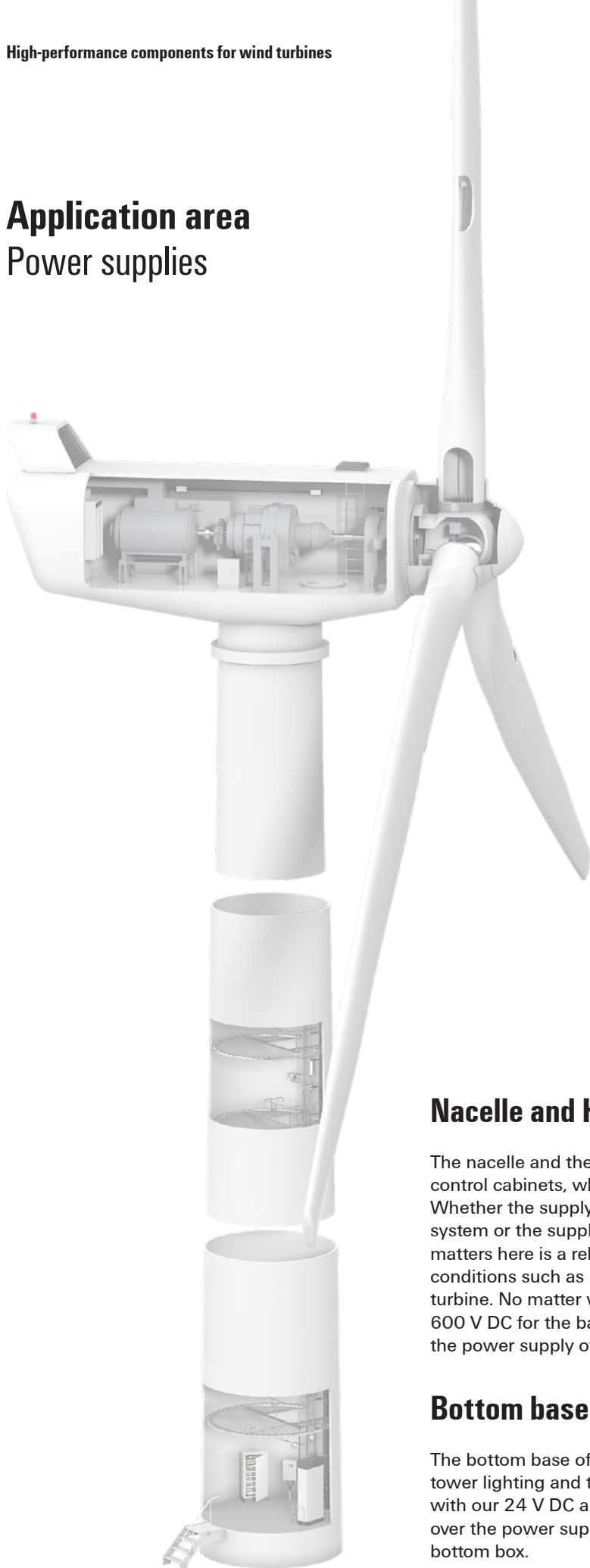


- Compact design with flexible mounting (DIN rail or wall)
- High efficiency up to 95%
- -25 bis +70°C wide operating temperature range (Start-Up at -40°C)
- International approvals (cULus, NEC Class2 and cCSAus)

Application area

Power supplies

A



Nacelle and Hub

The nacelle and the hub of a wind turbine contains several systems and control cabinets, where our power supply solutions can find place. Whether the supply of the valve control from the electro-hydraulic pitch system or the supply voltage for the control of the wind turbine. What matters here is a reliable voltage supply that can meet the harsh conditions such as large temperature changes and vibrations in a wind turbine. No matter whether you need 24 V DC for the control system or 600 V DC for the back-up system of the pitch control, our solutions for the power supply offer the right components for every case.

Bottom base

The bottom base of the wind turbine contains the power supply for the tower lighting and the bottom box. Light up your wind turbine reliably with our 24 V DC and 48 V DC power supplies. Our PROtop Com takes over the power supply and also enables communication between top and bottom box.



Nacelle and Hub



Type PROtop	Order No.
1-phase	
PRO TOP1 120W 24V 5A	2466870000
PRO TOP1 240W 24V 10A	2466880000
PRO TOP1 480W 24V 20A	2466890000
3-phase	
PRO TOP3 120W 24V 5A	2467060000
PRO TOP3 240W 24V 10A	2467080000
PRO TOP3 480W 24V 20A	2467100000



All variants are also available with protective circuit board for continuous low temperatures of -40 °C. Special mounting brackets allow vibration resistance up to 4 g.

Type PROmax	Order No.
1-phase	
PRO MAX 120W 24V 5A	1478110000
PRO MAX 240W 24V 10A	1478130000
PRO MAX 480W 24V 20A	1478140000
3-phase	
PRO MAX3 120W 24V 5A	1478170000
PRO MAX3 240W 24V 10A	1478180000
PRO MAX3 480W 24V 20A	1478190000



Type PRObas	Order No.
PRO BAS 30W 24V 1.3A	2838500000
PRO BAS 30W 12V 2.6A	2838510000
PRO BAS 30W 5V 6A	2838400000
PRO BAS 60W 24V 2.5A	2838410000
PRO BAS 60W 12V 5A	2838420000
PRO BAS 90W 24V 3.8A	2838430000
PRO BAS 120W 24V 5A	2838440000
PRO BAS 120W 12V 10A	2838450000
PRO BAS 240W 24V 10A	2838460000
PRO BAS 240W 48V 5A	2838470000
PRO BAS 480W 24V 20A	2838480000
PRO BAS 480W 48V 10A	2838490000



Type maxGUARD	Order No.
AMG FIM-0	2081870000
AMG FIM-C	2081880000
AMG EP KIT	2500760000
AMG ELM-6	2080360000
AMG ELM-12	2080410000
AMG ELM-1F	2080420000
AMG ELM-2F	2080480000
AMG ELM-4F	2080490000
AMG ELM-6F	2080500000
AMG ELM-8F	2080600000
AMG ELM-10F	2080650000
AMG OD	2122910000
AMG PD	2122920000
AMG MD	2122930000
AMG XMD	2122940000
AMG PP	2123000000



Here is an extract from the comprehensive maxGUARD portfolio

Bottom base



Type PRO COM	Order No.
PRO COM CAN OPEN	2467320000
PRO COM IO-LINK	2587360000



Protected connections

The right connection for your wind turbines



Whether circular connectors for signal processing between sensor and controller or heavy duty connectors with IP67 for power transmission, Weidmüller offers appropriate connection solutions for the supply of power, signals, and data between nacelle and the bottom box of your wind turbines. Our offer does not end with the production of the connector, but is complemented by our demand-oriented assembly services. In this way, we help to easily master even complex cabling tasks and are the best partner for implementing complete connection solutions, from individual connectors to cabling concepts to smart solutions for your turbines.



Product range

Well conceived connections increase your Efficiency

Heavy duty connectors **RockStar®**



- Nine insert families in up to twelve sizes
- Safe transmission of currents up to 35 amps and voltages up to 830 volts
- Reliable signal transmission at packing densities up to 216 poles
- Screw, tension spring, crimp, axial, PUSH IN, and SNAP IN connection

Round connectors **SAI**



- All relevant circular connectors for industrial applications
 - M8/M12 connectors
 - M12 power connectors
 - M23 connectors
 - 7/8" connectors
- Shielded and non-shielded versions
- Straight or angled
- Easy handling
- Different codings

Service interfaces **FrontCom® Vario**

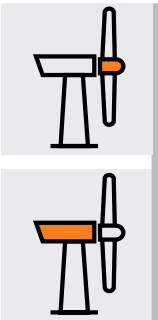


- 100 % compatible to market standard
- RJ45 inserts according to latest Cat. 6A standard
- Clear identification thanks to large labelling surfaces
- Optional shielding via frame's earthing screw for data and signal inputs
- Various closing mechanisms, e.g. with knob or genuine security lock



Application area

Field wiring



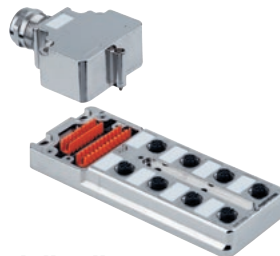
M12 power connector
www.weidmueller.com/m12-power

M12 cables with 360° shielding, over molded connectors, oil-and salt spray resistant cables, shielded connectors with fast mounting technology, Metal distributors which provided a quick and safety connection through their plug ability



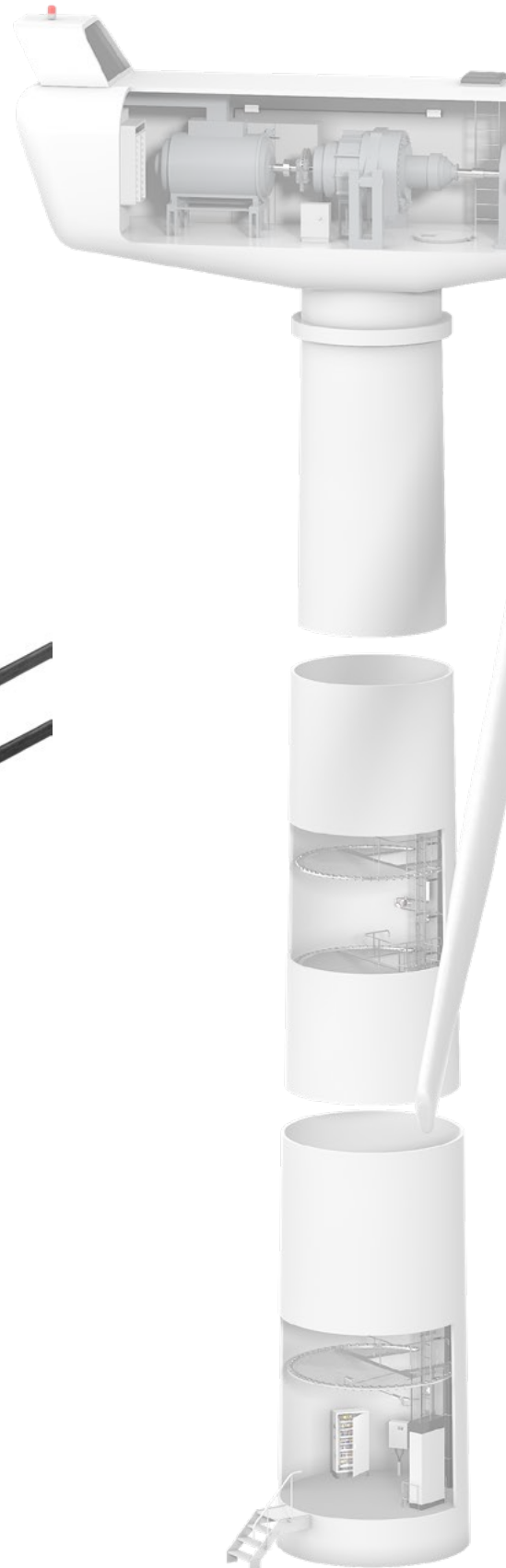
M12 Signal shielded cables
www.weidmueller.com/m12-signal

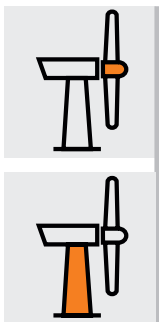
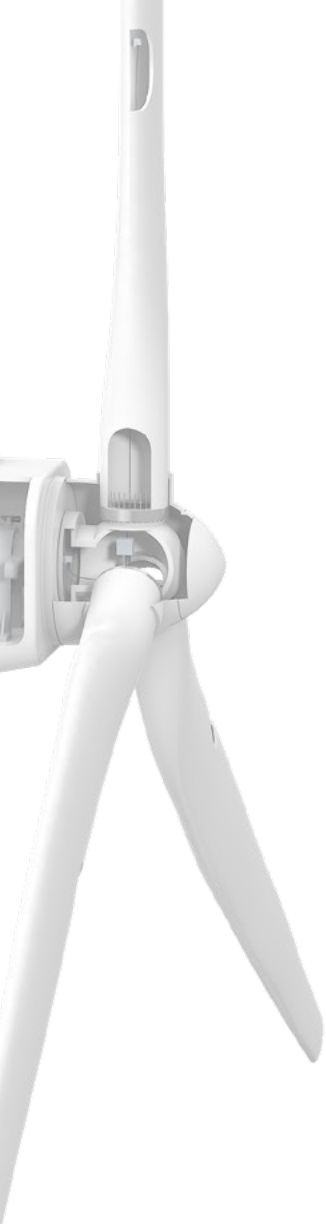
Field attachable connectors with tension clamp, screw termination, crimp and IDC technology, available in shielded and non-shielded versions, straight or angled and in different codings.



M12 metal distributor
www.weidmueller.com/m12-metal-distributor

M12 metal distribution boxes for applications that require complete shielding from the sensors to the control. Available in 4- and 8-way versions.





EMC housing

www.weidmueller.com/emc-housing

The RockStar® IP65 EMC enclosures are ideal for use in the harshest environmental conditions and provide protection against electromagnetic interference. High-quality die-cast aluminum makes them particularly impact-resistant and corrosion-resistant (also for offshore use), yet compact and lightweight.



Heavy duty inserts

www.weidmueller.com/fixe-pole-inserts

No matter which interface you want to implement, our inserts ensure reliable electrical function. We offer nine insert families in up to twelve size.



Modular HDCs

www.weidmueller.com/modular-hdc

The modular connector system solves space problems by offering increased functionality with a reduced installation space. Configure frames, modules, contacts, and accessories in our online configurator.



Patch cable

www.weidmueller.com/patch-cable

The modular connector system solves space problems by offering increased functionality with a reduced installation space. Configure frames, modules, contacts, and accessories in our online configurator.



IP20 DIN rail outlets

www.weidmueller.com/mounting-rail-outlets

Electrical cabinet components, IP20 for copper and fibre optic cable.



Service interfaces

www.weidmueller.com/service-interfaces

Our modular service interface FrontCom® Vario offers the perfect combination of single or double frame, communication, and power inserts as well as the ideal insert plate



Klippon® Connect terminal blocks

Connection solutions for maximum availability and security



The global demand for energy is growing. At the same time, the energy industry faces the challenge of integrating renewable energies for nationwide supply. It is therefore essential to combine maximum security of supply with maximum innovative strength in order to meet the requirements of the future.

To this end, the industry relies on electrical connection solutions that ensure high availability and future-proofing. Klippon® Connect terminal blocks cover all these requirements and are at home in all areas of the energy industry. Whether conventional and regenerative generation, transmission over long distances, distribution to end users or integration in building technology. In the broad product portfolio, you will find the right solution for every application. Klippon® Connect can be flexibly adapted down to the component level and, with comprehensive certifications, guarantees maximum safety for operators, personnel and users.

Application specific products

We offer ideal solutions for the specific wiring challenges in your wind turbine – with innovative features and unique solutions.

Functional integration

Our product portfolio is optimally adapted to the requirements of the wind industry and focuses on functionality.

Durable reliability

Our products are designed to ensure safety and operating efficiency for the whole lifetime of your equipment.

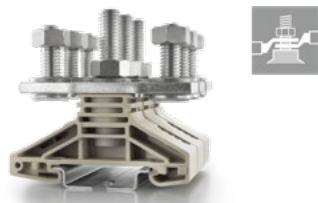




Connection Technology

Increase efficiency in installation without compromising on safety

Screw connection with stud technology



- Designed for voltage ranges up to 4,000 V and currents up to 700 A
- Extensive portfolio of one and two stud terminals
- Safe operation due to cover profiles or hinged hoods (snap-on/screwable)
- Materials comply with fire prevention regulations acc. to DIN EN 45545
- Simple handling – all that is required is a torque wrench

Screw connection with clamping yoke technology



- Quick installation as the products are delivered with open clamping yoke
- Small „W-Compact“ module for space saving installation in the cabinet
- Protection against incorrect conductor entry
- Clippable and removable from the terminal rail in either direction
- Protection against incorrect conductor entry

Spring connection with SNAP IN technology



- Intuitive operation of the SNAP IN technology
- Low insertion forces due to simple insertion of the stripped conductor
- Quick and easy connection even without wire end ferrule

Spring connection with PUSH IN technology



- Release of conductor without any tool
- Flexible mounting foot for compensation of different terminal rail dimensions
- Clear differentiation of functional areas
- Slim design for large amount of cabinet space
- Vibration-resistant and gas-tight connection with copper power rails and stainless steel spring



QUICK



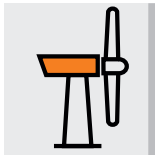
SIMPLE



SAFE



READY-TO-ROBOT



Application area

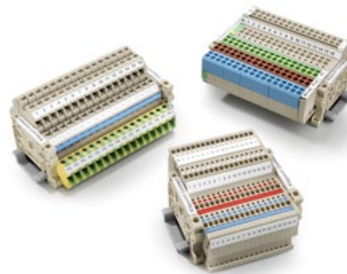
Terminal blocks



Control voltage distribution

www.weidmueller.com/control-voltage-distribution

- Easy modification and expandability
- Space saving due to six conductor connection options per terminal block
- Avoidance of incorrect wiring due to pushers



Signal wiring

www.weidmueller.com/signal-wiring

- Structuring and grouping of signals in a very confined space
- Test options at every terminal point
- Up to four different potentials on one terminal with only 3.5 mm width

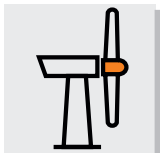
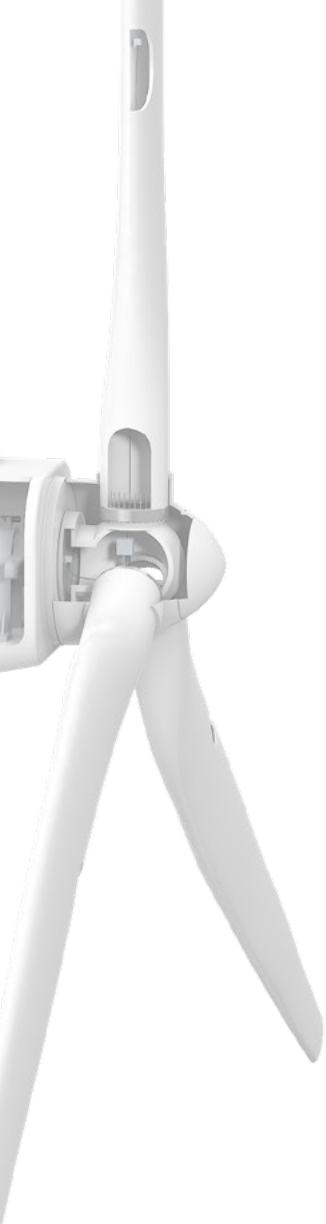


Pluggable terminal blocks

www.weidmueller.com/pluggable-terminal-blocks

- Cover for protection against contamination and for maximum finger safety
- Strain relief for protection against mechanical strain
- Locking elements for highest vibration safety





Shielding and earthing

www.weidmueller.com/shielding-and-earthing

- Self-adjusting shield contact
- Tool-free operability
- Quick and easy assembly



Power distribution

www.weidmueller.com/power-distribution

- Connection of aluminum and copper conductors with different cross sections
- Mounting directly or on top hat rails
- Power supply or monitoring connection



Power feed-in

www.weidmueller.com/power-feed-in

- Power feed-in
- Best connections in standard as well as compact design
- Uniform design reduces space requirements and accessories needed



Instrument transformer wiring

www.weidmueller.com/instrument-transformer-wiring

- Safe current and voltage transformer wiring
- Integrated forced short-circuit mechanism
- Cross-connection channel upstream and downstream of the disconnection point



Industrial Ethernet

Safe communication inside the turbines and your park network

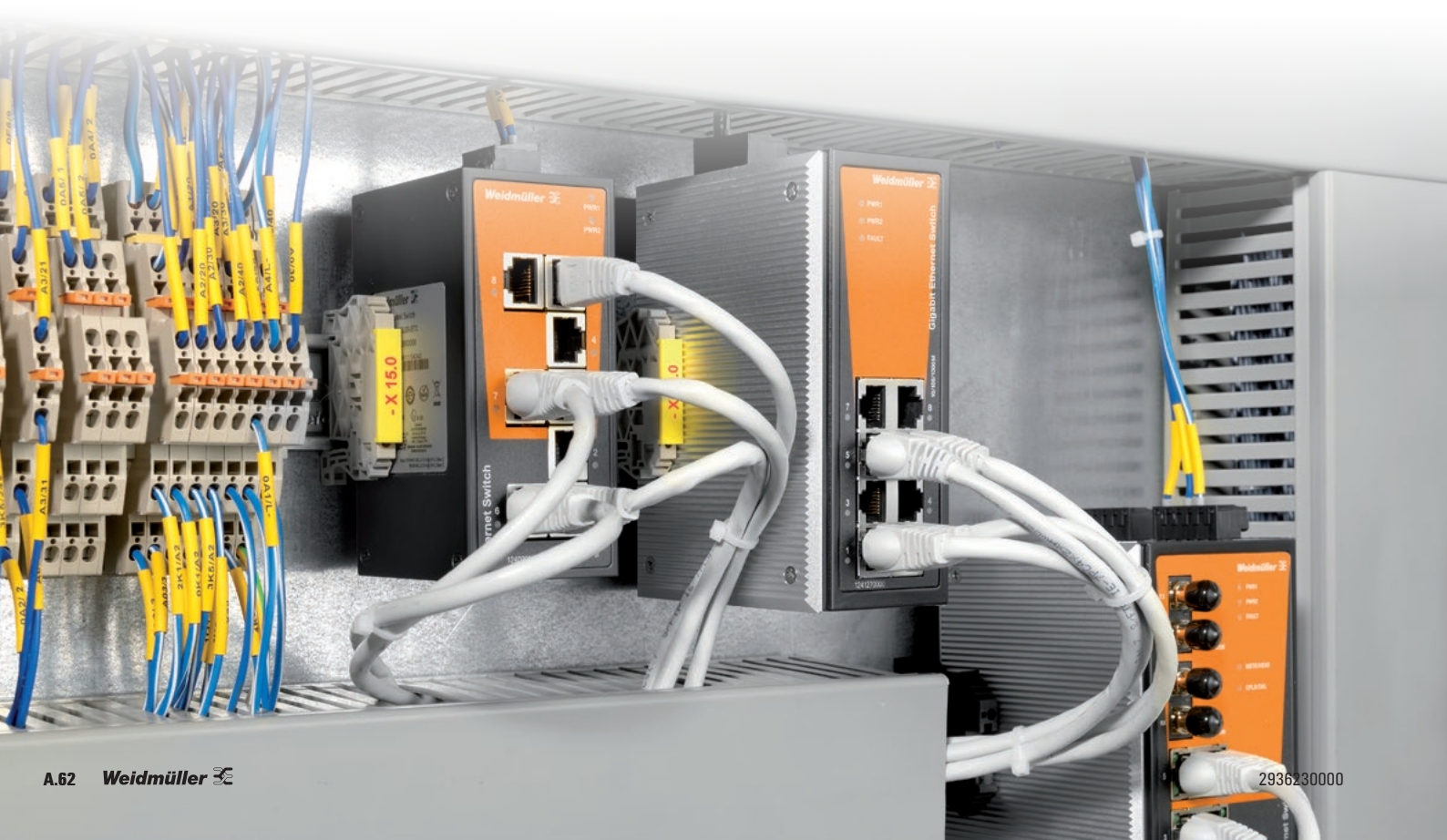


Weidmüller Industrial Ethernet components are the perfect link for data communication between devices in Wind industry. All our products have an extended operating temperature range and extremely high MTBF times what make them capable to withstand the harsh environmental conditions that can be found in Wind farms.

Weidmüller's wide portfolio includes compact plug-and-play unmanaged switches for the top of the turbine to collect all the necessary information from different devices and transmit it to the base of the tower. We provide high flexibility in the number and type of ports including SFP slots for fiber optic connections (both multi and single mode) and PoE variants. Complementary, our managed switches are the perfect choice for the base of the tower as they allow redundant communication topologies to be arranged between the different wind turbines of a farm, ensuring an uninterrupted data transmission with extremely low recovery times.

If any serial device has to be integrated in the Ethernet communication network of the wind farm, the right solution can be easily found in our complete family of Media Converters.

Weidmüller routers bring also important benefits as, together with our u-link cloud service, can be the secure entrance door to wind farms located in remote areas (possibility of cellular connection via 4G LTE). Security and simplicity are the key features of our remote access solution based on VPN connections.





Industrial Ethernet

Transfer industrial data reliably and flexibly between your turbines and park network

Unmanaged Switches **EcoLine**



- Unmanaged switches with extended operating temperature range (-40 to 75°C) and rugged case (IP30)
- Ideal products to communicate the Nacelle with the base of the tower if no redundant path is required
- Wide variety of models (Fast and Gigabit Ethernet) with different port arrangements, including several fiber optic variants
- Available PoE variants if powered devices have to be used (ex: IP cameras for surveillance system)
- Specific "lockable" switch to ensure safety to maintenance personell (7508001602)
 - Easily disconnects communication with a key
 - No possibility to control anything from SCADA if a maintenance operator is working at the Nacelle (safety)

Managed Switches **AdvancedLine**



- Managed switches with extended operating temperature range (-40 to 75°C), rugged case (IP30), alarm relay and redundant power input
- Wide variety of models with different port arrangements, including several fiber optic variants
- Specific Lite-Managed models perfectly suited for the usual network requirements to connect Wind Turbines
 - 4 x RJ-45 ports and 2 x FO SC ports (single or multi mode)
 - Support redundant topologies (RSTP / ORING / OCHAIN)
 - Support VLANs (port based)
 - Cost effective product
- Additional models with more ports / features and higher speed if required
 - Up to 24 ports full Gigabit
 - Up to 4 or 8 fiber optic ports
 - SFP slots for flexibility in fiber optic connections

Industrial Security Router



- Industrial security router with extended operating temperature range (-20 to 70°C) and rugged case (IP20)
- Easy integration of subnets with identical IP address ranges through 1:1 NAT
- Increased network security through stateful inspection firewall, IP/Port- forwarding and network segmentation
- Wide variety of models (Fast and Gigabit Ethernet) with different port arrangements
- Reliable internet connection, even without on-site internet access, thanks to integrated 4G/LTE cellular modem

Application area Industrial Ethernet

A



Nacelle and hub

Controls in the various applications of a wind turbine require secure data transfer in a secure plant network. Weidmüller's Industrial Ethernet Switches organize the communication and priority of the data and forward it to the main control system of the wind turbine. The broad product portfolio in the area of IE communication includes managed or unmanaged switches based on copper or fiber optic cables. The extensive router portfolio enables secure connections to and from the turbine network.

Many of the IE products meet the extreme requirements in the wind sector such as temperature, climate change, vibration and shock in your wind turbine and ensure trouble-free and reliable communication.

Tower base

The plant network extends from the nacelle via the hub to the tower base, so that all communication-capable products can also be integrated in the tower base. Copper-based communication (nacelle/hub), can be converted to fiber-optic communication to safely bridge longer distances. For data communication over longer distances, the Weidmüller IE portfolio offers the right products with their switches and fiber optic interfaces. In this application, too, the routers provide secure access out of or into the plant network.

Weidmüller's IE products with their standardized interfaces thus also offer communication in the park network with the highest data security requirements.

Park communication

Weidmüller also offers a comprehensive IE portfolio outside the WTG, i.e. in the park network, so that communication from the park server to the pitch control is ensured. Weidmüller's universal IE portfolio with defined interfaces and extensive technical features provide the basis for secure communication even under special climatic conditions.

Managed switches improve network availability through redundancies and control mechanisms. In demanding park networks, they also enable network diagnostics.



Hub and nacelle



Unmanaged Switches EcoLine

Type	Order No.
IE-SW-EL05-5TX	2682130000
IE-SW-EL08-8TX	2682140000
IE-SW-EL16-16TX	2682150000
IE-SW-EL18-16TX-2GC	2682200000
IE-SW-EL05-5GT	2682210000
IE-SW-EL08-8GT-MINI	2705000000
IE-SW-EL10-8GT-2GESFP	2682240000
IE-SW-EL06-4PoE-2SC	2682390000
IE-SW-EL10-8GTPoE-2GESFP	2682410000
IE-INJ-EL02-2GTPoE	2682440000



Serial/Ethernet Converters

Type	Order No.
IE-CST-2TX-1RS232/485	1285830000
IE-CST-2TX-2RS232/485	1285840000

Nacelle and tower



Managed Switches AdvancedLine

Type	Order No.
IE-SW-AL05LM-5TX	2682250000
IE-SW-AL06LM-4TX-2SC	2682260000
IE-SW-AL06LM-4TX-2SCS	2682270000
IE-SW-AL08M-8TX	2682280000
IE-SW-AL24M-24TX	2682320000
IE-SW-AL10M-8TX-2GC	2740420000
IE-SW-AL18M-16TX-2GC	2682330000
IE-SW-AL08M-8GT	2682350000
IE-SW-AL14M-12GT-2GESFP	2682360000
IE-SW-AL24M-16GT-8GESFP	2682370000



Tower base



Industrial Security Routers

Type	Order No.
IE-SR-4TX	2751270000
IE-SR-4TX-LTE/4G-EU	2751280000
IE-SR-4TX-LTE/4G-USEMEA	2739630000



u-link Service

- Remote Access for Maintenance (VPN connection)
- Data Storage for IIoT (Beta service)
- No IT knowledge required (all users can benefit)
- Different available Licenses depending on required service and number of devices
- Available Entry/Evaluation licenses free of charge

Industrial Security WLAN

Type	Order No.
IE-WLT-BL-AP-CL-EU	2536650000
IE-WLT-BL-AP-CL-US	2536670000



NOTE: Selected list of articles shown but much larger available number of products in our online catalogue!



Tailwind for your project

Customised solutions for different ambient conditions

Assembled housing solutions are being used in more and more production areas within industrial applications in order to reduce the vertical range of manufacture and save on production costs. And the same applies for the production of modern wind power installations. We provide custom-assembled solutions of the highest quality for connection to the supply system, control systems, a range of testing and service units, and protection and safety equipment. These allow you to significantly improve the performance, durability and service friendliness of your turbines while also reducing assembly costs. And the best thing about all this is that our assembly service makes sure that all relevant factors are taken into account right from the outset.

Connection box
Lubrication / LED lighting



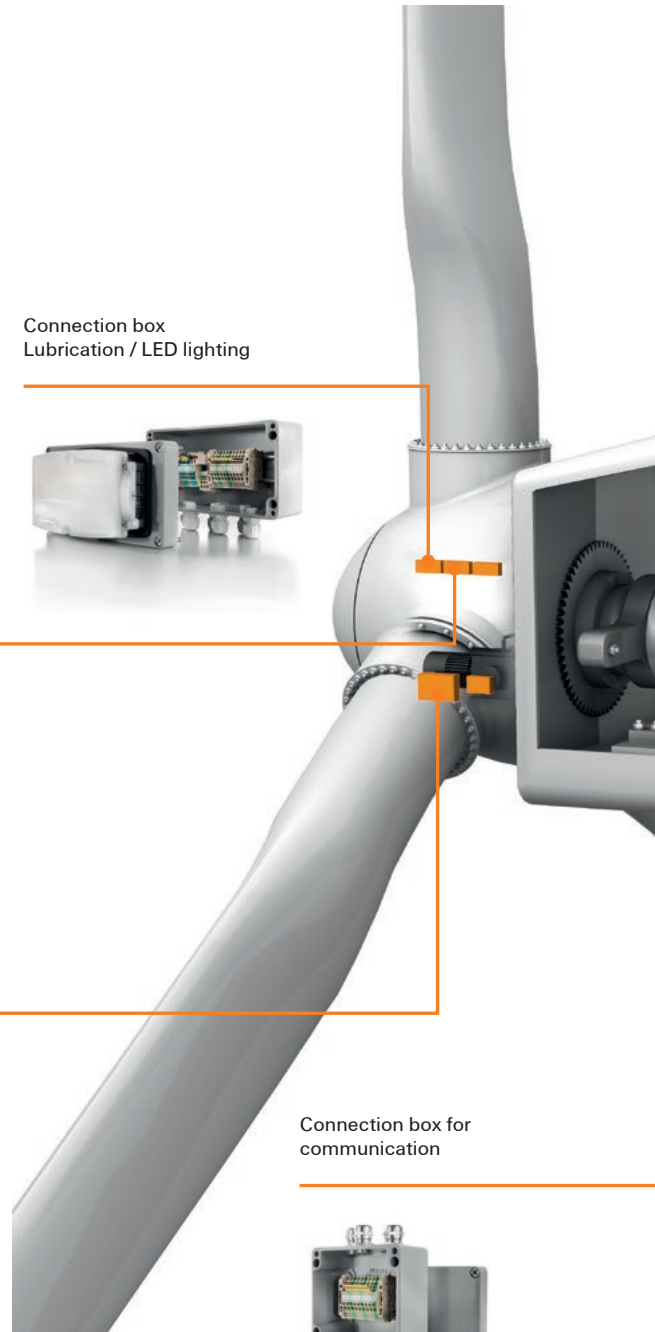
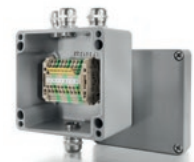
Condition monitoring box
for bolted joints

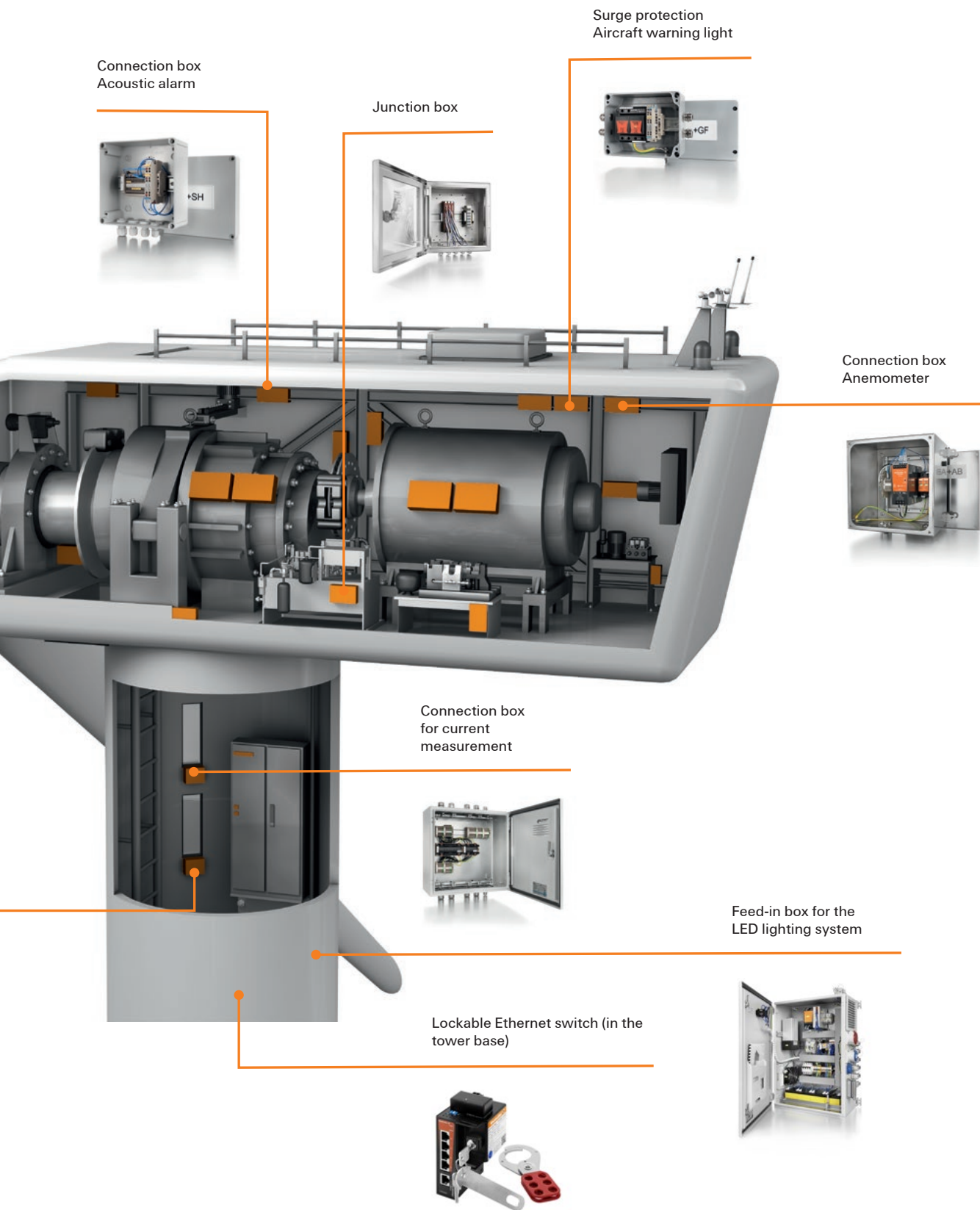


Arrester box



Connection box for
communication





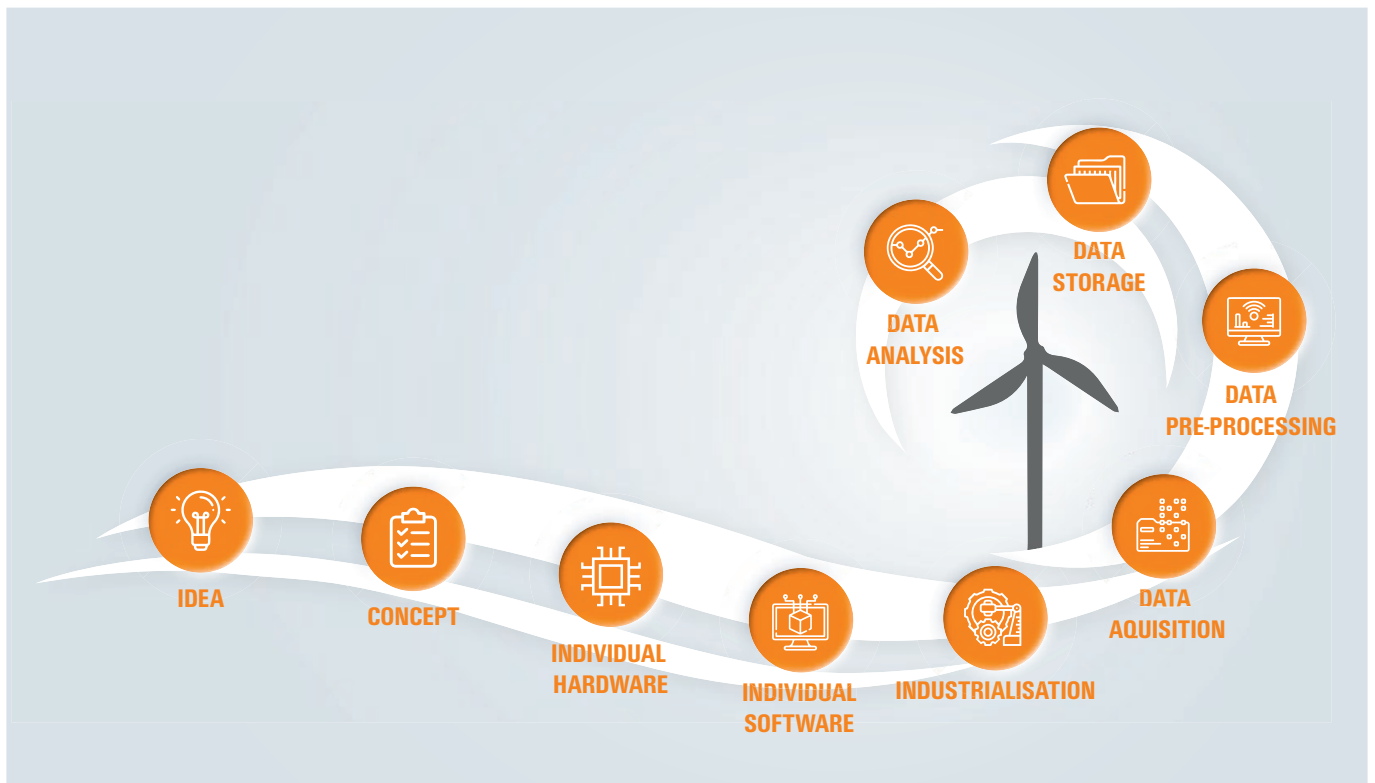
From the initial idea through to data analysis

We combine your and our strengths for the best results



With our diversified product line, we can offer you complete hardware and software solutions. This enables us to keep an overview of the costs and offer you tangible benefits.

The smart combination of consultation, application expertise and industry know how is our key to finding a custom-fit solution for your application. When working with you, it is important to us that we provide open system interfaces to involve you in the development process in the best possible way and combine your and our strengths to achieve the best results.





Added value for your project

Customised solutions for wind power installations

Data acquisition

Recording and storage of customer-specific data for ageing- and system-relevant components to reduce operating, maintenance and downtime costs and increase revenue!



Your advantages

- Life cycle and performance monitoring in wind turbines
- More detailed information on ageing and system-relevant components
- Retrofit systems operating parallel to the turbine controller
- Input from various sensors
- 24/7 data acquisition and remote access

Battery management system with UPS software

The control unit including UPS software in combination with the communication module on the power supply unit is suitable for all applications where an uninterruptible power supply is needed!

Your advantages

- Reduced space required in the control cabinet
- More functions, same costs (e.g. single cell monitoring, battery life calculation, ...)
- No dependence on energy storage technologies
- Modular system for customised extensions/ adaptations (e. g. variable voltage level, ...)



Your expectations of systems engineering continue to grow Just like the performance of our product range



At Weidmüller we have been involved in the development of wind turbines right from the start. Hence, we now have a wide range of products and components for the wind energy sector, characterised by excellent quality, reliability and cost-effectiveness, in addition to meeting the most stringent safety standards. This is attested by international certificates and approvals as well as country and application-specific test certificates.

1 Reliable signal connections at the “heart” of the nacelle

- Reliable relays, resistant to temperature and vibration
- Quick-installation WeiCoS spring-loaded modular terminals – up to 690 V
- VARITECTOR SPC pluggable surge protection

2 Durable shock-proof and surge-proof connections

- Terminal blocks and connectors with tension clamp or PUSH IN connection technology

3 Secure signal connections that won't be slowed down by anything

- Modules and cables for secure signal transmission to the turbine control system
- Seawater-resistant modules with high protection classes (IP 67/68)
- WAVE TTA measuring transducer for underspeed and overspeed detection

4 Failure-free functionality for maximum energy output

- Wear-free TERMOPTO opto-coupler for exceptional cost-effective isolation and signal conditioning

5 Modularity and maintainability efficiently connected

- Rapid connection of testing equipment with the POCON current and voltage transformer terminal
- LXXX-15.00 PCB terminals for high performance and long life of your equipment



6 Compact connections – optimally protected

- Heavy-duty connectors in die-cast aluminium – protection against dirt, moisture and mechanical stress
- Power supplies from the PRO-M series with vibration-proof fastenings and high DC input voltages for operation with CAP modules

7 From top to bottom securely connected to rapid system solutions

- FieldPower® Box for the quick installation of lamps, outlets and components in all areas of the tower – individual connections with low installation costs

8 Integrated data connections throughout the wind farm

- Media converters and switches for transforming electrical signals to optical signals – for a smooth data flow
- FrontCom® service interface for convenient accessing of mains components – without having to open the cabinet

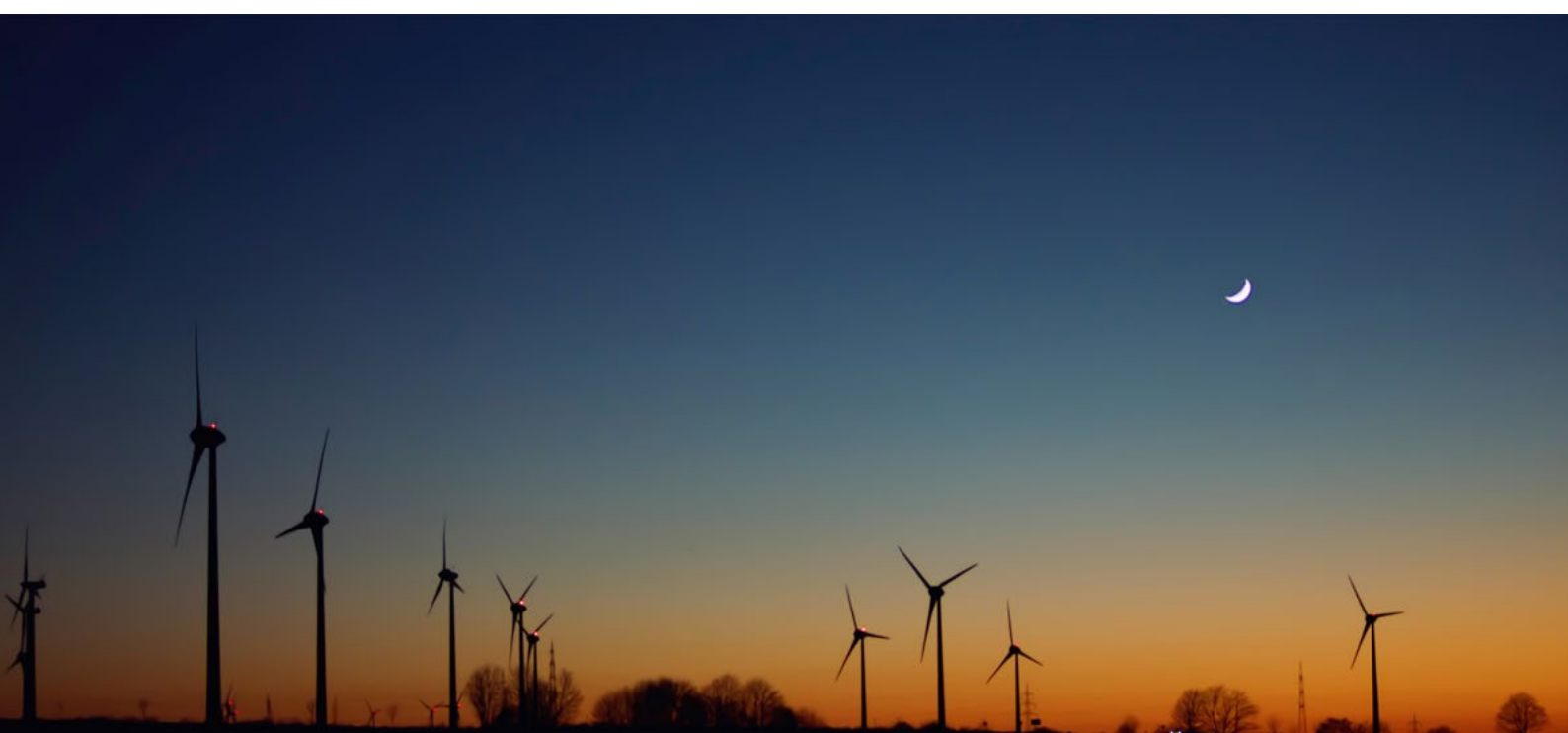
Tailwind for the energy transition

Lanthan Safe Sky and Weidmüller are sustainably retrofitting wind power installations



The retrofitting of wind farms with so-called “Aircraft Detection Lighting Systems” is coming along at a fast pace. According to legislation, onshore wind power installations should be equipped with this technology by 1 January 2024, and offshore plants the following year. Two industry pioneers, who are working closely together to ensure rapid change, are at the forefront: Lanthan Safe Sky and Weidmüller.

With Aircraft Detection Lighting Systems, signal lights on wind power installations are only activated when an aircraft or helicopter approaches the wind farm. The transponder signal of the aircraft and the receiver of the wind power installation communicate every second. This technology reduces the nightly flashing of the installations by up to 98 percent. This minimises night-time light pollution and represents an important step towards the energy transition.





Ready-to-use, holistic ADLS concepts

The Lanthan Safe Sky joint venture is one of the first approved manufacturers to develop and market ADLS. As a provider of solutions for all aspects of industrial connectivity, Weidmüller produces individual applications that are perfectly tailored to the traffic detection of the ADLS technology provider. The project involves the production of stainless-steel enclosures that are equipped and wired with Lanthan Safe Sky components and Weidmüller electrical components - a turnkey solution.

“We feel that it is important to bring a system to the market that meets the requirements to ensure comprehensive deactivation of the red warning lights on wind power installations” says Hans Schlingmann, Vice President of the Wind Business Unit. The ready-to-use solution is produced in Detmold and can be installed directly into the wind power installations by Lanthan Safe Sky customers.

Customer-specific solutions for the wind industry from Weidmüller

“For years we have been a flexible partner for the production and development of customer-specific solutions in the wind industry,” emphasises Schlingmann. “Thanks to many years of experience in the industry and relevant certifications, Weidmüller is able to implement such future-proof projects in close collaboration with its customers”, states the business unit manager.

The current project is just one example; other solutions ranging from simple connectivity to data collection and analysis are possible. “Weidmüller has the necessary expertise from its product line”, adds Schlingmann.

With innovations for greater acceptance of renewable energies

The construction of new power generation plants often meets with resistance in the population - and wind farms are no exception to this. These are often perceived as a disturbance factor and a source of danger: Changing the landscape, endangering wild birds, casting shadows and noise pollution are just some of the arguments put forward by residents.

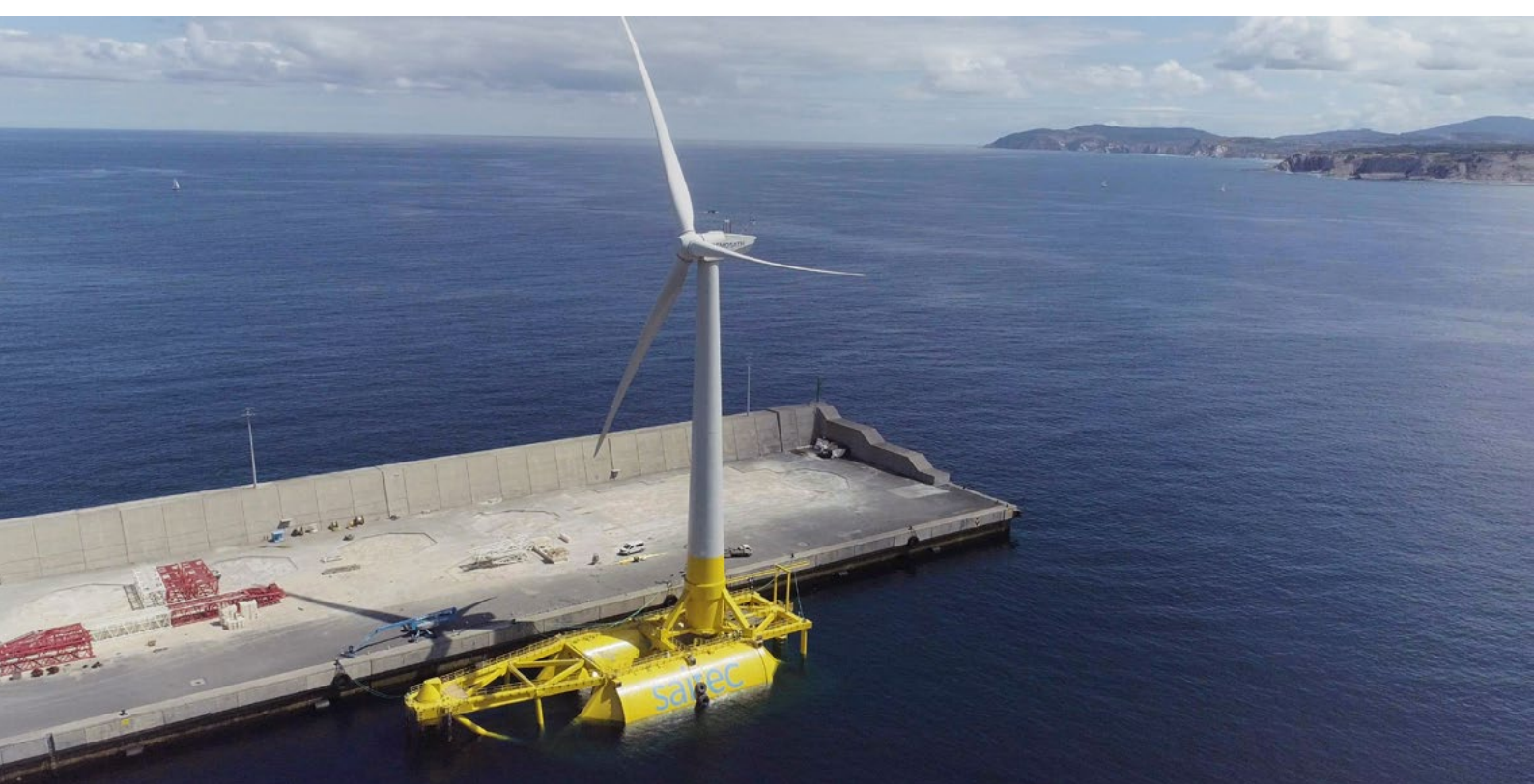
But wind power installations make a significant contribution to the energy transition. The innovative technology from Lanthan Safe Sky is intended to increase the popularity of wind farms, thus making electricity generation in Germany even more sustainable. “In the fight against the climate crisis, we don’t just need installations that produce more clean energy at lower prices, but also innovations that improve the acceptance of wind energy”, outlines the business unit manager.

Energy of the future: Weidmüller equips DemoSATH floating wind turbine with interior lighting and bolt monitoring



The future of offshore wind lies beyond the smooth shores. Floating wind turbines can generate current at almost any sea depth, thus offering outstanding potential for CO2 reduction. Weidmüller, a world-wide pioneer and partner for digitalisation and automation of industry for more than a decade, has for the first time equipped a prototype of this floating future technology with two newly developed customer solutions: the integrated LED system illuminates all accessible parts of the wind turbine on the high seas and the TwinCap® remote maintenance system detects damage to the nuts in the blade bearings at an early stage.

Two nautical miles off the coast of Bilbao, the Spanish company Saitec Offshore Technologies has launched the DemoSATH floating wind turbine platform. The demonstration project is a floating structure with SATH technology. It resembles a catamaran and is moored with a single anchor at one end only. This allows it to rotate freely in order to harness the power of the wind at sea. On the tower, a 2 MW turbine will generate green energy for a total of 2,000 homes.





Integrated LED system ensures adequate lighting

Weidmüller has contributed the interior lighting system exclusively for DemoSATH: the tower, nacelle and the accessible part of the floating body are equipped with an integrated lighting system consisting of LED sets for regular interior lighting. As the system is battery-buffered, emergency lighting is also secured in the event of a power failure, thus ensuring that there is adequate illumination for work safety.

“Following a lighting simulation and a design-in, the Weidmüller Wind team put together a complete lighting package. Depending on the customer’s specifications, the individual set solutions include different direct-current LEDs or alternating-current variants”, explains Jonas Fuhrmann, Product Manager at Weidmüller. “All of the installed lights, including the connections and plugs, are protected against vibrations and shocks and are moisture-resistant in accordance with protection class IP67”, he adds.

Aitor Sanz, Offshore Wind MEP Manager at Saitec Offshore Technologies, has the following to say about Weidmüller’s newly developed customer solution: “We appreciate the high performance of Weidmüller’s integrated LED system, as the redundancy with which it is designed makes it very stable. This lighting solution affords maximum safety for our technicians on site”.

TwinCap® remote maintenance system detects damage to nuts

Weidmüller has developed the TwinCap® remote maintenance system to ensure that technicians rarely have to venture out onto floating wind turbines, as it permanently checks the nuts that secure the rotor blades to the nacelle. Even when the wind turbine is firmly anchored in the ground, the nuts are subjected to heavy loads. The blade bearing screws are far more exposed to the forces of nature when the offshore wind turbine is floating as well as rotating around itself.

“To detect and assess damage to the nuts as early as possible, we have developed the TwinCap® remote maintenance system. This detects both visually and digitally whether a blade bearing needs to be serviced on site”, says Steffen Niggemann, Team Leader of Business Development at Weidmüller. Automated damage detection minimises the need for regular on-site maintenance, which significantly reduces costs for shipping and personnel, especially in the difficult-to-access offshore sector.

“With the TwinCap® sensor system, Weidmüller has developed a damage prevention system that allows us to detect and repair damage in the blade bearing as soon as it occurs. This prevents cost-intensive consequential damage”, summarises Aitor Sanz. Weidmüller sees great potential in collaborating with innovation drivers such as Saitec Offshore Technologies to drive the global development of the emerging floating wind technology as the power supply of the future.



Caribbean flair for BLADEcontrol®

On Guadeloupe, six LEITWIND turbines of the type LTW80 1.65MW Typhoon have been equipped with the BLADEcontrol® rotor blade monitoring system



A particularly exciting project for the Weidmüller team was the repowering of the Fonds Caraïbes – Quadran wind farm by POMA-LEITWIND. On Guadeloupe, 20 wind turbines from the early 2000s were replaced. Back in 2019, Italian wind turbine manufacturer LEITWIND developed a wind turbine with rotor blades that can withstand extreme hurricane force winds. This new LS39-H rotor blade was finally to celebrate its première on the French island of Guadeloupe.

“Warm and humid days, violent storms and a high salt content in the air are characteristic of the coastal location there and increase the complexity of this unique project. In light of these special wind and weather conditions, it is even more important to reliably detect damage and loads in order to be able to initiate appropriate measures at an early stage”: that is how the project team explains LEITNER AG’s decision in favour of **BLADEcontrol®**.

Installation work with the main crane on a LEITWIND wind turbine of the type LTW80 1.65MW Typhoon





From India to the West Indies

The complexity of the project was already apparent during the preparation of the quotation, in which we were always able to react flexibly to the requirements and wishes. The final decision was made to ship the individual parts of the **BLADEcontrol®** separately so that they could be installed in the wind turbine components at the respective LEITWIND plants in advance.

Our service technician Hans Reps showed great commitment in India. The installation of the blade sensors and training of the LEITWIND colleagues took place directly in the blade plant near Chennai. He and his colleagues from Germany, Tyrol, Spain and the Ukraine had to cope with the high temperatures in the morning. But the technicians on site were always ready to assist. They were thoroughly amused when Hans unexpectedly startled a green snake on its way to the rotor blade.

Despite the many different dialects from Europe and India, the blades were successfully equipped with our sensor technology according to schedule. Then they were shipped to the Caribbean.

Another challenge was the demanding schedule on Guadeloupe

During installation and commissioning on site, all work has to be carried out before the hurricane season. Unfortunately,

the fickle weather does not adhere to forecasts. For example, the blades had to be temporarily stored during a typhoon. And due to restrictions on shipping, the large components of the wind turbines, as well as the erection crane, could only be delivered by cargo ship at night.

Thanks to the best possible and careful planning, new customised solutions and also thanks to the good cooperation with various suppliers and partners, POMA-LEITWIND and Weidmüller were able to successfully master all challenges.

BLADEcontrol® is Weidmüller's solution for monitoring rotor blades. It continuously records the condition of each individual rotor blade and notices even small changes: around the clock, 365 days a year. Problems are identified much earlier than with visual inspections, and it prevents damage from progressing in an uncontrolled manner. If damage occurs, this causes high repair costs, especially on an island.

Early damage detection through tried-and-tested condition monitoring

The sensitive sensor system detects damage right from its initial stages. For this purpose, precise measurements are carried out in the natural vibration behaviour of the rotor blade. This type of detection detects even damage that is invisible from the outside and works reliably under all weather conditions.



BLADEcontrol® hardware components



Hans Reps, service technician at Weidmüller, accompanied the project on site



Typical damage to the rotor blade includes blade tip damage caused by lightning strikes, trailing edge cracks, web separation and blade bearing damage. Only in the case of serious damage does BLADEcontrol® send a signal to the turbine control system, which can then stop the turbine immediately and prevent blade breakage.

In addition to direct damage to the rotor blade, operating deviations such as aerodynamic imbalances, loose parts in the blade and hub, as well as pitch misalignments and yaw overloads are also detected. The system thus makes an additional contribution to the operational reliability of the turbine and helps improve the energy yield.

Web-based visualisation

All detected damage is simultaneously transmitted to the Weidmüller Monitoring Centre, where experts evaluate the data and prepare specific action recommendations for

operators. You can find out about the turbine status of the rotor blades at any time via online monitoring with WebVis.

BLADEcontrol® has been certified as an ice detector since 2008 and as a monitoring system for damage detection on rotor blades since 2013.

Successful cooperation worldwide

Projects like the one in Guadeloupe require close communication with all partners, detailed planning and a high degree of flexibility. This makes us all the more pleased and proud of this successful and friendly cooperation. The Quadran wind farm on the French Overseas Department is our first project in the Caribbean and has delighted all employees at the Dresden site. Especially in these times, wanderlust is particularly strong.

www.weidmueller.de/bladecontrol

Photovoltaics

Photovoltaics	Introduction	B.2
	Solutions for rooftop PV systems	B.3
	Solutions for utility scale PV systems	B.17
	PV accessories & components	B.33
	Success stories	B.42
	Tested quality	B.46
	Proven competence	B.47
	Measuring & monitoring systems	B.48



Solutions for Photovoltaic Systems

Long-term profitable, effective running systems

B

Weidmüller offers a wide range of combiner boxes, monitoring solutions and components for large-scale PV projects and rooftop systems to meet your individual requirements: Benefit from our many years of experience in the photovoltaic industry, the know-how of our experts and our global network.



For further information, technical specifications or additional services, please visit our website: www.weidmueller.com/pv-solutions



Connection & combination
Connection & Combination of PV strings from field or array



Protection
Protection against surges and touching



Monitoring
Monitoring of string performance and component status



315 T
Combiner boxes sold



180 M
Supported modules



100
Countries with local support

Install and safeguard PV systems on the roof

Easy. fast & safe. installation

Our mission toward the energy transition: We want to make the installation of PV systems on the roof easier, faster and safer for installers. For this reason, we offer an extensive range of PV combiner boxes, surge protection devices, connectors, tools and components.

The combiner box product family PV Next offers standard variants for DC-side protection of the installation between PV panel and inverter. At the same time, PV strings can be combined in the boxes to reduce the amount of cabling required.

Get to know our photovoltaic products for rooftop systems here and find many more tips on photovoltaic installation.



For further information, technical specifications or additional services, please visit our website:
www.weidmueller.com/pv-rooftop



PV Next Combiner Box

Easy, fast, and safe wiring of photovoltaic systems

B



With PV Next, Weidmüller offers the world's first combiner box concept based on a standardised printed circuit board design. This concept is not only very robust, but also reduces the use of materials such as copper and plastic by 25%. At the same time, the design enables an easy, fast and safe installation. The integrated PUSH IN technology, for example, reduces installation times and minimises the risk of errors and the resulting consequences.

Many different variants for commercial and residential buildings from stock

PV Next is protecting the PV system against overvoltages and reverse currents and also offers the possibility to combine strings. The various designs are done to protect all string inverters available in the European market.



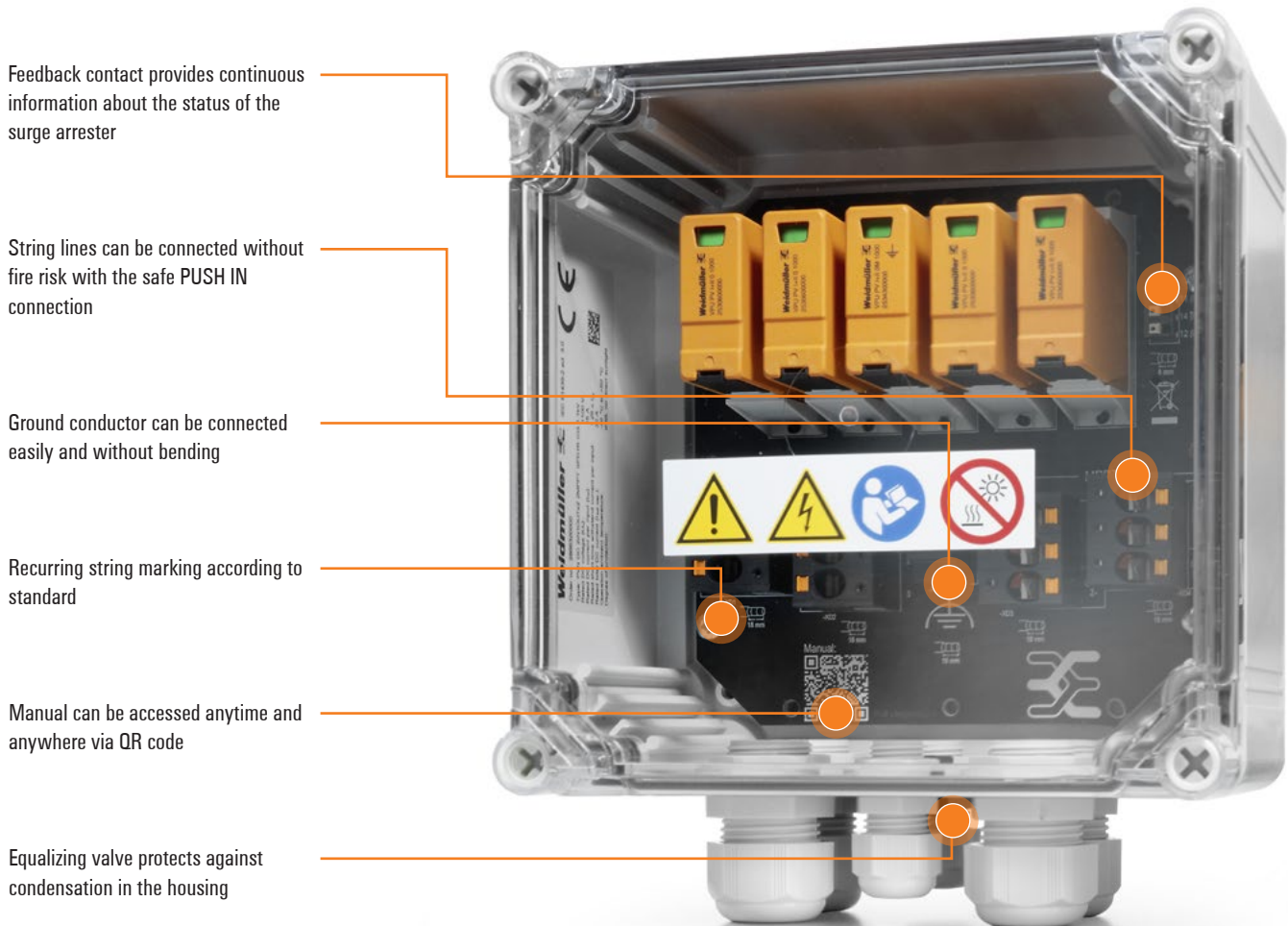
For more information, visit our website:
www.weidmueller.com/pvnext

PV Next protects and combines PV strings



Suitable for commercial and residential buildings.

Standardised printed circuit board design – one design for all applications



B



The most innovative concept for string inverters



Tested according to IEC-61439-2 standard in accredited laboratory



High input current even at 50°C ambient temperature



3D data available online



Certified according to protection class IP65



Combination of strings saves time and wiring



Suitable variants for every installation type

The right combiner box for your inverter type in just three steps

B

1. Select your inverter type

Open our online selector via the QR code or short link to the right. Select the manufacturer and type of your inverter here. You will then receive a pre-selection of suitable products for your PV installation.

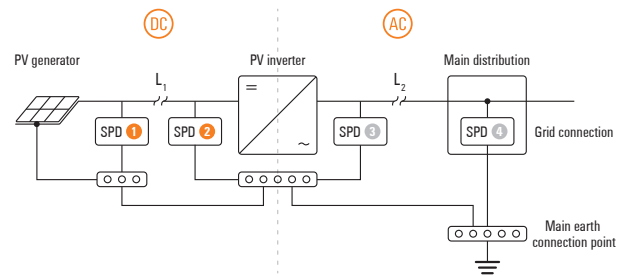


Here you can access the online selector, which provides the basis for your selection: www.weidmuller.com/pvselector

2. Determine the standard-compliant surge protection

Answer the questions in the table below from left to right to determine what surge protection is needed on both the DC and AC sides for your installation. The diagram maps:

(1) at the entry point of the PV cables into the building (inside or outside), (2) at or in the inverter (DC side), (3) at or in the inverter (AC side), (4) in the main distribution. If the cable length is more than 10 m, you need an additional overvoltage protection according to the standard EN 51643-32. Our PV Next combiner boxes protect the DC side of the installation. That's why they are highlighted here.



Question 1: External lightning protection system present?	Question 2: Separation distance maintained?*	Question 3: Cable length L_1 larger than 10 m?	Question 4: Cable length L_2 larger than 10 m?	DC		AC	
				Installation locations		Installation locations	
				SPD 1	SPD 2	SPD 3	SPD 4
no	-	yes	yes	Type II DC	Type II DC	Type II AC	Type II AC
no	-	no	yes	-	Type II DC	Type II AC	Type II AC
no	-	yes	no	Type II DC	Type II DC	-	Type II AC
no	-	no	no	-	Type II DC	-	Type II AC
yes	yes	yes	yes	Type II DC	Type II DC	Type II AC	Type I AC
yes	yes	no	yes	-	Type II DC	Type II AC	Type I AC
yes	yes	yes	no	Type II DC	Type II DC	-	Type I AC
yes	yes	no	no	-	Type II DC	-	Type I AC
yes	no	yes	yes	Type I DC	Type I DC	Type I AC**	Type I AC
yes	no	no	yes	-	Type I DC	Type I AC**	Type I AC
yes	no	yes	no	Type I DC	Type I DC	-	Type I AC
yes	no	no	no	-	Type I DC	-	Type I AC

*Between PV installation and external lightning protection, according to standard EN 51643-32.

**If the inverter and the main distribution board are connected to the same grounding busbar via a grounding cable whose length does not exceed 0.5 m, no SPD is required at installation location "3".

3. Select your preferred connection type

All PV Next variants are available with WM4 C ("Weidmüller connector"), MC4 EVO2 ("Stäubli connector") or CG ("classic cable gland") connection types. The housing interior has practical 16 mm² PUSH IN connections. Select the product variant with your preferred connection type in the selector.



Now that you have found the right product, you can send us your product request directly from the selector or order the part number from your trusted dealer.

Examples of the perfect combination*

Here you will find common combinations for inverters from SMA, Fronius, SolarEdge and Huawei. You will find many other inverter manufacturers and types in our online selector.



SMA Sunny Tripower CORE 1
6MPP, 2IN



Fronius Symo GEN24 Plus
2MPP, 2IN/1IN



SE3K
1MPP, 2IN



Huawei SUN2000-30/36/40KTL-M3
4MPP, 2IN



PV Next
Order No. 2737620000



PV Next
Order No. 2866340000



PV Next
Order No. 2890560000



PV Next
Order No. 2737610000

*Variants for type I/II and WM4C connector; for further variants, go to our homepage at www.weidmueller.com/pv-perfect-match.





PV Next combiner boxes for commercial PV systems

Type	MPP	Inputs per MPP	Outputs per MPP	Surge protection requirement class	Connection	Qty.	Order No.
No fuse holder, no switch disconnecter							
PVN DC 3I 3O 2MPP SPD1R CG 11	2 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2890570000
PVN DC 3I 3O 2MPP SPD1R WM4 11	2 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2890450000
PVN DC 3I 3O 2MPP SPD1R EVO 11	2 MPP	3 inputs	3 outputs	Type: I / II	Connector, MC4-Evo 2	1	2890330000
PVN1M3I9SXFV100TXXP10	3 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2683130000
PVN1M3I9SXFV101TXXP10	3 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2683190000
PVN1M4I8SXFV100TXXP10	4 MPP	2 inputs	1 output	Type: I / II	Cable gland, PUSH IN connection	1	2737610000
PVN1M4I8SXFV101TXXP10	4 MPP	2 inputs	1 output	Type: I / II	Connector, WM4C	1	2737600000
PVN1M6I12SXFV100TXXP10	6 MPP	2 inputs	1 output	Type: I / II	Cable gland, PUSH IN connection	1	2737630000
PVN1M6I12SXFV101TXXP10	6 MPP	2 inputs	1 output	Type: I / II	Connector, WM4C	1	2737620000
PVC 2I 1O 10MPP SPD1R EVO 11	10 MPP	2 input	1 output	Type: I/II	Connector, MC4-Evo 2	1	8000106274
PVC 2I 2O 10MPP SPD1R EVO 11	10 MPP	2 input	2 outputs	Type: I/II	Connector, MC4-Evo 2	1	8000107559
PVC 2I 1O 12MPP SPD1R EVO 11	12 MPP	2 input	1 output	Type: I/II	Connector, MC4-Evo 2	1	8000107558
No fuse holder, with switch disconnecter							
PVN DC 3I 3O 2MPP SW SPD1R CG 11	2 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2890600000
PVN DC 3I 3O 2MPP SW SPD1R WM4 11	2 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2683080000
PVN DC 3I 3O 2MPP SPD1R EVO 11	2 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2683240000
PVN1M3I9S0FV101TXXP10	3 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2683220000
PVN1M3I9S0FV100TXXP10	3 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2683160000
With fuse holder, no switch disconnecter							
PVN1M2I6SXF3V100TXXP10	2 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2683040000
PVN1M2I6SXF3V101TXXP10	2 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2683080000
PVN1M1I6SXF3V100TXXP10	1 MPP	6 inputs	6 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2737520000
PVN1M1I6SXF3V101TXXP10	1 MPP	6 inputs	6 outputs	Type: I / II	Connector, WM4C	1	2737440000
With fuse holder, with switch disconnecter							
PVN1M2I6S0F3V100TXXP10	2 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2683060000
PVN1M2I6S0F3V101TXXP10	2 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2683100000
PVN1M1I6S0F3V100TXXP10	1 MPP	6 inputs	6 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2737530000
PVN1M1I6S0F3V101TXXP10	1 MPP	6 inputs	6 outputs	Type: I / II	Connector, WM4C	1	2737480000
207S0FOC15V100TXXP10PWW	1 MPP	10/8/6*	1 output	Type: I / II	Cable gland	1	8000111135
PV 207S0FOC15V100TA1PA10PWW	1 MPP	10/8/6*	1 output	Type: I / II	Cable gland, string monitoring	1	8000111136
PV 211S0FOC15V100TXXP10PWW	2 MPP	10/8/6*	1 output	Type: I / II	Cable gland	1	8000111137
PV 211S0FOC15V100TA1PA10PWW	2 MPP	10/8/6*	1 output	Type: I / II	Cable gland, string monitoring	1	8000111138

*usable inputs depend on the modules used





PV Next combiner boxes for PV systems in residential buildings

Type	MPP	Inputs per MPP	Outputs per MPP	Surge protection requirement class	Connection	Qty.	Order No.
No fuse holder, no switch-disconnector							
PVN1M1I2SXFV100TXPX11	1 MPP	2 inputs	1 output	Type: I / II	Cable gland, PUSH IN connection	1	2791930000
PVN1M1I2SXFV101TXPX11	1 MPP	2 inputs	1 output	Type: I / II	Connector, WM4C	1	2791920000
PVN1M1I2SXFV102TXPX11	1 MPP	2 inputs	1 output	Type: I / II	Connector, MC4-Evo 2	1	2866300000
PVN1M1I2SXFV200TXPX11	1 MPP	2 inputs	1 output	Type: II	Cable gland, PUSH IN connection	1	2791950000
PVN1M1I2SXFV201TXPX11	1 MPP	2 inputs	1 output	Type: II	Connector, WM4C	1	2791940000
PVN1M1I2SXFV202TXPX11	1 MPP	2 inputs	1 output	Type: II	Connector, MC4-Evo 2	1	2866310000
PVN DC 3I 3O 1MPP SPD1R CG 11	1 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2890560000
PVN DC 3I 3O 1MPP SPD1R CG 11	1 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2890440000
PVN DC 3I 3O 1MPP SPD1R EVO 11	1 MPP	3 inputs	3 outputs	Type: I / II	Connector, MC4-Evo 2	1	2890320000
PVN DC 2IN/1OUTX2 2MPP SPD1R CG 1.1KV	2 MPP	2 inputs	1 output	Type: I / II	Cable gland, PUSH IN connection	1	2866320000
PVN DC 2IN/1OUTX2 2MPP SPD1R WM4C 1.1KV	2 MPP	2 inputs	1 output	Type: I / II	Connector, WM4C	1	2866340000
PVN DC 2IN/1OUTX2 2MPP SPD1R EVO 1.1KV	2 MPP	2 inputs	1 output	Type: I / II	Connector, MC4-Evo 2	1	2866360000
PVN DC 2IN/1OUTX2 2MPP SPD2R CG 1.1KV	2 MPP	2 inputs	1 output	Type: II	Cable gland, PUSH IN connection	1	2866330000
PVN DC 2IN/1OUTX2 2MPP SPD2R WM4C 1.1KV	2 MPP	2 inputs	1 output	Type: II	Connector, WM4C	1	2866350000
PVN DC 2IN/1OUTX2 2MPP SPD2R EVO 1.1KV	2 MPP	2 inputs	1 output	Type: II	Connector, MC4-Evo 2	1	2866370000
No fuse holder, with switch-disconnector							
PVN DC 3I 3O 1MPP SW SPD1R CG 11	1 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2890590000
PVN DC 3I 3O 1MPP SW SPD1R WM4 11	1 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2890470000
PVN DC 3I 3O 1MPP SW SPD1R EVO 11	1 MPP	3 inputs	3 outputs	Type: I / II	Connector, MC4-Evo 2	1	2890350000
With fuse holder, no switch-disconnector							
PVN1M1I3SXF3V100TXPX10	1 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2683030000
PVN1M1I3SXF3V101TXPX10	1 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2683070000
With fuse holder, with switch-disconnector							
PVN1M1I3SDF3V100TXPX10	1 MPP	3 inputs	3 outputs	Type: I / II	Cable gland, PUSH IN connection	1	2683050000
PVN1M1I3SDF3V101TXPX10	1 MPP	3 inputs	3 outputs	Type: I / II	Connector, WM4C	1	2683090000



B



i

More designs on request

Our portfolio protects a variety of string inverters available on the market. However, new variants come on the market regularly and sometimes you need a very special design for your application. Therefore, we have set up an efficient process that allows us to always offer the right solution in the usual quality.

Just send us your use case and requirements. We will create a custom-fit design and offer for you.



Click here to get to the contact form:
www.weidmueller.com/contact-pv

PV Next Fireman Switch

Switch off systems in case of fire

B



Rooftop photovoltaic systems require a disconnection device near the PV modules that is connected to the power supply in the house. This allows the fire brigade to carry out firefighting operations in an emergency without being put at unnecessary risk. The new PV Next fireman switch combines strings in an extremely space-saving way and can reliably disconnect them in the event of a fire. The current flow from the photovoltaic modules is interrupted as soon as the power supply inside or outside the house is switched off. This enables the fire brigade to work safely and extinguish fires more quickly. Unlike other solutions, the switch only consumes electricity during the switching process.



For more information, visit our website:
www.weidmueller.com/pvnextfireman



2 PV Next fireman switch switches off the current flow automatically

1 Fire brigade disconnects AC power supply



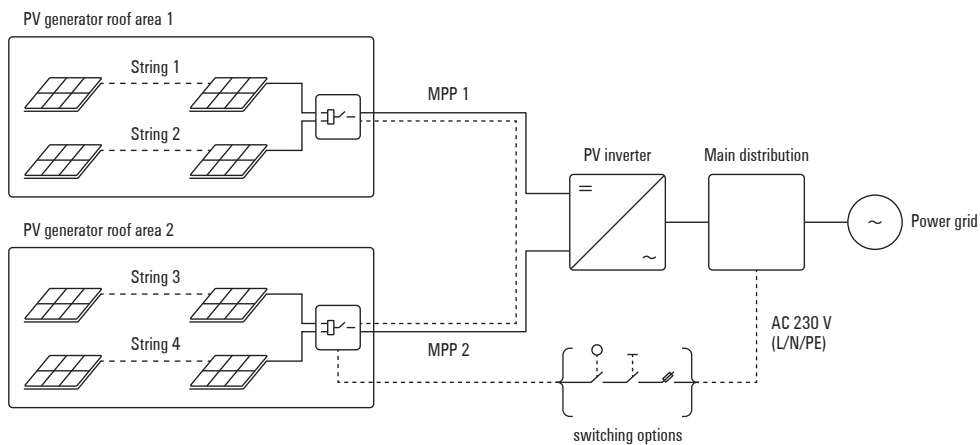
Watch our **video** to find out more about how the PV Next fireman switch works.



Your special advantages

- Fully automatic switch-on and switch-off
- Efficient combination of strings with cable savings of up to 50 %
- Simple and space-saving installation
- Energy consumption only during switch-on and switch-off
- Standard variants available from stock
- Automatic shutdown at temperatures over 100 °C
- Two functions, one compact design: variants with integrated surge protection

Possible installation scheme*



*For further installation examples and questions about standard-compliant installation, please contact us: www.weidmueller.com/contact-pv

PV Next Fireman Switch

Type	MPP	Inputs per MPP	Outputs per MPP	Current per box	Connection	Qty.	Order No.
PVN1M1I2S1FXVX00TXXPX10	1 MPP	2 inputs	1 output	50A	Cable gland, PUSH IN connection	1	2778850000
PVN1M1I2S1FXVX01TXXPX10	1 MPP	2 inputs	1 output	34A	Connector, WM4C	1	2778860000
PVN1M1I2S1FXVX02TXXPX11	1 MPP	2 inputs	1 output	34A	Connector, MC4-Evo 2	1	2888520000
PVN1M2I4S1FXVX00TXXPX10	2 MPP	2 inputs	1 output	2x 50A	Cable gland, PUSH IN connection	1	2778870000
PVN1M2I4S1FXVX01TXXPX10	2 MPP	2 inputs	1 output	2x 34A	Connector, WM4C	1	2778880000
PVN1M2I4S1FXVX02TXXPX11	2 MPP	2 inputs	1 output	2x 34A	Connector, MC4-Evo 2	1	2888530000
PVC DC 2I 10 4MPP RD WM4 11	4 MPP	2 inputs	1 output	4x 34A	Connector, WM4C	1	8000115472
PVC DC 2I 10 4MPP RD EVO 11	4 MPP	2 inputs	1 output	4x 34A	Connector, MC4-Evo 2	1	8000111429
PVC DC 2I 10 6MPP RD WM4 11	6 MPP	2 inputs	1 output	6x 34A	Connector, WM4C	1	8000115473
PVC DC 2I 10 6MPP RD EVO 11	6 MPP	2 inputs	1 output	6x 34A	Connector, MC4-Evo 2	1	8000111430

1100V DC
230V AC



PV Next Fireman Switch with SPD

Type	MPP	Inputs per MPP	Outputs per MPP	Surge protection requirement class	Connection	Qty.	Order No.
PVC DC 2I 10 2MPP RD SPD1R WM4 11	2 MPP	2 inputs	1 output	Type: I / II	Connector, WM4C	1	8000114374
PVC DC 2I 10 2MPP RD SPD1R EVO 11	2 MPP	2 inputs	1 output	Type: I / II	Connector, MC4-Evo 2	1	8000098970
PVC DC 2I 10 4MPP RD SPD1R WM4 11	4 MPP	2 inputs	1 output	Type: I / II	Connector, WM4C	1	8000115470
PVC DC 2I 10 4MPP RD SPD1R EVO 11	4 MPP	2 inputs	1 output	Type: I / II	Connector, MC4-Evo 2	1	8000110665
PVC DC 2I 10 6MPP RD SPD1R WM4 11	6 MPP	2 inputs	1 output	Type: I / II	Connector, WM4C	1	8000115471
PVC DC 2I 10 6MPP RD SPD1R EVO 11	6 MPP	2 inputs	1 output	Type: I / II	Connector, MC4-Evo 2	1	8000111274



More designs on request

Due to the variety of applications, we have not covered all possible fields of application for the emergency shutdown by standard variants. However, due to the modular design of the PV Next product family, we can offer you individual designs for your application at any time. Do you need a Fireman's Switch combined with a surge protection? Do you need a Fireman's Switch with more than 2 MPPs?

Just send us your use case and requirements. We will create a custom-fit design and offer for you.



Click here to get to the contact form:
www.weidmueller.com/contact-pv

PV Protect Surge Protection

Protect PV systems optimally against overvoltages

B



PV Protect is the solution for optimum protection of the inverter against overvoltages. The ready-to-connect boxes are particularly suitable for retrofitting a surge protection into an existing installation. Depending on requirements, connection is made via WM4C connectors or cable glands with convenient and reliable PUSH IN connection technology.



For more information, visit our website:
www.weidmueller.com/pvprotect

PV Protect protects the inverter from overvoltage



Optimal protection for residential buildings



Your special advantages



Wide range of product variants

PV Protect is available with different arrester classes (Type I/II and Type II) and rated voltages (1,000 V/1,500 V). The connection is made either via photovoltaic plug connectors or cable glands – for high flexibility.



Designed to meet various requirements

PV Protect is compact, robust, and extremely weatherproof. The housing complies with protection class IP67 and protects the electronics inside, even from harsh environmental influences.



Quick mounting

Thanks to the pre-assembled arresters, the product can be connected quickly and with little effort. The clear marking of the ports eliminates the possibility of incorrect wiring.

PV Protect

Type	MPP	Inputs pro MPP	Surge protection requirement class	Connection	Qty.	Order No.
1000 volt versions						
VPUM111SXFV101TXPX10	1 MPP	1 input	Type I+II	Connector, WM4C	1	2764140000
VPUM111SXFV100TXPX10	1 MPP	1 input	Type I+II	Cable gland, PUSH IN connection	1	2755970000
VPUM111SXFV201TXPX10	1 MPP	1 input	Type II	Connector, WM4C	1	2764110000
VPUM111SXFV200TXPX10	1 MPP	1 input	Type II	Cable gland, PUSH IN connection	1	2755950000
VPUM2I2SXFV101TXPX10	2 MPP	1 input	Type I+II	Connector, WM4C	1	2764150000
VPUM2I2SXFV100TXPX10	2 MPP	1 input	Type I+II	Cable gland, PUSH IN connection	1	2755980000
VPUM2I2SXFV201TXPX10	2 MPP	1 input	Type II	Connector, WM4C	1	2764130000
VPUM2I2SXFV200TXPX10	2 MPP	1 input	Type II	Cable gland, PUSH IN connection	1	2755960000
1500 volt versions						
VPUM111SXFV201TXPX15	1 MPP	1 input	Type II	Connector, WM4C	1	2764160000
VPUM111SXFV200TXPX15	1 MPP	1 input	Type II	Cable gland, PUSH IN connection	1	2755990000
VPUM2I2SXFV201TXPX15	2 MPP	1 input	Type II	Connector, WM4C	1	2764180000
VPUM2I2SXFV200TXPX15	2 MPP	1 input	Type II	Cable gland, PUSH IN connection	1	2756000000



Y cable / X cable

Type	Power input 1 / input 2	Power output	Stich connection	Qty.	Order No.
Y-connection cable					
PVHYW-XXW+XX06W+15	WM4C -	WM4C +	WM4C +	1	2814180000
PVHYW+XXW-XX06W-15	WM4C +	WM4C -	WM4C -	1	2814190000
PVHYM-XXW+XX06M+15	MC4 -	MC4 +	WM4C +	1	2814200000
PVHYM+XXW-XX06M-15	MC4 +	MC4 -	WM4C -	1	2814210000
PVHYW-XXPXX06W+15	WM4C -	WM4C +	Stripped part	1	2814220000
PVHYM-M-XXX06W+15	MC4 -	WM4C+	MC4 -	1	2877850000
PVHYM+M+XXX06W-15	MC4 +	WM4C-	MC4 +	1	2877860000
X-connection cable					
PVHXW-W-W+XX06W+15	WM4C -	WM4C +	WM4C +	1	2814240000
PVHXW+W+W-XX06W-15	WM4C +	WM4C -	WM4C -	1	2814250000
PVHXM-M-W+XX06M+15	MC4 -	MC4 +	WM4C +	1	2814260000
PVHXM+M+W-XX06M-15	MC4 +	MC4 -	WM4C -	1	2814270000
PVHXW-W-PXX06W+15	WM4C -	WM4C +	Stripped part	1	2814280000
PVHXW+W+PXX06M-15	WM4C +	M4C -	Stripped part	1	2814290000



AC SPD-Box

Protect charging stations and PV systems against overvoltage

B

Protect your string inverter or your wallbox from overvoltages on the AC side of your installation. Especially for cable lengths over 10 metres, a compact and flexible solution is required by standards.



Weidmüller offers a quick and easy to install solution to protect the system components. In addition to protection against overvoltages on the AC side, data lines are also protected against harmful voltages.



For more information, visit our website:
www.weidmueller.com/ac-spd-box



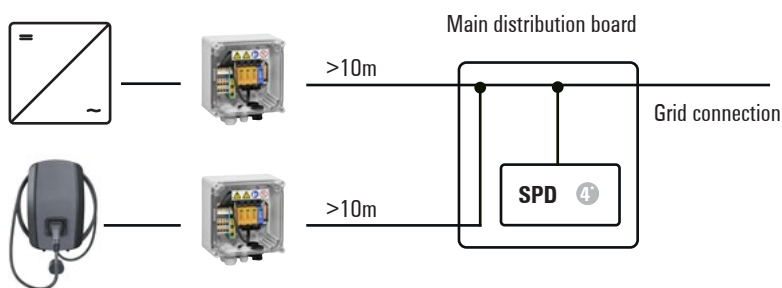
The AC SPD-Box protects the AC side of the inverter against overvoltages

The AC SPD-Box protects the wallbox against overvoltages



Ready-to-install AC surge protection

The AC SPD box is a ready-to-install solution to reliably protect both charging stations from 11-22kW and PV systems against surges. The solution is equipped with Type II AC surge protection and additional surge protection for data cables (RJ45 connection). The compact design with IP65 and a temperature range of -25 to 50 °C is very suitable for outdoor use.



Your advantages

- Quick installation thanks to Push-In technology
- Use for both charging stations and PV systems
- Protection of the data lines against overvoltages

*see selection table on page 6

AC SPD-Box

Type	Inputs	Outputs	Max. cable diameter	Overvoltage protection	Connection	Order No.
PVC AC 11 10 SPD2R + RJ45 04	1	1	6mm ²	Type II	Cable glands	8000104168



FAQs – Frequently Asked Questions about the Installation

B



What are the special features of PV Next combiner boxes and how do I find the right variant?

For a PV system on the roof, a GAK approved in accordance with IEC 61439-2 is required to protect the system against overvoltage. The GAK PV Next also offers additional functions, such as the bundling of strings for reduced cabling effort. Depending on the inverter of your PV system, a suitable variant of the GAK is required. You can easily find the right variant using the selection guide on our website.

How do you protect PV installations against lightning strikes?

The overvoltage protection inside a PV combiner box (DC side of the installation) is one part of the lightning protection system (LPS) of a building and is mandatory according to EN 51643-32 in the EU since 2019. It is used to protect your PV system and provides additional overcurrent protection for the strings in the event of a module failure.

When are DC fuses mandatory to install?

Depending on the kind of photovoltaic installation, a combiner box with fuses is required. According to the IEC 62548:2016, fuses are mandatory if the maximum return current is higher than the return current of the module.



All technical details, our fact sheets and other frequently asked questions can be found on our website: www.weidmueller.com/pv-FAQ

More tips for an easy PV installation:

Selection guide – PV Combiner Box:

Select inverter

Manufacturer

Inverter type



Output of matching combiner box



Scan now and find your matching combiner box: www.weidmueller.com/pvselector

YouTube-Playlist:



Take a look at our YouTube Playlist Photovoltaics to find out more

Efficient operation of PV farms

Discover our solutions for utility scale PV systems

The biggest challenges of our time include climate protection and the energy transition. Utility scale PV systems are a step in the right direction here. That's why we at Weidmüller want to support you in expanding photovoltaic energy.

Our product programme offers reliable connection technology, protects your your systems and enables plant monitoring. This reduces manual efforts for monitoring, maintenance and servicing. With our innovative product range, you can operate your photovoltaics parks more efficiently and without downtimes. From distribution boxes to monitoring solutions and components – our products and solutions meet the highest requirements. We combine our extensive range of components with decentralisation and Industrial IoT solutions.



For further information, technical specifications or additional services, please visit our website:
www.weidmueller.com/pv-utility

B



PV DC Combiner Boxes Central Inverter Concept

B

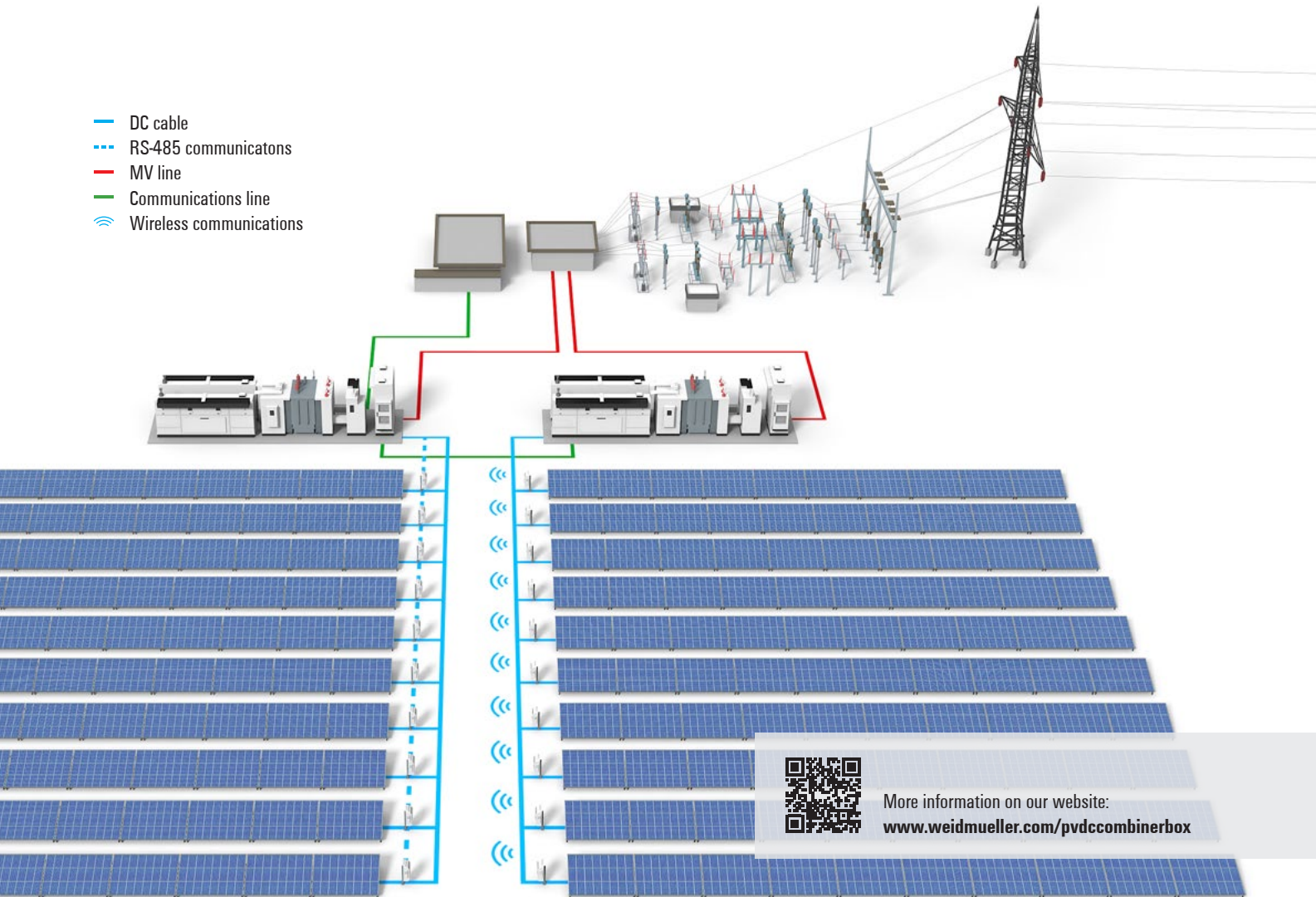
Bundle, protect and combine PV strings efficiently

Our DC combiner boxes offer users the possibility to integrate short-circuit and overvoltage protection, as well string monitoring solutions (I, V, T and SPD and switch isolator status), for PV systems using central inverters with PV panels in trackers and fix tilt systems.

Weidmüller offers a trackrecord of DC combiner boxes higher than 315,000 units sold in all climate regions of the planet for more than 15 years. The experience and expertise in the DC engineering is used to provide high-end solutions covering the CAPEX and OPEX needs of the customer. Models equipped with string monitoring provide additional performance with voltage, current and temperature measurement as well as SPD health and DC switch status. This helps to improve PR of plants and optimises the ROI.



- DC cable
- - - RS-485 communications
- MV line
- Communications line
- ⊞ Wireless communications



More information on our website:
www.weidmueller.com/pvdccombinerbox



Product highlights

- **Optimised design** – By using advanced simulation 3D softwares, the product variants have been designed and tested to operate at the maximum mechanical and thermal efficiency in the most compact housing size.
- **All technical data available online with 1-click** – Weidmüller offers web tools to support on the selection of the best model for your application. Technical data and certifications are available in the Weidmüller online catalogue.
- **Cost-optimised variants** – With the new product line cost optimised models with special accessories were designed which cover the most common applications in PV power plants.
- **Longer lifetime** – DC engineering expertise implemented in designs to allow longer lifetime and higher performance under extreme climatic conditions.
- **Better LCOE and ROI** – Proven track record, bankability and reputation of our solutions simplify product due diligences, insurance contracts and even to increase value of the asset in case it is sold in the future.

Technical data: PV DC Combiner Boxes

Main application features	
Inputs	from 8 to 32
Outputs	1-2
Operating ambient temperature	-20°C up to 50°C
DC earthing system	Floating, negative grounded or positive grounded
Installation location	Protected outdoors
Altitude above the sea level	up to 2000m (standard) higher altitude on demand
Main electrical features	
Rated DC voltage	from 1000 V DC up to 1500 V DC
Rated DC current per input	up to 48 Amps
Maximum fuse size	up 32 Amps for 10x85 mm up 75 Amps for 22x58 mm
Protection against overcurrent	gPV fuses according to IEC 60269-6
Fuses	On both poles or on one pole
Switch disconnecter	Yes
Switch disconnecter rating	up to 500 A (other options on demand)
Enclosure	
Enclosure material	GFRP (Glass Fiber Reinforced Polyester)
Enclosure shape	Portrait or Landscape
Enclosure fixing system	Wall mounted, pedestal or piling fixation
Degree of protection	IP65
Form factor	Cabinet with hinged door
Polycarbonate protection plate	Yes (optional)
Surge protections	
Surge protection device	Type I+II or Type II
Auxiliary contacts	Yes (optional)
Surge protection on RS-485 ports	Yes (optional)
String monitoring	
String monitoring device	Yes (optional)
Main monitored parameters	Voltage, current, temperature, SPD status, switch isolator status and auxiliary alarms
Voltage measurement	from 200 V DC up to 1500 V DC
Current measurement	up to 50 A per string/input
Communication port	RS-485 or wireless (LoRAWAN)
Protocol	Modbus/RTU
Power supply for string monitoring device	DC/DC converter (self powered string monitoring)
Others	
Input connectors	WM4 C PV connectors or cable glands (other options on demand)
Standards	
Standards	IEC 61439-2 ED 3 / EN61439-2:2021

PV Floating DC Combiner Boxes

Floating Solar Installations

B

Collect, protect and monitor DC strings in extreme environments

The lack of land requires the development of new locations for PV systems. In this case, water surfaces are particularly suitable because of the low shading and the cooling effect of the water. However, the ambient conditions place high demands on the generator connection boxes.

Our PV DC Floating Combiner Boxes are designed for use in floating PV systems on freshwater surfaces and equipped with central inverters. They comply with IEC-61439 (ed. 2) and withstand high humidity, corrosive atmosphere and exposure to sunlight. We offer a wide range of plug & play variants from 8 to 24 inputs - with comprehensive protection and suitable covering solutions and DC switch status. This helps to improve PR of plants and optimises the ROI.



Product highlights

- **Absorbing aluminum alloy sunshade** – The specially developed aluminum 5457 (with magnesium) sunshade absorbs incident solar radiation and heat. Its surface finishing increases the reflection index and efficiently deflects the incident radiation. This reduces the temperature inside the combiner box very effectively.
- **Reliable sealing function** – The aluminum cover is fixed to the enclosure door with stainless steel blind rivets. The rivets are located outside the area of the door seal, so that the sealing function according to IP65 is reliably guaranteed at all times.
- **Ensured ventilation** – An air gap between the door housing and the aluminum alloy cover ensures constant air convection. In this way, the combiner box and its components are reliably cooled.
- **Optimum watertightness** – Multivia cable glands ensure optimum watertightness. They reduce the number of mechanical parts and make the entire construction more robust.



More information on our website:
www.weidmueller.com/pvfloating



Ensured quality
 Watch our video and see how our PV Floating DC Combiner Boxes are manufactured.





Easy connection - low maintenance

Due to the pre-assembled Aluminium cover, our combiner boxes do not require any additional preparation work during installation. The innovative PV connection makes the entire solution plug-and-play. Our combiner boxes are made of GFRP and therefore do not need to be repainted regularly. A decisive advantage over metal housings.



Suitable for high humidity

PV-DC floating combiner boxes are specially designed for Severity Class B environments according to IEC 61439 (ed. 2). Therefore, they are suitable for operation in extremely humid and corrosive environments.



Suitable for direct sunlight

PV-DC floating combiner boxes can be operated in direct sunlight without the need to install an additional sunshield. The pre-mounted aluminum cover improves the performance of the system.



Suitable for PV systems in freshwater

The PV DC Floating Combiner Boxes can be operated in floating PV systems on freshwater surfaces. They have been extensively tested and are certified for long-term operation under these specific environmental conditions.

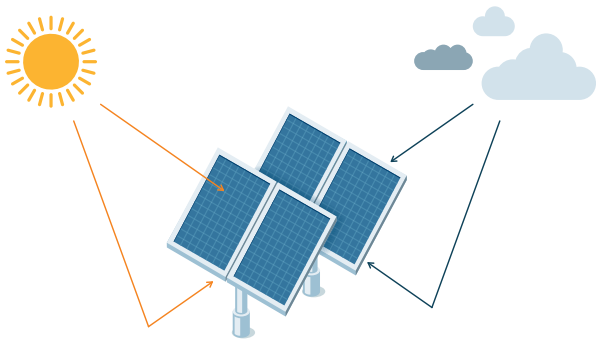
PV DC Combiner Boxes for High Power Panels

Central Inverter Concept & High voltages

B

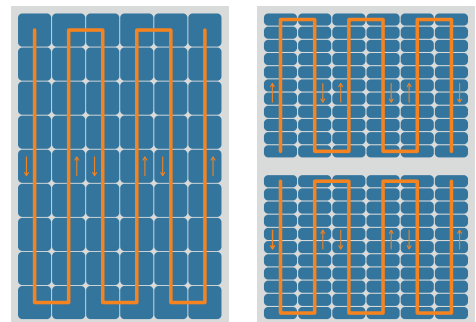
Compact and durable solutions for bifacial half-cell modules

Bifacial solar panels have solar cells on both the front and the back of the panel. This allows the solar energy to be collected on the back of the panel and increases the energy yield of the solar energy system. Our four new PV-DC combination boxes for bifacial half-cell modules allow a higher current consumption due to the fuse holders used.



Space optimized and higher reliability

Increasing the power of PV panels (mono and bifacial) with half-cut cells leads to a rise of current in the strings. The need for higher rated fuses is then mandatory and requires a new approach to system design. Our new designs of PV DC high current combiner boxes offer easy adaptation and time saving for new developments.



Product highlights

- **Standard options in stock ready to order** – A wide range of solutions, available for immediate order from stock to fit into the installation concepts with the brands of PV modules presented above. Variants: With 6 and 8 inputs, with fuse protection in (+/-) poles and with gPV fuses from of 22x58 mm format and a rated current per fuse between 35 Amps up to 75 Amps.
- **Overvoltage protections** – With several configurations, Weidmüller offers the VPU surge protection series for 1500 V DC systems with up to 11 kA I_{sc} and Type I+II or Type II variants.
- **Optimised design** – Through the use of advanced 3D simulation software, the product variants have been designed and tested to operate with maximum mechanical and thermal efficiency in the most compact enclosure possible.
- **Special Fuse protection** – Weidmüller fuses (WSFL) and fuse holders (WSFH) have been specially developed for this new architecture. Rated currents of 35 to 75 Amps per input enable the connection of single and double strings.



Ordering data for DC Combiner Boxes

PV DC Combiner Boxes

Type	Inputs	Fuse protection	Rated voltage	Max Isc per input	String monitoring	Type of enclosure	Enclosure size	Qty.	Order No.
PV 216SOF4CXXV000TXPX15LWW	16	One Pole	1500Vdc	16A	No	Landscape	536 x 747 x 300 mm	1	8000078885
PV 216SOF3CXXV000TAPX15LWW	16	Both Poles	1500Vdc	14A	Integrated Monitoring System	Landscape	636 x 847 x 300 mm	1	8000093503
PV 216SOF3CXXV000TXPX15PWW	16	Both Poles	1500Vdc	14A	No	Portrait	747 x 536 x 300 mm	1	8000078118
PV 216SOF3CXXV000TXPX15LJP	16	Both Poles	1500Vdc	14A	No	Landscape	636 x 847 x 300 mm	1	8000097600
PV 220SOF4CXXV000TXPX15PWW	20	One Pole	1500Vdc	14A	No	Portrait	747 x 536 x 300 mm	1	8000078883
PV 220SOF4CXXV000TAPX15PWW	20	One Pole	1500Vdc	18A	Integrated Monitoring System	Portrait	835 x 635 x 300 mm	1	8000093501
PV 220SOF3CXXV000TXPX15LJP	20	Both Poles	1500Vdc	14A	No	Landscape	636 x 847 x 300 mm	1	8000097601
PV 220SOF0C25V000TA1PA15LIT	20	Both Poles	1500Vdc	14A	Integrated Monitoring System	Landscape	636 x 847 x 300 mm	1	8000105513
PV 224SOF3CXXV000TXPX15LWW	24	Both Poles	1500Vdc	14A	No	Landscape	636 x 847 x 300 mm	1	8000078884
PV 224SOF3CXXV000TXPX15PWW	24	Both Poles	1500Vdc	14A	No	Portrait	847 x 636 x 300 mm	1	8000078882
PV 224SOF3CXXV000TAPX15PWW	24	Both Poles	1500Vdc	13A	Integrated Monitoring System	Portrait	847 x 636 x 300 mm	1	8000093500
PV 224SOF3CXXV000TAPX15LWW	24	Both Poles	1500Vdc	14A	Integrated Monitoring System	Landscape	636 x 847 x 300 mm	1	8000093502
PV 224SOF4CXXV000TXPX15PWW	24	One Pole	1500Vdc	14A	No	Portrait	847 x 636 x 300 mm	1	8000068263
PV 232SOF4CXXV003TXPX15PWW	32	One Pole	1500Vdc	10A	No	Portrait	847 x 636 x 300 mm	1	8000060710

PV Floating DC Combiner Boxes

Type	Inputs	Fuse protection	Rated voltage	String monitoring	Type of enclosure	Enclosure size	Qty.	Order No.
PV 216SOF3CXXV003T7P015PFJP	16	Both Poles	1500Vdc	Integrated Monitoring System	Portrait	847 x 636 x 300 mm	1	8000057079
PV 216SOF3CXXV003TXPX15PFJP	16	Both Poles	1500Vdc	No	Portrait	847 x 636 x 300 mm	1	8000057080
PV 218SOF0C15V003TXPX15PFVW	18	Both Poles	1500Vdc	No	Portrait	847 x 636 x 300 mm	1	8000057083
PV 220SOF3CXXV003TXPX15PFJP	20	Both Poles	1500Vdc	No	Portrait	847 x 636 x 300 mm	1	8000057081
PV 224SOF1C15V003TXPX15PFVW	24	One Pole	1500Vdc	No	Portrait	847 x 636 x 300 mm	1	8000057088
PV 224SOF1C15V003T7P015PFVW	24	One Pole	1500Vdc	Integrated Monitoring System	Portrait	847 x 636 x 300 mm	1	8000057085
PV 224SOF3CXXV003TXPX15PFJP	24	Both Poles	1500Vdc	No	Portrait	847 x 636 x 300 mm	1	8000057077

PV DC Combiner Boxes for High Power Panels

Type	Inputs	Rated voltage	Max Isc per input	String monitoring	Enclosure size	Qty.	Order No.
DC Combiner Box	6	1500Vdc	22A	No	636 x 847 x 300 mm	1	8000081269
DC Combiner Box	8	1500Vdc	21A	No	747 x 536 x 300 mm	1	8000081271
DC Combiner Box	8	1500Vdc	32A	No	636 x 847 x 300 mm	1	8000081272
DC Combiner Box	6	1500Vdc	25A	Integrated Monitoring System	636 x 847 x 300 mm	1	8000101211
DC Combiner Box	8	1500Vdc	25A	Integrated Monitoring System	636 x 847 x 300 mm	1	8000101212
DC Combiner Box	10	1500Vdc	25A	Integrated Monitoring System	636 x 847 x 300 mm	1	8000101213
DC Combiner Box	12	1500Vdc	25A	Integrated Monitoring System	1056 x 852 x 350 mm	1	8000101214
DC Combiner Box	10	1500Vdc	48A	Integrated Monitoring System	1056 x 852 x 350 mm	1	8000101215

PV DC Combiner Boxes Enclosure Accessories

Type	Type of Accessory	Enclosure Brand	Material	Type of enclosure	Enclosure size	Qty.	Order No.
PK FIXATION KIT NSYPLM108	Mounting kit for 2 poles	Schneider Electric	Steel-235 HDG	Portrait	1056 x 852 x 350 mm	1	8000045007
PK FIXATION KIT NSYPLM75	Mounting kit for 1 or 2 poles	Schneider Electric	Steel-235 HDG	Portrait	747 x 536 x 300 mm	1	8000045005
PK FIXATION KIT NSYPLM86	Mounting kit for 1 or 2 poles	Schneider Electric	Steel-235 HDG	Portrait	847 x 636 x 300 mm	1	8000045006
PK FIXATION KIT ARIA75	Mounting kit for 1 or 2 poles	ABB	Steel-235 HDG	Portrait	747 x 536 x 300 mm	1	8000045008
PK FIXATION KIT ARIA86	Mounting kit for 1 or 2 poles	ABB	Steel-235 HDG	Portrait	847 x 636 x 300 mm	1	8000045011
PK FIXATION KIT ARIA108	Mounting kit for 2 poles	ABB	Steel-235 HDG	Portrait	1056 x 852 x 350 mm	1	8000045013
SUNLIGHT COVER ARIA86 ALU	Cover for floating PV DC CB	ABB	AL-5754	Portrait	847 x 636 x 300 mm	1	4000004177
SUNLIGHT COVER SCH86 ALU	Cover for floating PV DC CB	Schneider Electric	AL-5754	Portrait	847 x 636 x 300 mm	1	4000004848
SUNLIGHT COVER SCH108 ALU	Cover for floating PV DC CB	Schneider Electric / ABB	AL-5754	Portrait	1056 x 852 x 350 mm	1	4000004854
METAL SUNCANOPY GALVANIZED ABB/SCH75	Canopy for ground-mounted PV DC CB	Schneider Electric / ABB	Steel-275 HDG	Portrait	747 x 536 x 300 mm	1	4000004772
METAL SUNCANOPY GALVANIZED ABB/SCH86 V2	Canopy for ground-mounted PV DC CB	Schneider Electric / ABB	Steel-275 HDG	Portrait	847 x 636 x 300 mm	1	4000004024
METAL SUNCANOPY GALVANIZED ABB/SCH108 (***)	Canopy for ground-mounted PV DC CB	Schneider Electric / ABB	Steel-275 HDG	Portrait	1056 x 852 x 350 mm	1	4000004771

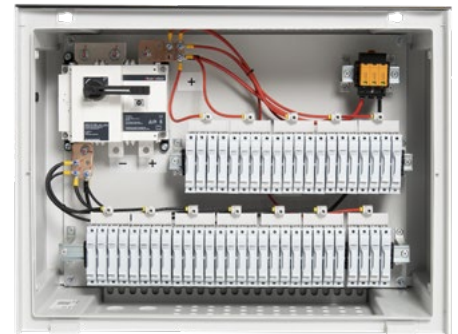
PV DC Combiner Boxes variants for 1 MPPT inverters

String Inverter Concepts with 1 MPPT

B

Efficient and optimized solution for 1 MPPT string inverters

1 MPPT solar string inverters are being rapidly adopted as an efficient solution for large rooftop or utility scale project. Under constant and even sunlight conditions 1 MPPT string inverters perform as efficiently as multi MPPT inverters. PV DC Combiner boxes for 1 MPPT inverters provide a compact solution to combine, protect and monitor all strings providing power to inverter DC side.



Reduced number of MPPT's

Under the competitive landscape of the PV Solar industry new string inverter solutions have appeared. Single MPPT's string inverters provide a robust and reliable solution with reduced electronic components and complexity needed for multiple MPPT inverters. Our new PV DC Combiner boxes, allow different inverter manufacturers to introduce a complete solution with an optimized design with Weidmüller's quality standards.

Inverter Brands



Product highlights

- **Standard options in stock ready to order** – A wide range of solutions, available for immediate order from stock to fit into the installation concepts with 1 MPPT string inverter. Variants: With from 7 to 20 inputs, with fuse
- **Solutions for 1000Vdc and 1500Vdc**
- **Overvoltage protection** – With several configurations, Weidmüller offers the VPU surge protection series for 1500 V DC systems with up to 11 kA Isc and Type I+II or Type II variants.
- **Optimized design** – Through the use of advanced 3D simulation software, the product variants have been designed and tested to operate with maximum mechanical and thermal efficiency in the most compact enclosure possible.
- **Special Fuse protection** – Weidmüller fuses (WSFL) and fuse holders (WSFH) have been specially developed for this new architecture.



Ordering data for DC Combiner Boxes variants for 1 MPPT inverters

PV DC Combiner Boxes for Kaco/Sungrow/Ingteam (1500Vdc)

Type	Inputs	Fuse Protection	Max Fuse Rate	Isc	Fuse included	String monitoring	Type of enclosure	Enclosure size	Max oper. temp	Qty.	Order No.
PV 212SOF3CXXV100TXPX15LWW	12	Both Poles	30A	19A	No	No	Landscape	636 x 847 x 300 mm	45°C	1	8000096019
PV 212SOF3CXXV100T9P015LWW	12	Both Poles	30A	19A	No	Yes	Landscape	636 x 847 x 300 mm	45°C	1	8000096020
PV 215SOF3CXXV100TXPX15LWW	15	Both Poles	30A	19A	No	No	Landscape	636 x 847 x 300 mm	45°C	1	8000096023
PV 215SOF3CXXV100T9P015LWW	15	Both Poles	30A	19A	No	Yes	Landscape	636 x 847 x 300 mm	45°C	1	8000096024
PV 216SOF3CXXV100TXPX15LWW	16	Both Poles	25A	14A	No	No	Landscape	636 x 847 x 300 mm	45°C	1	8000096025
PV 216SOF3CXXV100T9P015LWW	16	Both Poles	25A	14A	No	Yes	Landscape	636 x 847 x 300 mm	45°C	1	8000096026
PV 220SOF3CXXV100TXPX15LWW	20	Both Poles	25A	14A	No	No	Landscape	636 x 847 x 300 mm	45°C	1	8000096027
PV 220SOF3CXXV100T9P015LWW	20	Both Poles	25A	14A	No	Yes	Landscape	636 x 847 x 300 mm	45°C	1	8000096028

PV DC Combiner Boxes for Fronius (1000Vdc)

Type	Inputs	Fuse Protection	Max Fuse Rate	Isc	Fuse Included	String monitoring	Type of enclosure	Enclosure size	Max oper. temp	Qty.	Order No.
PV 207SOF3CXXV100TXPX10PDE	07	Both Poles	32A	19A	No	No	Portrait	747 x 536 x 300 mm	50°C	1	8000111135
PV 207SOF3CXXV100TA1PA10PDE	07	Both Poles	32A	19A	No	Yes	Portrait	847 x 636 x 300 mm	50°C	1	8000111136
PV 211SOF3CXXV100TXPX10PDE	11	Both Poles	32A	19A	No	No	Portrait	747 x 536 x 300 mm	50°C	1	8000111137
PV 211SOF3CXXV100TA1PA10PDE	11	Both Poles	32A	19A	No	Yes	Portrait	847 x 636 x 300 mm	50°C	1	8000111138

PV AC Combiner Boxes String Inverter Concept

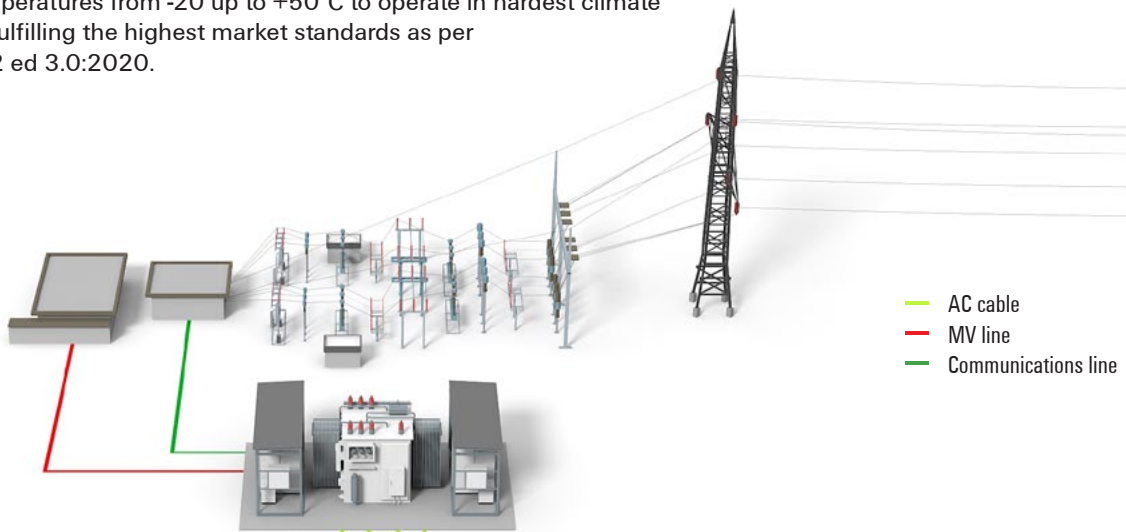
B

Bundle and protect PV string inverters in utility-scale systems

reliably and economically

For solar installations in the PV industry, reliability and availability are paramount. In systems with string inverters, our AC combiner boxes provide optimal short-circuit and overvoltage protection. Furthermore, each string inverter can be easily isolated from the system to do maintenance tasks.

The new PV AC Combiner boxes have been designed for PV systems with string inverters in trackers or fix tilt systems. The product portfolio is suitable for inverters from 60 kW up to 200 kW and support voltages of 400 V, 690 V or 800 V AC. The combiner boxes allow to collect from 2 up to 6 string inverters in one single cabinet. They withstand ambient temperatures from -20 up to +50°C to operate in hardest climate conditions, fulfilling the highest market standards as per IEC 61439-2 ed 3.0:2020.



- AC cable
- MV line
- Communications line



More information on our website:
www.weidmueller.com/pvdc-combiner-box



Product highlights

- **Optimised design** – By using advanced simulation 3D softwares, the product variants have been designed and tested to operate at the maximum mechanical and thermal efficiency in the most compact housing size.
- **Technical data available online with 1-click** – We offer web tools to support the selection of the best model for the application. Technical data and certifications are available in the Weidmüller online catalogue.
- **Very resistant to short-circuits** – Designed to operate in solar power plants with high requirements of short circuit current.

Technical data: PV AC Combiner Boxes

Application data	
Installation location	Protected outdoors
Altitude above the sea level	up to 2000m (standard) higher altitude on demand
Operating ambient temperature	-20°C up to 50°C
Electrical characteristics	
Rated voltage	400V AC - 690 V AC - 800 V AC
Number of inputs (inverters)	from 2 up to 6
Rated current per Input (Inc)	85A up to 200A
Rated frequency (Hz)	50Hz
Short circuit strength	120kA
Fuse link factor form	NH-00 / NH-01
Fuse link rating	85A up to 250A
Number of outputs	1
Protection class	Class II
Overvoltage protection	Type II or Type I+II
Earthing system	TN-S / TN-C
Enclosure	
Enclosure material	Glass Fiber Reinforced Polyester
Enclosure IP rating	IP65
Enclosure fixing system	Wall mounted or pedestal
Form factor	Cabinet with hinged door
Polycarbonate protection cover	Yes
Inputs	
Input cable	4x70mm ² or 4x95mm ²
Input cable gland	M50
Outputs	
Output cable	1 x 240mm ²
Output cable gland	M40
Others	
Main switch disconnecter	Yes (optional)
Standards	
Compliant standards	IEC 61439-2 ED 3

Ordering data: PV AC Combiner Boxes

Type	Inputs	Outputs	Rated voltage	Fuse-link rated current	Monitoring	Type of enclosure	Enclosure size	Qty.	Order No.
PV 40601S2V1C0A1ES	6	1	400 Vac	100A	No	Landscape	850 x 1000 x 350 mm	1	8000069105
PV 40301S2V1C2A1ES	3	1	400 Vac	160A	No	Portrait	1000 x 800 x 300 mm	1	8000069106
PV 40401S2V1C1A1ES	4	1	400 Vac	125A	No	Portrait	1000 x 800 x 300 mm	1	8000069107
PV 40401S2V3C0A0ES	4	1	690 Vac	100A	No	Portrait	800 x 600 x 300 mm	1	8000069108
PV 40201S2V3C1A0ES	2	1	690 Vac	125A	No	Portrait	800 x 600 x 300 mm	1	8000069109
PV 40201S2V4C0A0ES	2	1	800 Vac	100A	No	Portrait	800 x 600 x 300 mm	1	8000069110
PV 40201S2V4C2A0ES	2	1	800 Vac	160A	No	Portrait	800 x 600 x 300 mm	1	8000069111

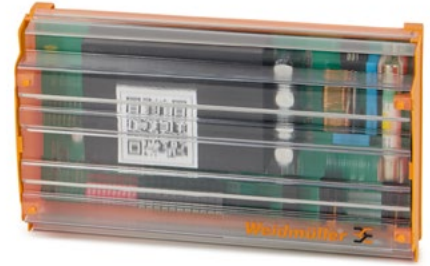
PV String Monitoring System

Monitoring solutions

B

Modular PV string monitoring system for up to 32 strings

In ground-mounted photovoltaic systems, the electrical parameters of the PV strings must be constantly monitored. This is the only way owners and operators can maintain the performance and yield of their systems in the long term. The new PV String Monitoring System is integrated into the DC combiner boxes of plants with central inverters. It is designed to monitor the current and voltage of the individual strings as well as the current SPD and breaker status in the combiner box. Due to its modular design, the system can monitor up to 32 strings and measure up to 50 A per string. It is powered by plant current, can communicate wirelessly, and has low heat emission.



Compact and powerful

It can monitor up to 32 strings and measure up to 50 A per string.



Wireless communication capability

The system can transmit data either via RS-485 cable or wirelessly to the SCADA system.



Modular design

It allows monitoring of up to 3-string inputs as well as high-power and bifacial solar panels.

Product highlights

- Solar String Monitoring System (SMS) allows to control & monitor major string parameter which enhances solar production of a solar plant
- Monitoring of major combiner box variables (string current & voltage, switch & SPD status, temperature,...)
- Monitor up to 32 strings (single double or triple)
- String current monitoring up to 50 A for new high power and bifacial solar panels
- Voltage string monitoring up to 1500 V (also suitable for 1000 V PV solar systems)
- Hall effect sensor monitoring with low power/heat dissipation which ensures the long term performance of the PV DC Combiner Box components
- 99% measurement accuracy for all variable monitored
- RS-485 communication (wireless LoRAWAN optional for entire PV DC combiner boxes solutions offers only)



Technical data: PV String Monitoring System

Application data	
Installation location	Protected outdoors
Altitude above the sea level	up to 2000m (standard) higher altitude on demand
Operating ambient temperature	-20°C up to 70°C
Electrical characteristics	
Operating voltage	1000V DC to 1500V DC
Voltage supply	from 200V up to 1500V
Number of inputs	from 8 up to 32
Available modules	8 channels and 12 channels
Current measurement range	from 0A up to 50A
Measurement accuracy	1%
Power supply	integrated DC/DC converter
Measurement technology	Hall effect sensors
Number of digital inputs	2
Communications	
Communication technology	RS-485 or wireless (LoRAWAN)
Communication protocol	Modbus RTU / LoRAWAN
Surge protection communication port	Yes
Overcurrent protection	Yes
BaudRate	19200 bps (default)
Modbus timeout	1 second
Measurement variables	Voltage, current, temperature, SPD status, switch isolator status and auxiliary alarms
Standards	
Standards	EN 61326-1:2013 EN 62311:2020 EN 62109-1:2010

Ordering data: PV String Monitoring System

Type	Type of unit	Operating voltage	Communication type	Number of monitored channels	Max current/channel	Measurement technology	Number of digital inputs	Qty.	Order No.
SOLAR SMS MASTER	Master - main board	<1500 V DC	RS-485 / Modbus RTU	Controls up to 32 channels	-	N/A	2	1	4000002958
SOLAR SMS SLAVE 8IN25A	Slave - current sensor board	-	RS-485 / Modbus RTU	8 inputs	25A	Hall effect	-	1	4000002959
SOLAR SMS SLAVE 12IN25A	Slave - current sensor board	-	RS-485 / Modbus RTU	12 inputs	25A	Hall effect	-	1	4000002961
SOLAR SMS SLAVE 8IN50A	Slave - current sensor board	-	RS-485 / Modbus RTU	8 inputs	50A	Hall effect	-	1	4000003982
SOLAR SMS SLAVE 12IN50A	Slave - current sensor board	-	RS-485 / Modbus RTU	12 inputs	50A	Hall effect	-	1	4000003983

PV Communication Boxes

Plant Communication

B

Connecting photovoltaic power plants through reliable and safe industrial communications



We combine extensive experience with photovoltaic projects and industrial communication to create a complete portfolio of PV communication cabinets for PV power plants.

Our portfolio offers certified and ready-to-use cabinets for PV power plants that meet the specific environmental, electrical and data transmission requirements according to customer specifications. Weidmüller can customise the communication infrastructure requirements of the PV power plant, enabling perfect data collection for the plant owner, ultimately improving the long-term investment.

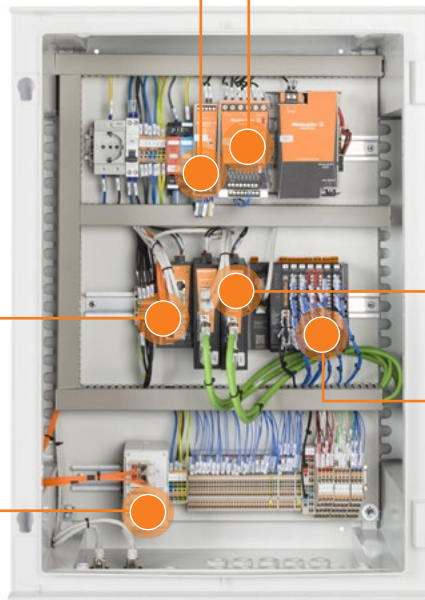
Product highlights

- Safe function due to optimal protection
- Maximum availability due to integrated energy backup
- Highly reliable industry standard with built-in communication protocols
- High cost-effectiveness through modular designs based on standard references
- TCP/RS cards for RS485 field buses
- IP certification for outdoor or indoor use

Power supply
24 VDC @ 3 ADC

RJ-45 Switch & Fibre-optic Converter
IE managed switch 6x RJ-45 ports
2x SC Multi-mode ports

Fibre-optic patch panel box
6x SC Multi-mode fibre-optic ports



Battery & UPS

Battery 24 VDC @ 3.4 Ah
UPS 24 VDC @ 20A/10A

2 x Serial / Ethernet converter
Serial / Ethernet converter
2x RJ45
2x DB9 for RS-485

U-Control with multiple I/O

U-Control controller
16x Digital inputs
4x Analogue inputs
8 GB data storage



Other designs on request

Simply contact us and describe the application and the requirements for the PV Communication Box. We will then provide you with a custom-fit design and quote:
www.weidmueller.com/pvcommunicationbox

PV Weather Boxes

Plant Communication

Increase your energy production, monitor your system output

PV systems should deliver optimum performance. In order to use as many plant resources as possible for energy generation, regular monitoring of weather parameters is crucial.

Our PV Weather Boxes provide reliable information on all important weather parameters. Values such as temperature, irradiance, wind speed and direction, precipitation, relative humidity, and much more can be permanently recorded. The certified housings are equipped with regard to customer-specific requirements such as environmental conditions, electrics, and data transmission. They are ready for immediate use, extremely robust, and protected against all weather influences.

Product highlights

- Reliable function due to optimal protection
- Maximum availability due to integrated power backup
- High cost-effectiveness through modular designs based on standard references
- IP certification for outdoor or indoor use
- Connection of the required weather sensors (not included in the scope of delivery) via modular I/O cards

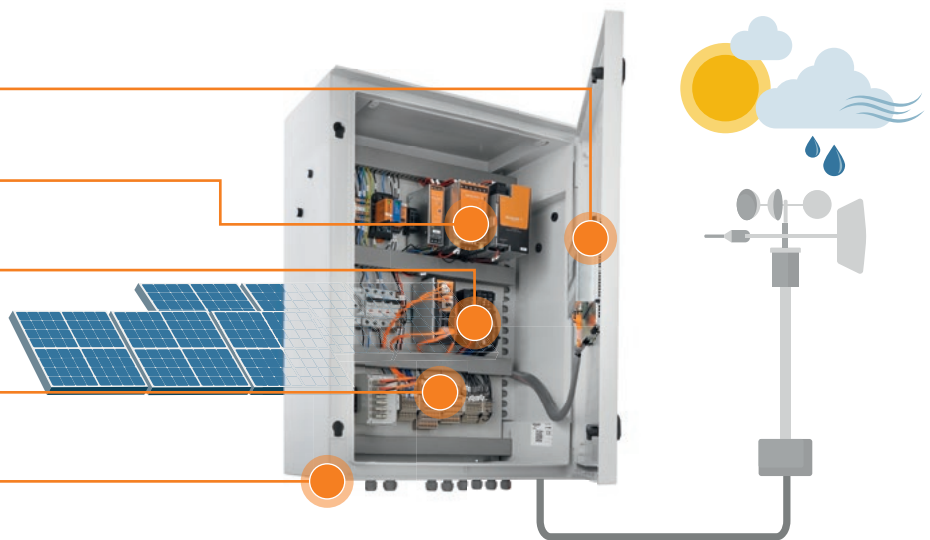
Robust and durable capacitive multi-touch panel monitor for data visualisation and HMI

Safe switching, protection and integrated energy back-up

Modular I/O cards for connecting sensors to manage digital/analogue signals

Modular designs based on standard references

IP degree certified for outdoor or indoor solutions



Suitable for the most well-know brands of weather sensors

The Weidmüller PV Weather Boxes are suitable for all well known weather sensors on the market e.g. use, extremely robust, and protected against all weather influences.



Ordering data: PV Weather Boxes

Type	Type of control device	Type of IE device	UPS control unit	Type of SPD	Qty.	Order No.
PV WUCI05T1U2D1A1WXRXXWW	- UC20-WL2000-IOT - 10.1" capacitive multitouch-panel	- IE network managed switch 6x RJ45 2x SC multi-mode - Remote I/O 16-CH digital input - Remote I/O 4-CH analog input signals - Remote I/O communication 1-CH RS-485	- CP DC UPS 24V 20A/10A - DURA ECO LA-BAT 24V 3.4AH	AC SPD	1	8000094420
PV WUCI05TXU2D1A1WXRXXWW	- UC20-WL2000-IOT	- IE network managed switch 6x RJ45 2x SC multi-mode - Remote I/O 16-CH digital input - Remote I/O 4-CH analog input signals - Remote I/O communication 1-CH RS-485	- CP DC UPS 24V 20A/10A - DURA ECO LA-BAT 24V 3.4AH	AC SPD	1	8000094711



PV installation components

For the easy system installation



PV Tools

When installing a photovoltaic system, the installer depends on reliable and smooth-running tools. Weidmüller offers a range of professional tools for this purpose.

B



Stripping tools

Type	Cutting	Stripping	Qty.	Order No.
MULTI-STRIPAX PV	2,5, 4.0 and 6 mm ²	2,5, 4.0 and 6 mm ²	1	1190490000



Crimping tools

Type	Crimping	Description	Qty.	Order No.
CTF PV WM4	2,5...6 mm ²	Crimping tool for Weidmüller photovoltaic connector WM4 C and identical connectors	1	1222870000



Cutting tools

Type	Maximum cutting performance	Copper finely stranded	Aluminium stranded	Qty.	Order No.
KT 12	25 mm ²	35 mm ²	16 mm ²	1	9002660000



Multitool

Type	Description	Qty.	Order No.
MULTITOOL PV SET	Screw PV-Stick; Check cable diameter for PV-Stick; Put on smart lock for PV-Stick; Open cover for PV Next; Replace SPD cartridge for PV Next; Operate PUSH IN connection; Open control cabinet	1	2771530000





PV Connectors

PV-Stick with SNAP IN connection

No crimping tool, no lost time, no extra effort - the unique PV-Stick uses tried-and-tested SNAP IN technology. The fastest, easiest and safest way to wire up photovoltaic plants - literally in no time.

WM4 C with crimp connection

Outstanding quality and ease of handling due to modern crimp connection.

The WM4 C is suitable for automated assembly as well as for manual installation in the field.

PV-Stick - Photovoltaic connectors - SNAP IN connection

Type	Rated voltage (IEC) Rated current	Connection cross-section min. / max.	Continuous operating temperature min. / max.	Qty.	Order No.
Socket					
PV-STICK+ Qty.10	1500 V DC / 30 A	4 / 6 mm ²	-40 °C...+85 °C	10	1303450000
PV-STICK+ Qty.50	1500 V DC / 30 A	4 / 6 mm ²	-40 °C...+85 °C	50	1303460000
PV-STICK+ Qty.200	1500 V DC / 30 A	4 / 6 mm ²	-40 °C...+85 °C	200	1303470000
Pin					
PV-STICK- Qty.10	1500 V DC / 30 A	4 / 6 mm ²	-40 °C...+85 °C	10	1303490000
PV-STICK- Qty.50	1500 V DC / 30 A	4 / 6 mm ²	-40 °C...+85 °C	50	1303500000
PV-STICK- Qty.200	1500 V DC / 30 A	4 / 6 mm ²	-40 °C...+85 °C	200	1303510000
PV-Stick Set					
PV-STICK SET	1500 V DC / 30 A	4 / 6 mm ²	-40 °C...+85 °C	1	1422030000



WM4 C - Crimp connectors

Type	Rated voltage / current	Conductor cross-section	Connection	Qty.	Order No.
Box connectors - housing					
SFGH BOX WM4 C BT	1500 V DC (IEC) / 35 A	4 / 6 mm ²	M 12 housing cable gland	100	1530640000
BUGH BOX WM4 C BT	1500 V DC (IEC) / 35 A	4 / 6 mm ²	M 12 housing cable gland	100	1530630000
Field connector housing					
SFGH WM4 C BT	1500 V DC (IEC) / 35 A	4 / 6 mm ²	M 16 housing cable gland	100	1530700000
BUGH WM4 C BT	1500 V DC (IEC) / 35 A	4 / 6 mm ²	M 16 housing cable gland	100	1530690000
Crimp contacts					
BUKO WM4 C BT	Socket contact	4 and 6 mm ² cables	Loose goods for crimping tools	100	1530670000
BUKO WM4 C RL	Socket contact	4 and 6 mm ² cables	Reel packaged goods for automated crimping	1500	1530770000
SFKO WM4 C BT	Pin contact	4 and 6 mm ² cables	Loose goods for crimping tools	100	1530680000
SFKO WM4 C RL	Pin contact	4 and 6 mm ² cables	Reel packaged goods for automated crimping	1500	1530780000



Accessories

Type	Description	Qty.	Order No.
SAFETY-CLIP WM4 Qty.10	Locking clip for PV-Stick prevents opening without tools	10	1328150000
VSSO WM4 C	Sealing cap for protecting PV connectors that are not mated (all connectors)	100	1254870000



PV AC output connectors (suitable for Huawei / Sungrow / SMA)

Type	Description	Rated voltage / current	Clamping range min. / max.	Qty.	Order No.
PV BSS VAPM 5P M	Box coupling 5 pole	600 V AC / 60 A	0.2mm ² - 16mm ²	1	2920100000
PV PS VAPM 5P F	Field connector 5 pole	600 V AC / 60 A	0.2mm ² - 16mm ²	1	2920110000
PV BSS DL	Cover	-	-	-	2920120000
PV PS ULTA	Lock	-	-	1	2920130000





PV Labels and Markers

The wide range of PV application specific labels and cable markers make the installation complete and make it easy to keep track of things during maintenance.

Marking of the PV system at certain points is mandatory according to IEC 62548.

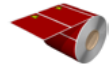
PV Cable marker

Type	Design	Colour	Kabelbinder Loch	Qty	Order No.
SFX-VT 9/24 MM WS	9X24 mm cable marker, with 1 cable tie punch hole, UV-resistant	○	6 x 1.9 mm	1000	2621470000
SFX-VT 9/24 MM GE	9X24 mm cable marker, with 1 cable tie punch hole, UV-resistant	●	6 x 1.9 mm	1000	2621460000
SFX-VT 9/24 MM RT	9X24 mm cable marker, with 1 cable tie punch hole, UV-resistant	●	6 x 1.9 mm	1000	2799310000
SFX-VT 9/24 MM BL	9X24 mm cable marker, with 1 cable tie punch hole, UV-resistant	●	6 x 1.9 mm	1000	2799320000
SFX-VT 11/60 MM WS	11X60 mm cable marker, with 2 cable tie punch hole, UV-resistant	○	5.5 x 2 mm	1000	2621450000
SFX-VT 11/60 MM GE	11X60 mm cable marker, with 2 cable tie punch hole, UV-resistant	●	5.5 x 2mm	1000	2621440000
SFX-VT 11/60 MM RT	11X60 mm cable marker, with 2 cable tie punch hole, UV-resistant	●	5.5 x 2 mm	1000	2900960000
SFX-VT 11/60 MM BL	11X60 mm cable marker, with 2 cable tie punch hole, UV-resistant	●	5.5 x 2 mm	1000	2900970000
Ribbon: 2448880000 black					



PV Device marker

Type	Design	Colour	Qty	Order No.
THM PV 89/60 B/DR RT	Device marker, 60 x 89 mm	●	450	2817450000
THM PV EL 90 GE 30M	Device marker, 90 mm	●	1 roll, 30 m	2817440000
THM PV EL 90 RT 30M	Device marker, 90 mm	●	1 roll, 30 m	2817430000
Ribbon: 2005070000 black, 2918800000 white				



THM MultiMark -Thermal transfer printer

Type	Design	Qty	Order No.
THM MULTIMARK	Marking systems, thermal transfer printer, thermal transfer, 300 DPI, MultiMark, shrink sleeves, label rolls	1	2599430000
THM MMP CUTTER	Cutting kit - for automatic cutting of continuous markers	1	1331600000
For printing MultiMark markers, shrink sleeves, label rolls, etc.			



PV warning label

Type	Design	Qty	Order No.
TABPACK PV 90/100 WFF	Fire brigade warning, pre-printed warning label, bag	20	2817460000
TABPACK PV 90/100 WBC	Battery warning, pre-printed warning label, bag	20	2817470000



Cable tie

Type	Design	Strength in mm	Qty	Order No.
CB-UVR 98/2,5 BK	Cable tie, 2.5 x 98 mm, polyamide 66, 80 N	1	100	2659310000
CB-UVR 140/3,5 BK	Cable tie, 3.5 x 140 mm, polyamide 66, 130 N	1.1	100	2659320000
CB-UVR 200/3,5 BK	Cable tie, 3.5 x 200 mm, polyamide 66, 130 N	1.2	100	2659330000
CB-UVR 200/4,8 BK	Cable tie, 4.8 x 200 mm, polyamide 66, 220 N	1.35	100	2659340000
CB-UVR 290/4,5 BK	Cable tie, 4.5 x 290 mm, polyamide 66, 220 N	1.4	100	2659350000
CB-UVR 365/7,5 BK	Cable tie, 7.5 x 365 mm, polyamide 66, 540 N	1.8	100	2659360000





PV Fuses

gPV cylindrical fuse cartridges

The gPV cylindrical fuse cartridges are designed to provide compact, safe and economical protection of photovoltaic modules. They provide protection against both overload and short circuit..

When are fuses required?

According to IEC 62548, fuses are required if the reverse current of the module is exceeded. This is calculated as follows:

String current x 1.25 x (number of strings - 1) = Larger max. reverse current, then fuse holder for + and -.

Which size should I use?

Multiply the ISC value of the module by 1.5.

Example:

8.99 A x 1.5 = 13.485 rounded up to 15 A fuse cartridges

10x38 gPV fuse cartridges with silver-plated contacts for PV applications

Type	Voltage / Current	Power loss	Switching capacity	Qty.	Order No.
FUSE 10X38 1A 1000 VDC GPV	1000 V DC / 1 A	2.2 W	30 kA	10	2783160000
FUSE 10X38 2A 1000 VDC GPV	1000 V DC / 2 A	2.4 W	30 kA	10	2783170000
FUSE 10X38 3A 1000 VDC GPV	1000 V DC / 3 A	2.65 W	30 kA	10	2783180000
FUSE 10X38 4A 1000 VDC GPV	1000 V DC / 4 A	2.7 W	30 kA	10	2783190000
FUSE 10X38 5A 1000 VDC GPV	1000 V DC / 5 A	0.76 W	30 kA	10	2783200000
FUSE 10X38 6A 1000 VDC GPV	1000 V DC / 6 A	3.2 W	30 kA	10	2783210000
FUSE 10X38 8A 1000 VDC GPV	1000 V DC / 8 A	1.45 W	30 kA	10	2783220000
FUSE 10X38 10A 1000 VDC GPV	1000 V DC / 10 A	1.66 W	30 kA	10	2783230000
FUSE 10X38 12A 1000 VDC GPV	1000 V DC / 12 A	1.57 W	30 kA	10	2783240000
FUSE 10X38 15A 1000 VDC GPV S	1000 V DC / 15 A	1.65 W	33 kA	10	2827970000
FUSE 10X38 16A 1000 VDC GPV S	1000 V DC / 16 A	1.84 W	10 kA	10	2837520000
FUSE 10X38 20A 1000 VDC GPV S	1000 V DC / 20 A	2 W	10 kA	10	2827980000
FUSE 10X38 25A 1000 VDC GPV S	1000 V DC / 25 A	3.5 W	10 kA	10	2827990000
FUSE 10X38 30A 1000 VDC GPV S	1000 V DC / 30 A	3.8 W	10 kA	10	2828000000



gPV fuse cartridges silver-plated contacts for PV applications

Type	Voltage / Current	Switching capacity	Qty.	Order No.
Fuse 1500V GPV - 10x85				
FUSE WSFL 10X85 15A 1K5V GPV	1500 V DC / 15 A	50 kA	1	4000002597
FUSE WSFL 10X85 16A 1K5V GPV	1500 V DC / 16 A	50 kA	1	4000002609
FUSE WSFL 10X85 20A 1K5V GPV	1500 V DC / 20 A	50 kA	1	4000002610
FUSE WSFL 10X85 25A 1K5V GPV	1500 V DC / 25 A	50 kA	1	4000002611
FUSE WSFL 10X85 30A 1K5V GPV	1500 V DC / 30 A	50 kA	1	4000005431
FUSE WSFL 10X85 32A 1K5V GPV	1500 V DC / 32 A	50 kA	1	4000002612
Fuse 1500V GPV - 22x58				
FUSE WSFL 22X58 30A 1k5V GPV	1500 V DC / 30 A	30 kA	1	2873880000
FUSE WSFL 22X58 35A 1k5V GPV	1500 V DC / 35 A	30 kA	1	2865970000
FUSE WSFL 22X58 40A 1k5V GPV	1500 V DC / 40 A	30 kA	1	4000003732
FUSE WSFL 22X58 50A 1k5V GPV	1500 V DC / 50 A	30 kA	1	4000003733
FUSE WSFL 22X58 65A 1k5V GPV	1500 V DC / 65 A	30 kA	1	4000003734
FUSE WSFL 22X58 70A 1k5V GPV	1500 V DC / 70 A	30 kA	1	2873890000
FUSE WSFL 22X58 75A 1k5V GPV	1500 V DC / 75 A	30 kA	1	2870900000



Fuseholder

Type	Voltage / Current	Form factor	Qty.	Order No.
FUSEHOLDER WSFH 10X85 1K5V	1500 V DC / 32 A	10 x 85 mm	10	4000002613
FUSEHOLDER WSFH 22X58 1K5V	1500 V DC / 80 A	22 x 58 mm	6	4000003740





Emergency power box for Fronius Primo GEN24 Plus

Increasingly, homeowners want to be supplied with electricity from their own PV system even in the event of a power cut. The inverter manufacturer Fronius therefore offers the option of supplying consumers in the event of a power cut in its Primo GEN24 Plus product range. Weidmüller has developed the appropriate emergency power box to connect the necessary loads quickly and safely if required.

The Fronius Primo GEN24 Plus is connected to the emergency power box from Weidmüller. If there is a failure in the grid, this hybrid inverter recognises this condition and activates the connection to the emergency power box. Now residents can use various consumers such as a refrigerator or charging cables for mobile phones to this box.

It is possible to use the PV electricity from the roof directly or feed it into a battery. At the same time, the electricity from the battery can be used if no solar power is generated. This simple solution does not require a separate disconnection device after the grid connection point to be installed.



Your advantages

- Suitable solution for the Primo GEN24 Plus
- Quick and easy installation
- Accessories already included

^(A) 1 phase cable ^(B) Emergency power box ^(C) 1 phase cable with plug

Emergency power box

Type	Connection cable	Electrical socket	Order No.
PVC AC NOTSTROMBOX TYPE F CEE 7/3	1 phase cable to connect to the string inveter	Type F CEE 7/3 Electrical socket, Schuko	8000108185
PVC AC NOTSTROMBOX TYPE 23	1 phase cable to connect to the string inveter	Type 23 Electrical socket	8000101331



You can find more information about our accessories and other articles on our website: www.weidmueller.com/pv-accessories

VARITECTOR surge protection for all kind of photovoltaic systems

Lean design and latest technology guarantee best plant protection

B



Modern photovoltaic energy generation is streamlined to efficiency. Reliable surge protection with future-proof performance is a must to maximise system uptime and profitability. The VARITECTOR PU PV series is designed for use in PV string combiner boxes for generator voltages up to 1,500 V and complies with latest UL and EN standards for global application.

**600 V
1.000 V
1.500 V**

Type I and II protection

Type I and II protection is supported for 600V, 1,000V and 1,500V systems fully compliant to latest EN / IEC standards.

**I_{scpv}
11 kA**

Maximum short-circuit capability

PV plants, which combine many panels in a string, are efficiently protected up to 11 kA of the prospective short-circuit current. Additional fuses for the SPD are not required.

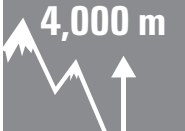
Pluggable inserts



Pluggable arresters

The surge protection devices are easily pluggable and enable a tool-free, fast and cost-effective replacement.

**up to
4,000 m**



Safe operation up to 4,000 m

PV plants, also such located in high altitude regions, are reliably protected. An additional risk analysis of deratings is not required for extraordinary locations.



Visit our website for more information
www.weidmueller.com/varitector





Customise your protection with VARITECTOR PU devices A full scale portfolio for tailored DC and AC protection solutions

Several aspects need to be covered that are related to the type of system (e.g. rooftop systems or utility-scale open space systems). When selecting overvoltage protection measures, a set of regulations have to be observed.

PV systems with external lightning protection

Type II surge protection can be used, provided the separation distance is maintained (usually > 0.7 m to 1 m). If the separation distance is not maintained, a surge protection Type I for DC cabling is required.

PV systems without external lightning protection

This is a common design for which surge protection Type II must be provided for DC cabling.

i The right surge protection for your PV system in just three steps (installation location: **1** & **2** = DC / **3** & **4** = AC). Find out more on page B.8.

DC surge arrester

DC protection for 600 V applications **1 2**

Type	Type	Version	MPP	Discharge current I_{imp} / I_{max}	Qty.	Order No.
VPU PV I+II 3 600 E	I + II	without remote signalling contact	1 MPP	6,25 kA / 40 kA	1	2857030000
VPU PV I+II 3 R 600 E	I + II	with remote signalling contact	1 MPP	6,25 kA / 40 kA	1	2857040000
VPU PV II 3 600	II	without remote signalling contact	1 MPP	- / 50 kA	1	2857060000
VPU PV II 3 R 600	II	with remote signalling contact	1 MPP	- / 50 kA	1	2857070000



DC protection for 1000 V applications **1 2**

Type	Type	Version	MPP	Discharge current I_{imp} / I_{max}	Qty.	Order No.
VPU PV I+II 3 1000	I + II	without remote signalling contact	1 MPP	6,25 kA / 40 kA	1	2530610000
VPU PV I+II 3 R 1000	I + II	with remote signalling contact	1 MPP	6,25 kA / 40 kA	1	2530620000
VPU PV II 3 1000	II	without remote signalling contact	1 MPP	- / 40 kA	1	2530550000
VPU PV II 3 R 1000	II	with remote signalling contact	1 MPP	- / 40 kA	1	2530180000



DC protection for 1000 V applications, 5 poles **1 2**

Type	Type	Version	MPP	Discharge current I_{imp} / I_{max}	Qty.	Order No.
VPU PV I+II 5 1000	I + II	without remote signalling contact	2 MPP	5 kA / 40 kA	1	2856440000
VPU PV I+II 5 R 1000	I + II	with remote signalling contact	2 MPP	5 kA / 40 kA	1	2856490000
VPU PV II 5 1000	II	without remote signalling contact	2 MPP	- / 40 kA	1	2856500000
VPU PV II 5 R 1000	II	with remote signalling contact	2 MPP	- / 40 kA	1	2857020000



DC protection for 1500 V applications **1 2**

Type	Type	Version	MPP	Discharge current I_{imp} / I_{max}	Qty.	Order No.
VPU PV I+II 3 1500	I + II	without remote signalling contact	1 MPP	5 kA / 30 kA	1	2530580000
VPU PV I+II 3 R 1500	I + II	with remote signalling contact	1 MPP	5 kA / 30 kA	1	2530590000
VPU PV II 3 1500	II	without remote signalling contact	1 MPP	- / 30 kA	1	2530640000
VPU PV II 3 R 1500	II	with remote signalling contact	1 MPP	- / 30 kA	1	2530650000





AC surge arresters

AC protection Type I/II for 230 V Mains voltage ³ ⁴

Type	Continuous current / lightning impulse current (I_{max})	Version	Network	Qty.	Order No.
Type I arrester - pre-counter range - 275 V AC / 25 kA - S-line					
VPU AC I 3 275/25 LCF S	275 V AC / 25 kA	without remote signalling contact, leakage current free	TN-C	1	2726740000
VPU AC I 3 R 275/25 LCF S	275 V AC / 25 kA	with remote signalling contact, leakage current free	TN-C	1	2726750000
VPU AC I 3+1 275/25 LCF S 2PE	275 V AC / 25 kA	without remote signalling contact, leakage current free	TN-C-S, TN-S, TT	1	2726760000
VPU AC I 3+1 R 275/25 LCF S 2PE	275 V AC / 25 kA	with remote signalling contact, leakage current free	TN-C-S, TN-S, TT	1	2726770000
VPU AC I 4 275/25 LCF S	275 V AC / 25 kA	without remote signalling contact, leakage current free	TN-C-S, TN-S	1	2726780000
VPU AC I 4 R 275/25 LCF S	275 V AC / 25 kA	with remote signalling contact, leakage current free	TN-C-S, TN-S	1	2726790000
Type I arrester - pre-counter range - 300 V AC / 12.5 kA					
VPU AC I 3 300/12.5 LCF	300 V AC / 12.5 kA	without remote signalling contact, leakage current free	TN-C	1	2636970000
VPU AC I 3 R 300/12.5 LCF	300 V AC / 12.5 kA	with remote signalling contact, leakage current free	TN-C	1	2636980000
VPU AC I 3+1 300/12.5 LCF	300 V AC / 12.5 kA	without remote signalling contact, leakage current free	TN-C-S, TN-S, TT	1	2636910000
VPU AC I 3+1 R 300/12.5 LCF	300 V AC / 12.5 kA	with remote signalling contact, leakage current free	TN-C-S, TN-S, TT	1	2636920000
Type I arrester - post-counter range - 300 V AC / 12.5 kA					
VPU AC I 3 300/12.5	300 V AC / 12.5 kA	without remote signalling contact	TN-C	1	2591440000
VPU AC I 3 R 300/12.5	300 V AC / 12.5 kA	with remote signalling contact	TN-C	1	2591450000
VPU AC I 3+1 300/12.5	300 V AC / 12.5 kA	without remote signalling contact	TN-C-S, TT, IT with N, IT without N	1	2591460000
VPU AC I 3+1 R 300/12.5	300 V AC / 12.5 kA	with remote signalling contact	TN-C-S, TT, IT with N, IT without N	1	2591470000
VPU AC I 4 300/12.5	300 V AC / 12.5 kA	without remote signalling contact	TN-C-S, TN-S	1	2591420000
VPU AC I 4 R 300/12.5	300 V AC / 12.5 kA	with remote signalling contact	TN-C-S, TN-S	1	2591430000



AC protection Type II for 230 V Mains voltage ³ ⁴

Type	Continuous current / discharge current (I_{max})	Version	Network	Qty.	Order No.
Type I arrester - post-counter range - 300 V AC / 12.5 kA					
VPU AC II 3 300/50	300 V AC / 50 kA	without remote signalling contact	TN-C	1	2591160000
VPU AC II 3 R 300/50	300 V AC / 50 kA	with remote signalling contact	TN-C	1	2591170000
VPU AC II 3+1 300/50	300 V AC / 50 kA	without remote signalling contact	TN-C-S, TN-S, TT, IT	1	2591080000
VPU AC II 3+1 R 300/50	300 V AC / 50 kA	with remote signalling contact	TN-C-S, TN-S, TT, IT	1	2591090000
VPU AC II 4 300/50	300 V AC / 50 kA	without remote signalling contact	TN-C-S, TN-S	1	2591140000
VPU AC II 4 R 300/50	300 V AC / 50 kA	with remote signalling contact	TN-C-S, TN-S	1	2591150000
Type II arrester with integrated fuse - post-counter range - 300 V AC / 50 kA					
VPU AC II F 3 300/40	300 V AC / 50 kA	without remote signalling contact	TN-C	1	2827600000
VPU AC II F 3 R 300/40	300 V AC / 50 kA	with remote signalling contact	TN-C	1	2807410000
VPU AC II F 3+1 300/40	300 V AC / 50 kA	without remote signalling contact	TN-C-S, TN-S, TT, IT	1	2827630000
VPU AC II F 3+1 R 300/40	300 V AC / 50 kA	with remote signalling contact	TN-C-S, TN-S, TT, IT	1	2807440000
VPU AC II F 4 300/40	300 V AC / 50 kA	without remote signalling contact	TN-C-S, TN-S	1	2827610000
VPU AC II F 4 R 300/40	300 V AC / 50 kA	with remote signalling contact	TN-C-S, TN-S	1	2807420000



AC protection Type I/II for 800 V applications ³ ⁴

Type	Continuous current / discharge current (I_{max})	Version	Network	Qty.	Order No.
VPU AC I 3+MOV R 950/12.5	950 V AC / 50 kA	with remote signalling contact	TN-C, IT without N	1	2845570000



V-DATA - Data protection arrester

Type	Suitable for:	Connection	Qty.	Order No.
VDATA CAT6	Cat. 5 (up to 100 MHz) and Cat. 6 to 250 MHz (Class E), PoE (according to IEEE 802.3af) and PoE+ (according to IEEE 802.3at)	RJ45	1	1348590000



Recommendation

As PV systems are generally installed in unprotected environments (danger from direct lightning strikes), it is generally advisable to install type I+II surge protection. This also increases the service life of the protectionprotective components used.



You can find more information about our accessories and other articles on our website:
www.weidmueller.com/varitector_pv_solutions



Maximum yield with dynamic solar islands

Successful project with Floating Solar BV for solar islands that rotate with the sun

B



Technology in the photovoltaic energy sector has been developing very fast in recent years. Thanks to the focus on renewable energy sources and cost optimisation, the installed capacity of PV systems in every country is increasing rapidly. Floating solar energy systems contribute to this goal. The characteristics of infrastructure in the Netherlands make this technique very applicable for the development of solar power systems. The aim is to increase the percentage of renewable energy used as part of the „European Green Deal“ and the „Paris Climate Agreement“.



The company Floating Solar BV, based in the Netherlands, specialises in floating solar power systems. They have established three artificial islands for the largest floating, dynamic solar park in Europe. The plan is to extend this to 15 islands. The solar park will soon contain 67,000 solar panels which will be divided across 15 round islands, each 140 meters in diameter. These panels float in a basin where water is stored for later use. Together, they will have a capacity of over 22 MW peak.

The solar panels installed by Floating Solar add a new function to the water basin. They remain cooler, rotate with the sun, and produce more than standard panels. This increases the output power, decreases the cost of energy production, and significantly improves the ROI. One of the islands (4,500 panels) will be equipped with sensors that permanently monitor the water quality for algae formation, light penetration, and ecology, for example. The next islands will only be built when it appears there are no significant negative side effects on nature and the water quality.



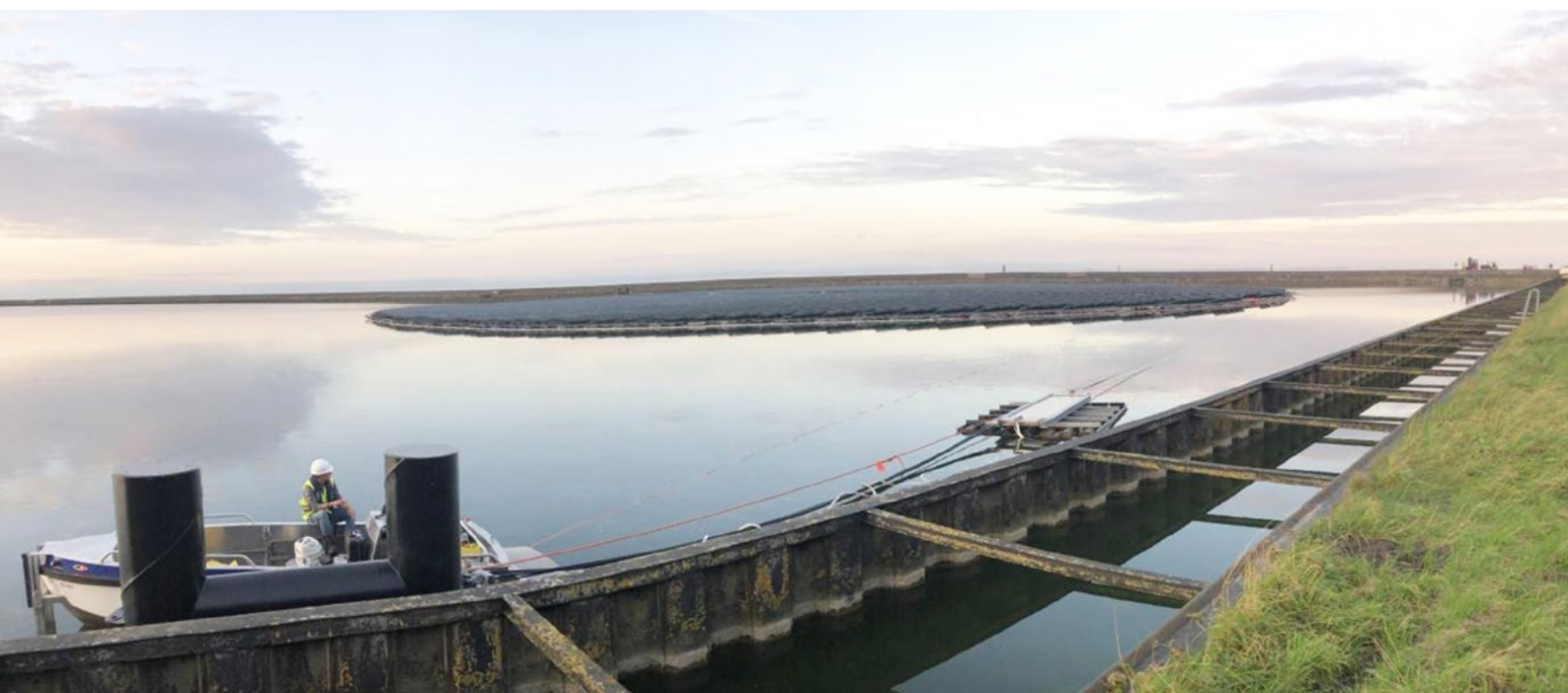


Floating Solar BV is a company that delivers high quality systems. Partly thanks to their mother company Dromec (specialised in offshore winch installations) they have developed this unique concept of solar islands that rotate with the sun. Their specific needs made them look for partners who have the quality products and knowledge for this application. In Weidmüller they have found a partner who supports them in design, logistical challenges, commissioning and the final delivery. Extra attention is paid to the relevant documents and quality approvals. It was also important to them that the working method and people involved in the projects fit the culture and objectives of Floating Solar.

General Manager at Floating Solar BV, Kees-Jan van der Geer; „We have made strategic decisions to achieve and secure the culture of quality and solution orientation. Weidmüller fits this approach with regard to the price-quality ratio and the support they provide. They have delivered a tailor-made solution for connecting and

securing the DC circuit in solar power systems. Our customers have very high demands regarding quality, quality marks, documentation, method of drawing, schedule delivery, test procedures and so on.“
„Even when choosing the right data cabling and connectors, for example, Weidmüller provided its service, even instructing the technicians on-site so they could assemble and test these with the right tools“ – Ralph van Dijk, Manager of Operations at Floating Solar. The environmental conditions are harsh and the intended lifespan long. The entire design of the islands is focused on this. They even take into account unharmed bird deterrent so that the surface of the panels remains clean.

The combiner boxes also have to meet the highest standards, from the entrance of the string cables to the thick power outputs, every little detail has been taken into account to ensure the right performance for the whole system. The Floating Combiner Boxes contain the overcurrent and overvoltage protection devices on the DC



B

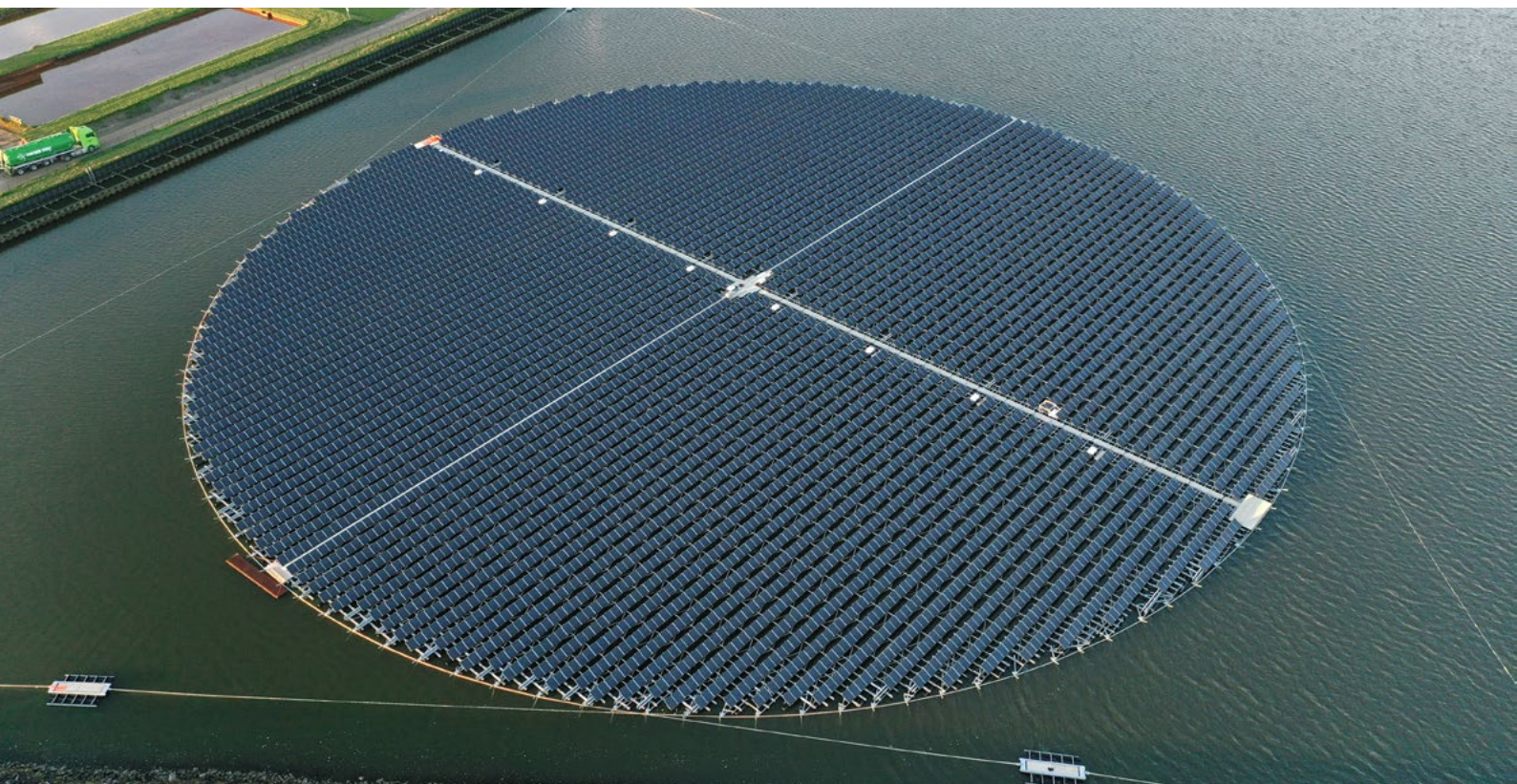


side of the system. This is where all the generated power goes through the system, so it is extremely important to ensure performance in terms of protection and reliability.

To develop the most optimised solution we considered electrical safety conditions, types of cables glands, connectors, and the material of terminals as well as their temperature and humidity behaviour. The Weidmüller range of combiner boxes for floating systems are designed and tested for these conditions. Quality checks are carried out on each individual box and other critical components before they are taken into the production line. Once the combiner box is ready,

just before packaging, Weidmüller's specialists check and verify it on key components which affect the IP classification. All this makes it possible to achieve a high level of quality, giving the system's investor a reliable set of products.

Finally, very tight delivery times have to be met in order to meet the project deadlines and ensure that the system can deliver energy to the public grid on time. The close cooperation between Floating Solar BV and Weidmüller has contributed to the success in achieving the targets. Weidmüller supplies customised solutions for connecting and securing the DC circuit in solar power plants.





Tested quality

Standard tests and services guaranteeing a long service life

B

Trust in approved quality

Our laboratory is accredited according to international standards. It operates independently and is recognised by institutions, registration services, and other institutions and authorities. As a member of the CTD program, Weidmüller is regularly audited by UL, especially about test methods, quality management and documentation.

All combiner boxes are tested according to IEC-61439-ed-2 and are constructed on the basis of the test results as well as assembled for the specific application. This ensures that each of the requirements of the target application is fully met.

Your benefits at a glance

- 5 years warranty
- Laboratory testing
- Commissioning Services
- On-Site Inspection



Tested & proven

Our PV boxes are designed and tested to withstand extreme climate fluctuations. See for yourself in our video straight from our lab.





Proven competence

Reference projects around the globe

The best proof of the quality of our solutions is their worldwide use. More than 250,000 of our photovoltaic combiner boxes are installed in over 100 countries worldwide. They connect 120 million photovoltaic modules. Our reference project database provides an overview.



Floating dynamic solar park

Dynamic solar islands

-  Location: Andijk, Nederlandse
-  Performance: 22 MWp
-  Start-up: 2021
-  Solution: 21 PV Floating DC Combiner Boxes



Suria Sungai Petani

PV Utility Park

-  Location: Kuala Muda, Malaysia
-  Performance: 116 MW
-  Start-up: 2021
-  Solution: 437 DC Combiner Boxes



Droogfontein





PV Utility Park

-  Location: South Africa
-  Performance: 80 MWp
-  Start-up: 2019
-  Solution: 450 Combiner Boxes



Sol do Sertão

PV Utility Park

-  Location: Oliveira dos Brejinhos, Brazil
-  Performance: 474 MWp
-  Start-up: 2021
-  Solution: 2,318 DC Combiner Boxes



Discover more reference projects on our website:
www.weidmueller.com/pv-references

Accurate, reliable and cost-effective energy measurement Universal meters with direct display in a modern design

BasicLine is the measuring device portfolio for the cost-effective acquisition of basic electrical parameters in low-voltage power networks.

B

The devices will measure and display all the fundamental electrical parameters in a LCD. The portfolio includes devices for one- or three-phase measurement. It is mounted on a DIN rail or in the front panel. Several current measurement versions are available: either for 1A/5A current transformers or for direct current measurement up to 100A. Depending on the version, the measuring devices have an integrated Ethernet or RS485 interface.

Your special advantages:

- Simple and reliable measurement of the basic electrical parameters of an AC system.
- In addition to measurement via current transformers, direct current measurement up to 100A is also possible.
- Bi-directional measurement for kW and kWh.
- Complies to the requirement of class 1 active energy measurement and conforms to IEC 62053-21 standards.





Simple and reliable measurement

Simple and reliable measurement of the basic electrical parameters of an AC system.



Bi-directional measuring for kW and kWh

Bi-directional energy meter for energy and power measurement.

Direct measurement up to 100A

In addition to measurement via 1A/ 5A current transformers, direct current measurement up to 100A is also possible.



Type	EM111-RTU-2P	EM110-RTU-2P	EM120-RTU-2P	EM122-RTU-2P	EM220-RTU-4DI2DO
Order No.	7760051001	7760051002	7760051004	7760051003	7760051005
Type of mounting	DIN rail	DIN rail	DIN rail	DIN rail	Front panel mounting
Display	LCD	LCD	LCD	LCD	LCD round diagram
Technical Characteristics					
Measuring range, Voltage L-N, AC (without transducer)	176...276 V	176...276 V	138...276 V	138...276 V	50...345 V
Measuring range, Voltage L-L, AC (without transducer)			240...480 V	240...480 V	50...600 V
Overvoltage category	CAT II	CAT II	CAT III	CAT III	CAT III
Power supply voltage	176...276 V	176...276 V	85...275 V AC	138...276 V	75...270 V
Two wire	•	•	-	-	-
Three wire	-	-	•	•	•
Four wire	-	-	•	•	•
Measurement accuracy for active energy (kWh, .../5 A)	Class 1	Class 1	Class 0.5	Class 0.5	Class 0.5
Measuring accuracy for voltage	0.5 %	0.5 %	0.5 %	0.5 %	0.2 %
Measuring accuracy for current	0.5 %	0.5 %	0.5 %	0.5 %	0.2 %
Number of digital inputs	-	-	-	-	4
Number of digital outputs	-	-	-	-	2
Number of pulse outputs	2	2	2	2	
Current measurement channel	1	1	3	3	3
Interfaces					
RS485	•	•	•	•	•
Ethernet	-	-	-	-	-
Protocols					
Modbus RTU	•	•	•	•	•
Modbus-Gateway	-	-	-	-	-



EM220-RTU-4DI2DO-GW	
7760051006	
Front panel mounting	
LCD round diagram	
	50...345 V
	50...600 V
	CAT III
	75...270 V
	-
	•
	•
	Class 0.5
	0.2 %
	0.2 %
	4
	2
	3
	•
	•
	•
	•



Holistic analysis of the quality of electrical supply networks

Energy analyser for transparency and improved plant availability



The quality of the electrical network is an important parameter for the effectiveness and availability of industrial plants and production facilities. The Energy Analyser 750 is the first step towards increased added value and is particularly suitable for monitoring power quality according to common standards such as EN 50160, IEEE 519 or IEC 61000-2-4.

An increasing number of non-linear consumers and plant components are being used in production facilities. They have an impact on, for example, network frequency, phase shift and the amplitude of phases. This influences the quality of the electrical energy and thus the uptime of the plant. The new Energy Analyser 750 measures all quality parameters of the electrical supply network, from the symmetry to transients and many other parameters besides.

Integrated monitoring of residual current

The built-in residual current measurement highlights creeping increases in residual current before fuses or residual current detectors switch off the section of the system. This maximizes operating times.

Large, clear display

The large QVGA colour display on the device clearly visualises all measurement parameters and allows convenient adjustment of the system parameters.

Top-hat rail devices for simple requirements

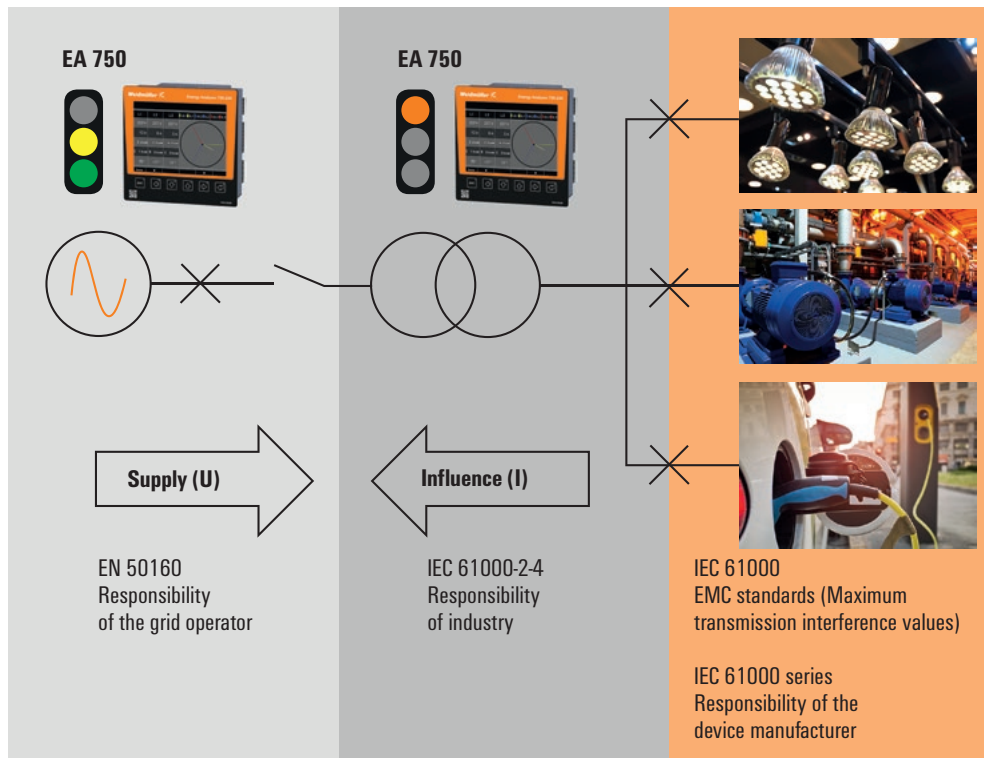
For less comprehensive measurements, we offer the Energy Analyser D550, a very small device for installation on standard DIN rails.



With the Energy Analyser 750, you can carry out comprehensive checks on the quality of the electrical energy in your production facility and initiate optimization steps to maximize the effectiveness and availability of your plant. Important events can be recorded as required.

Continuously monitoring voltage quality

Standard-compliant measurements with the Energy Analyser 750



Power quality – standards and guidelines

Within Europe, EN 50160 is the standard for describing the quality of an electrical power supply. The standard mainly describes the characteristics of the supply voltage at the point of supply to the customer in public low and medium voltage networks under normal operating conditions. EN 50160 applies to the grid voltage, i.e. the voltage measured at the point of connection with the grid. A voltage distortion in the public grid distorts the voltage in the industrial grid, and should therefore be monitored continuously.

The IEC 61000-2-4 standard defines numerical thresholds for industrial and non-public electricity distribution systems with nominal voltages of up to 35 kV. The IEC 61000-2-4 standard should apply to the quality of the voltage at the point of supply to the consumer. That is why it serves as the basis for many product and machinery design standards. It defines the immunity levels for

voltage distortions that machinery and systems in industrial enterprises need to be able to withstand. If the level is exceeded, this may result in outages that the machinery or system supplier is not liable for. Monitoring in accordance with IEC 61000-2-4 is therefore advisable. New standards such as EN 50600-2-2 for electrical systems in data processing centres also require voltage quality in accordance with EN 50160 and IEC 61000-2-4.

The Energy Analyser 750 facilitates the comprehensive monitoring of specific parameters of voltage quality, and supports compliance with all required standards.



Type	EA D550		EA 550		EA 750	
	24	230	24	230	24	230
Order No.	2425510000	2489780000	2602580000	2425500000	2534160000	2534130000
Type of mounting	DIN rail		Front panel mounting		Front panel mounting	
Display	LCD		Graphic		Colour graphic	
Technical Characteristics						
Measuring range, Voltage L-N, AC (without transducer)	277 V		417 V		347 V	
Measuring range, Voltage L-L, AC (without transducer)	480 V		720 V (3 wire 600 V)		600 V	
Overvoltage category	300 V CAT III		600 V CAT III		600 V CAT III	
Power supply voltage	20 - 50 V AC; 20 - 70 V DC	95 - 240 V AC; 135 - 340 V DC	48 - 110 V AC; 24 - 150 V DC	95 - 240 V AC; 80 - 300 V DC	48 - 110 V AC; 24 - 150 V DC	95 - 240 V AC; 80 - 300 V DC
Three wire	•		•		•	
Four wire	•		•		•	
Sampling frequency 50/60 Hz	20 kHz		20 kHz		25.6 kHz	
Measurement points per second	20,000		20,000		25,600	
Measurement results per second	5		5		5	
Measuring accuracy for voltage	0.20 %		0.10 %		0.10 %	
Measuring accuracy for current	0.25 %		0.20 %		0.10 %	
Number of digital inputs	2		2		2	
Number of digital outputs	2		2		2	
Number of pulse outputs	2		2		2	
Current measurement channel	4		4+2		4+2	
Temperature input	1		1		1	
Memory size	128 MB		256 MB		256 MB	
Number of memory values	5.000 k		10.000 k		10.000 k	
Interfaces						
RS232	•		-		-	
RS485	•		•		•	
Profibus DP	-		•		•	
M-Bus	-		-		-	
Ethernet	•		•		•	
Webserver / E-Mail	• / •		• / •		• / •	
Protocols						
Modbus RTU	•		•		•	
Modbus-Gateway	•		•		•	
Profibus DP VO	-		•		•	
Modbus TCP/IP, Modbus RTU over Ethernet, SNMP	•		•		•	
BACnet (optional)	•		•		•	

Energy storage

Energy storage	Introduction	C.2
	Products, solutions and services for battery energy storage systems	C.6
	Energy Management System (EMS)	C.8
	Battery storage systems (racks and modules)	C.10
	Battery Management System (BMS)	C.12
	WBC - Battery connector	C.14
	High-performance components	C.30



Demand-based supply of renewable energy to the grid

Battery energy storage systems from Weidmüller

C

Renewable energy is the future. However, it cannot be produced at a consistent rate. Powerful energy storage systems are needed to ensure that the required amount of generated energy is available at all times. Alongside generation, utilisation and transmission, they form the fourth pillar of the energy market structure of the future.



Battery energy storage systems (BESS) that see the most widespread use are those that employ conventional accumulators – with lithium-based accumulator systems currently being the predominant storage solution. The generic term “energy storage systems” (ESS) principally encompasses all storage options – including chemical systems, such as hydrogen-powered systems, and mechanical systems like hydropower (see also chapter D – Hydrogen).

Weidmüller was quick to recognise the great importance of energy storage systems, developing cross-sector solutions for all market areas – from energy generation using PV and wind power plants to applications in hydrogen technology all the way to various energy storage systems and electromobility. We are the partner for you when it comes to the planning and development of holistically organised storage systems and will supply you with suitable products, components and pre-assembled, customised partial solutions ready for implementation.



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/energy-storage





On the following pages, we will introduce you to a selection of our range of products and solutions for the use of battery energy storage systems.



These include, for example, solutions for the construction of connected storage cells, for efficient battery management (BMS), for power conversion using inverter systems (PCS) and for the construction of intelligent controllers and energy management systems (EMS). We also have suitable products in our programme for the operation of supporting systems, such as air conditioning solutions and fire-fighting systems.

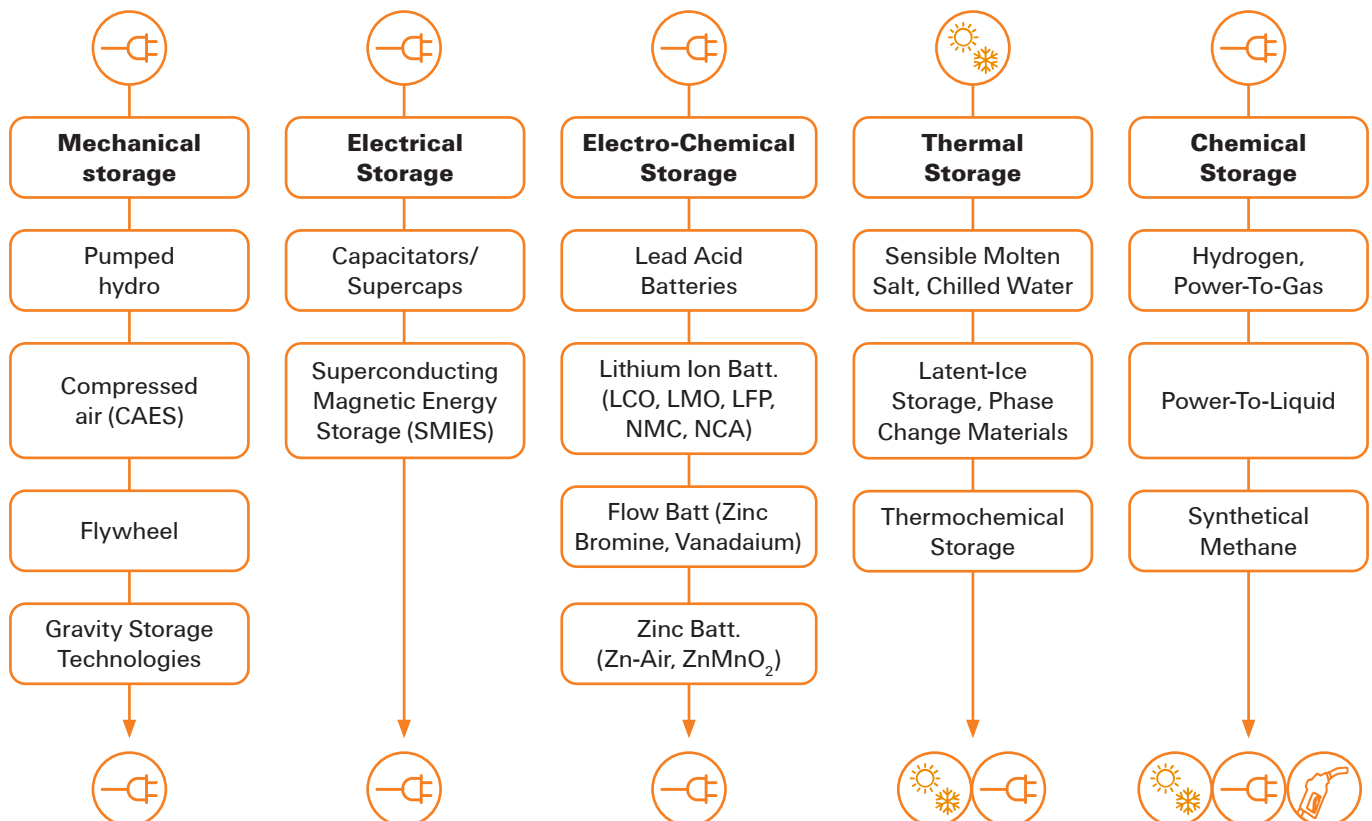
And thanks to end-to-end compatibility with our industrial connectivity and digitalisation solutions, even highly customised systems can be implemented with ease.

As a future-oriented partner, we will assist you with project planning, supply you with individually tailored products and even support you in the development of completely new storage solutions or technologies.

Whatever you have in mind: we are full of energy and ready to help!

Technologies for Energy Storage

 Power
  Heat/Cold
  Fuels/
Raw-Materials



The most important functional systems in a battery energy storage system (BESS)

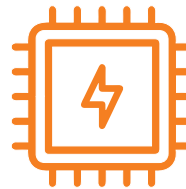
C

A battery storage system is made up of various functional subunits, which only form a perfectly functioning unit if they interact perfectly. High-quality components are particularly effective when it comes to maximising the availability of a battery energy storage system and enable cost-effective operation over the entire service life of the system.



Battery Pack

- Assembly of single battery cells to larger packs and modules
- BMS and/or PLC controlled



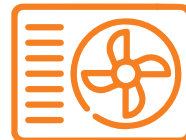
Energy Management System (EMS)

- The EMS is responsible for the monitoring and control of the energy flow within the BESS
- The EMS coordinates the BMS, PCS and other assisting systems; by collection and analysing the energy data it manages the resources of the system



Battery Management System (BMS)

- Monitors the condition of the cells
- Measures of the parameters and states e.g. SOC, SOH, temperature, etc.
- Battery balancing



HVAC

- Ensures the correct heat dissipation and environmental conditioning around the cells/modules



Inverter (PCS)

- DC/AC or DC/DC transformation
- Bi-directional system for charge and discharging of the BESS



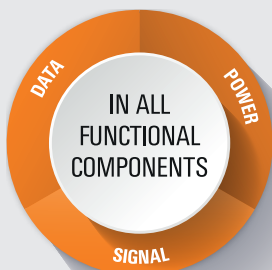
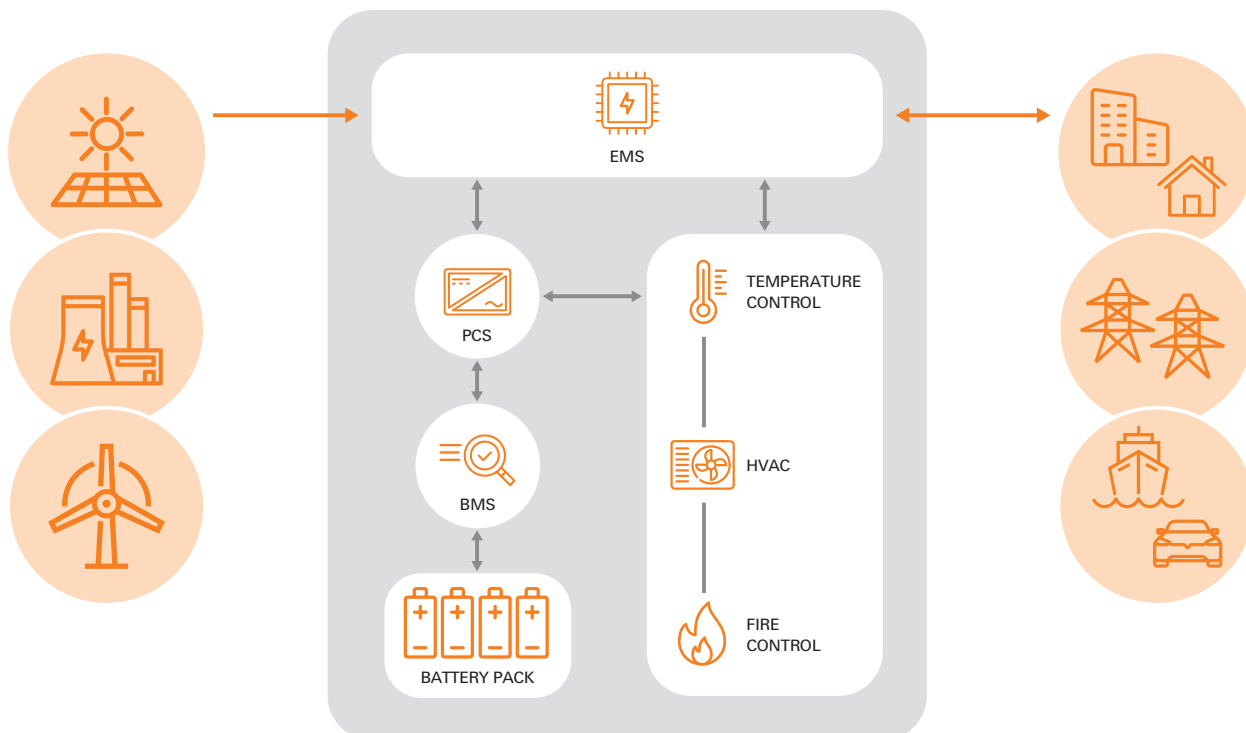
Fire-Control

- First attempt system for fire extinguishing in case of thermal runaway and fire.



ENERGY SOURCES

BESS APPLICATIONS



Various currents are handled in a battery energy storage system. Firstly, current is stored and withdrawn.

In addition, a lot of data is generated and required for control when monitoring and controlling the storage processes, and this data must be handled in a secure and reliable manner. Of course, the data must also be handled reliably over long distances and possibly also via radio or cloud.

In addition, it must be possible to securely record, convert and analyse a large variety of signals in a storage system.

Weidmüller offers answers for all these tasks with its extensive portfolio of products and solutions for the battery energy storage sector.

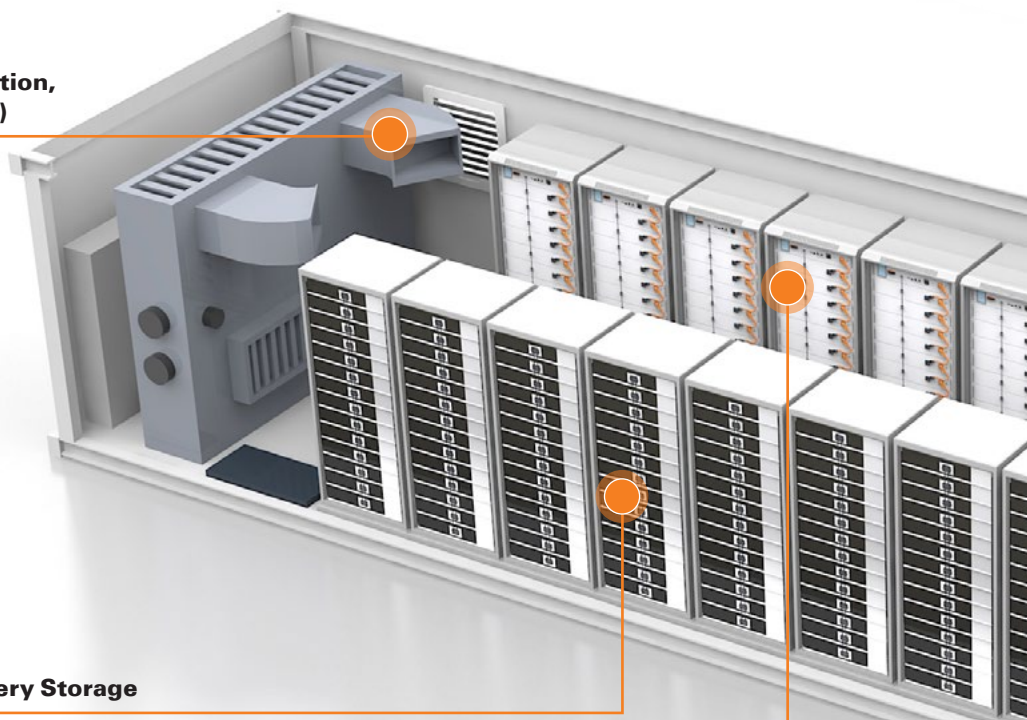
Our products, solutions and services for battery energy storage systems

Application fields for BESS

C



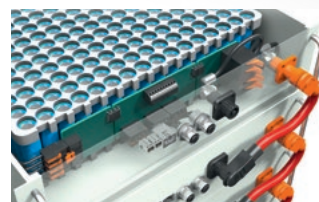
HVAC
(Heating, Ventilation,
Air-Conditioning)

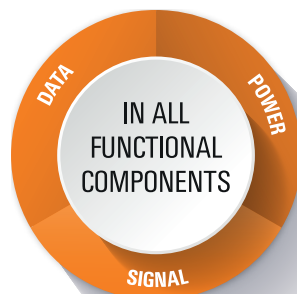


Battery Storage

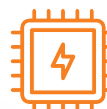


Batterie-Management-System (BMS)

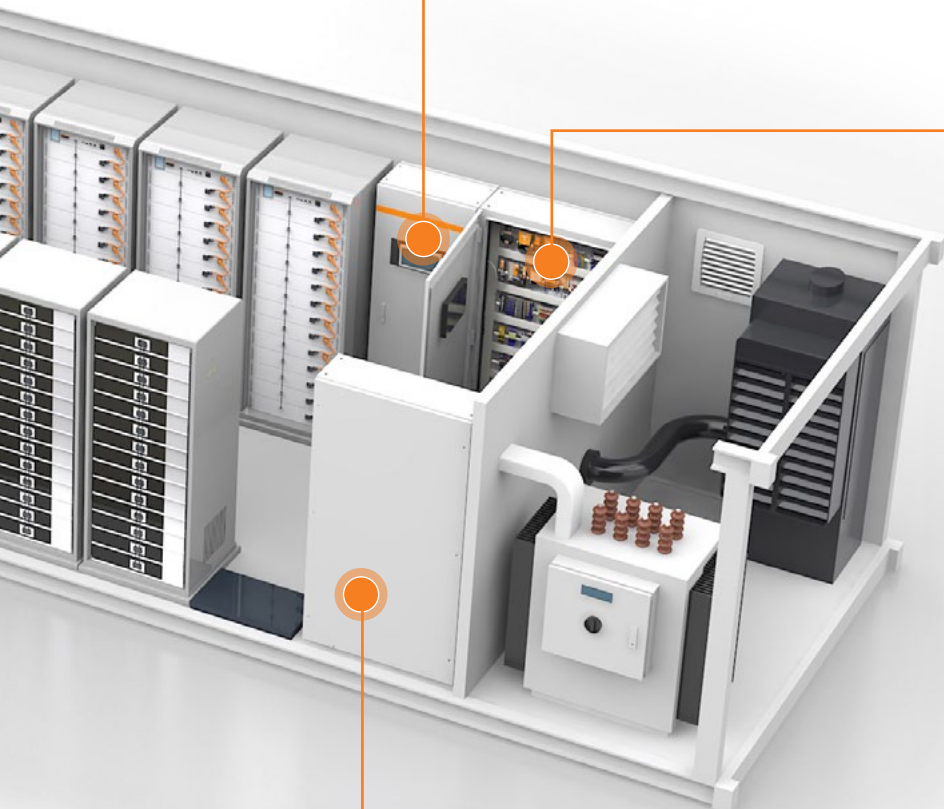




Fire-Control



Energy Management System (EMS)



Inverter (PCS)



Our products, solutions and services for battery energy storage systems

Product fields for BESS

C

Weidmüller offers various products and solutions suitable for battery energy storage solutions (BESS). Discover our range of connectivity, electronic and automation solutions for your battery energy storage system.



Power supplies

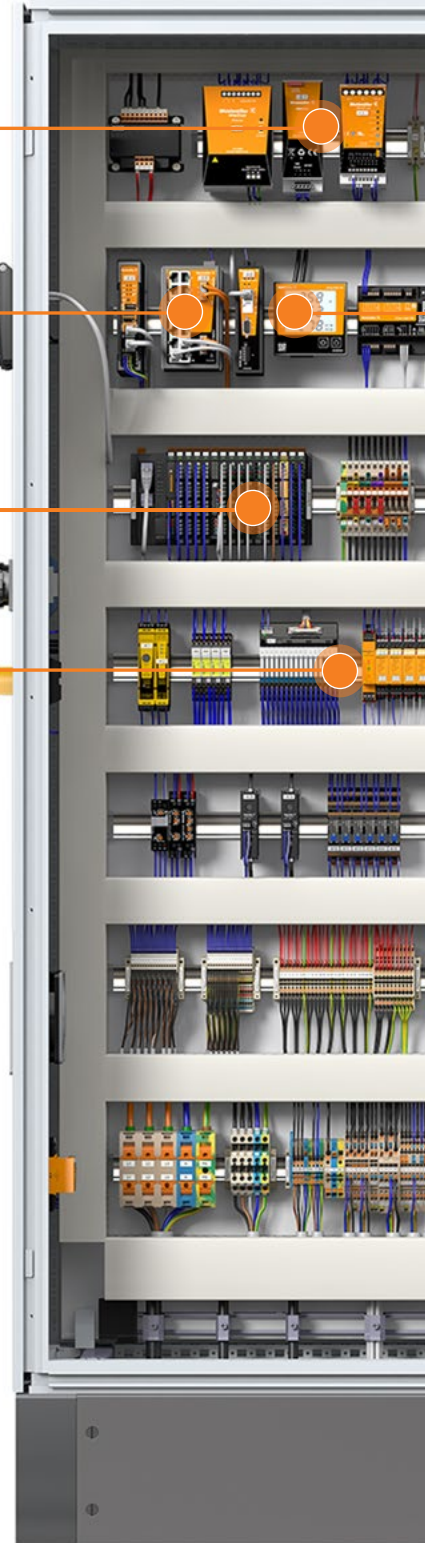
Power supplies and auxiliary components suitable for industrial applications – from primary switched-mode power supplies to DC/DC converters and UPS control modules to electronic fuses.

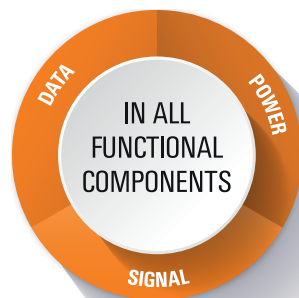
Automation and software

Optimise your automation processes – Easy and IoT ready

VARITECTOR lightning and surge protection

Lightning and surge protection devices that conform to the standards of DIN VDE 0100-443 and -534 for mandatory surge protection in building infrastructures.





Measuring and monitoring systems

Energy management solutions for smart machines, factories and grids

Media converters and protocol gateways

Our media converters and protocol gateways ensure smooth communication between all network participants and are also especially convenient and economical.

RockStar® heavy-duty connectors

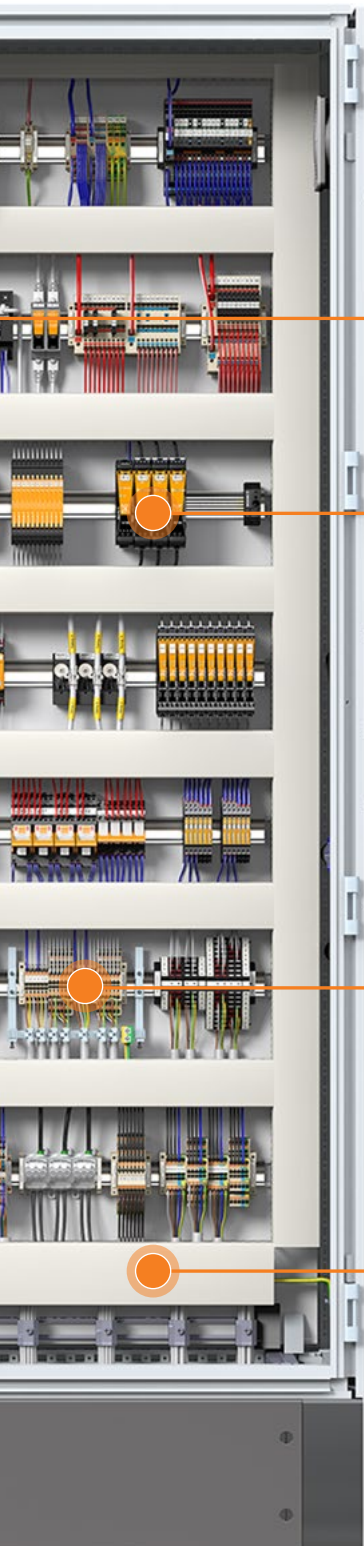
RockStar® heavy-duty connectors ensure the safe and reliable transmission of power, signals and data in industrial environments, both inside the control cabinet and outside in the field.

Klippon® Connect terminal block connectivity

Specially developed installation terminal blocks for the unique requirements and safety specifications of wiring in buildings.

Workshop & Accessories

Practical advantages for optimised work processes. Professional tools, printing solutions, markers, industrial luminaires and accessories for the highest demands.



Connection and communication solutions for battery energy storage system

Versatile solutions for a secure and reliable connection for energy, data and signals

C

Our high-quality Weidmüller components play a crucial role in the secure connection of all individual cells to battery packs and modules. As a result, we ensure not only the smooth functioning, but also the high availability of battery energy storage systems (BESS). In addition, our components enable safe monitoring and communication between the cells, the battery management system (BMS) and the energy management system (EMS). With Weidmüller, you are on the safe side.



OMNIMATE® Power printed circuit board terminals

The sturdy, direct connection for extreme current and voltage requirements in all power electronics applications.

- Top performance up to 150 A / 1000 V (IEC) and 127 A / 600 V (UL)
- Application-specific scalability with connection cross-sections from 16 mm² to 50 mm²



OMNIMATE® Data RJ45 sockets

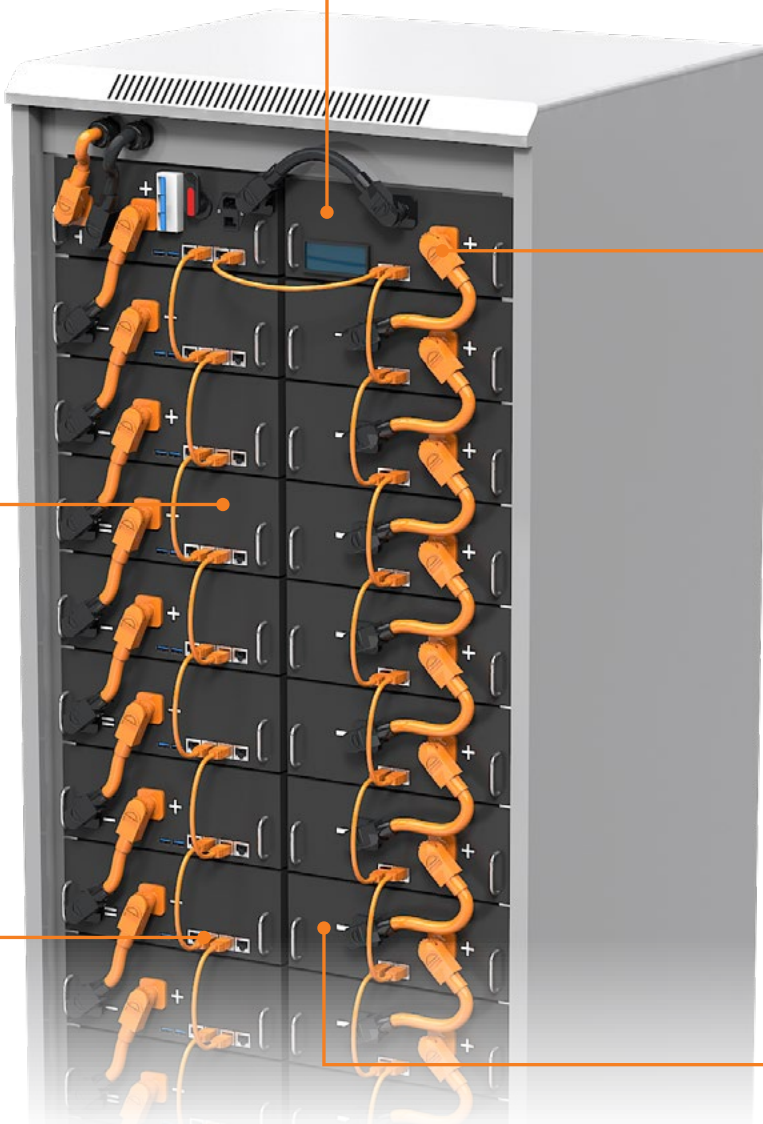
The future-proof transmission solution in the industrial environment.

- Compatible with RJ45 connectors acc. to ANSI / TIA-1096-A and IEC 60603
- Extended temperature range of -40°C to +85°C for maximum performance
- Reinforced gold layer (30 µm) for improved corrosion protection



OMNIMATE® 4.0 product range

- Compact printed circuit board terminals and plug-in connectors for fast signal connections
- Innovative SNAP IN connection technology for extremely fast wiring
- Ideal for fully automated wiring processes (ready-to-robot)
- Custom configuration in the web configurator for maximum flexibility



Battery connectors

Reliable connections for battery poles. The central connection elements for storage systems. Safe and flexible wire connectors for battery poles.



Serial signal protection such as RS 485 / RS 422

Under the protection of the data protection RS 485 come the following signals:

- Protection for wire-connected serial data transmission – RS 485 or RS 422
- Pluggable arrester, with no-interrupt and impedance-neutral plug-in and pull-out
- Low residual voltage
- Can be used in accordance with IEC 62305 and IEC 61643-22 installation standards
- Can be tested with the V-TEST testing device
- Integrated PE foot, safely discharges up to 20 kA (8/20 μ s) and 2.5 kA (10/350 μ s) to PE



Connection solutions for battery packs, modules and BMS boards

A variety of solutions for connecting the BMS and battery cells

The BMS relies on a network of connections to ensure its dependable performance. It efficiently manages the quantity of individual battery cells linked to temperature and energy metrics, contingent on secure connections and accurate data from the Energy Management System (EMS). To accommodate diverse input streams related to power, communication types, and signals, a variety of reliable and space-saving connectors is imperative. Weidmüller offers a comprehensive selection, particularly excelling in PCB-board connectors within the OMNIMATE® range. These connectors are suitable for almost every conceivable connection problem and offer robust and suitable solutions for optimum BMS functionality.

OMNIMATE® Signal Board-to-Board-solutions
OMNIMATE® Signal - BtB connectors feature a 1.27 mm pitch, offering maximum flexibility in design. With industry-compatible packing density and versatile connection options (mezzanine, mother-to-daughter, board-to-board), these connectors ensure contact reliability with up to 500 mating cycles due to an industrial-grade gold surface (PdNi-Au) and process reliability with high-temperature LCP material suitable for reflow soldering.



OMNIMATE® 4.0 - Power connectors

OMNIMATE® 4.0 - Power connectors feature a modular design facilitating swift customization of individual interfaces. These compact PCB connectors cater to power electronics up to 1,000 V, ensuring rapid and tool-free wiring through innovative SNAP IN connection technology.



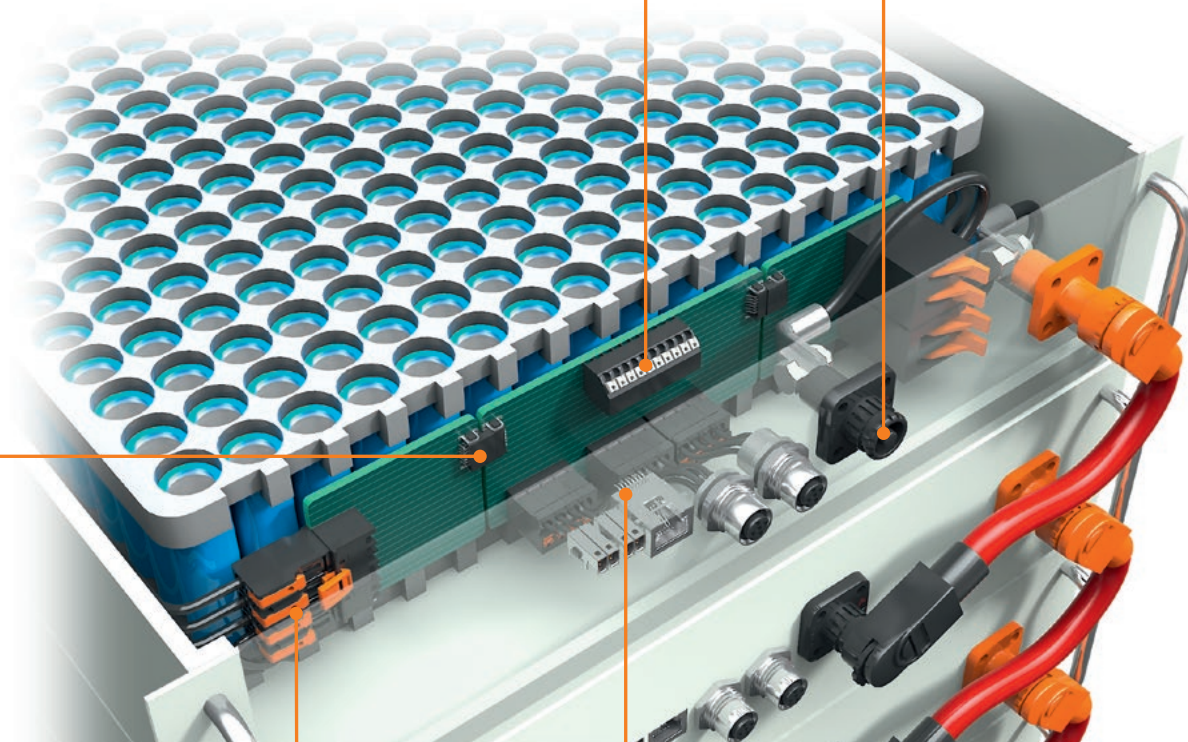
OMNIMATE® Signal - LSF-SMT PCB terminal blocks PUSH IN

OMNIMATE® Signal - LSF-SMT PCB terminal blocks with PUSH IN technology offer an innovative, quick, and cost-effective solution. Featuring a spring connection in direct plug-in technology, it simplifies connection processes without tools. Ideal for solid cores or conductors with ferrules, it allows tool-free connect and disconnect. The reflow or vapor phase process enables automatic processing, with potentials and clamping points clearly marked by colored push buttons.



Battery connectors

Reliable connections for battery poles. The central connection elements for storage systems. Safe and flexible wire connectors for battery poles.



Single Pair Ethernet

As industrial plants digitize, traditional Ethernet for sensors and control units falls short. Weidmüller pioneers Single Pair Ethernet technology, a cost-effective solution for connecting numerous Industrial IoT devices seamlessly, from field sensors to the cloud, establishing new industry standards.



Connect individual battery packs to form a battery energy storage system (BESS)

Battery pole connector in IP67

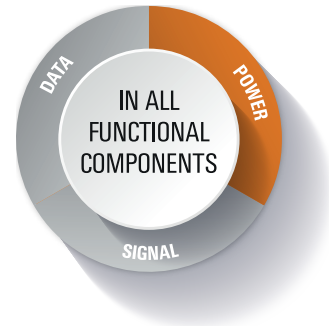
Battery energy storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual batteries that need to be quick and easy to replace.

The Weidmüller battery connector (WBC) makes it easy to connect several individual batteries to form a battery energy storage system and allows them to be disconnected just as easily if necessary. Whether in small storage systems for home use or in large battery containers - the WBC covers a wide range of applications.

The Weidmüller battery connector (WBC) enables the connection of conductor cross-sections ranging from 16 mm² to 95 mm² on the connector side. The counterpart of the plug has a busbar to which the conductor can be easily attached on the device side using a cable lug. This design ensures a simple and efficient connection that covers a wide range of conductor cross-sections and simplifies handling on the device side.

Your special advantages:

- User-friendly design that enables effortless handling
- Reliable locking mechanism that ensures a secure and stable connection between the individual batteries
- Unique plug coding ensures reverse polarity protection, minimises the risk of incorrect connections and protects against damage caused by incorrect polarity
- Safe to touch due to protected mounting side
- Protection class IP 67: protected against the infiltration of dust and water
- Complies with the requirements of UL standard 4128 and therefore fulfils international safety standards



Reverse polarity protection

Due to the simple integrated plug coding, negative and positive plugs cannot be plugged in incorrectly.

Touch-proof

The mounting side is designed to be safe to touch. So there is no danger to life and limb even if the plug is missing.

**Non-twisting**

The fine-linked grid offers plenty of flexibility and at the same time ensures that the plug is firmly seated. This ensures a uniform design when wiring.

WBC – Battery Connector

100 A...120 A – Minus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-P-6BK-16



WBC-P-6BK-25



C

Technical data



Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals

Note

Crimp connection
black
6 mm
16 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
100 A
IP67 plugged
≥ 100
23.2 GRM
UL 4128

Crimp connection
black
6 mm
25 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
120 A
IP67 plugged
≥ 100
23.2 GRM
UL 4128

Ordering data

Note

Type	Qty.	Order No.
WBC-P-6BK-16	5	2905270000

Type	Qty.	Order No.
WBC-P-6BK-25	5	2905290000

Accessories

Tools
Pressing tool
Replacement crimp inserts

Note

Type	Qty.	Order No.
EPG 45	1	1500830000
ES EPG 45 DIN 25	1	1501340000

Type	Qty.	Order No.
EPG 45	1	1500830000
ES EPG 45 DIN 25	1	1501340000

100 A...120 A – Minus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-S-6BK-B



Technical data

Type of connection	Screw connection
Colour	black
Contact diameter, male Ø	6 mm
Conductor cross-section, max.	25 mm ²
Surface finish	silver
Type	Male
Material	PA 66
UL 94 flammability rating	V-0
Volume resistance	≥ 5000 MΩ
Rated voltage	1500 V
Rated current	120 A
Protection degree	IP67 plugged
Plugging cycles	≥ 100
Weight	23.6 GRM
Approvals	UL 4128
Note	

Ordering data

Type	Qty.	Order No.
WBC-S-6BK-B	5	2905330000
Note		



WBC – Battery Connector

100 A...120 A – Plus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-P-60R-16



WBC-P-60R-25



C

Technical data



Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals

Note

Crimp connection
orange
6 mm
16 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
100 A
IP67 plugged
≥ 100
23.2 GRM
UL 4128

Crimp connection
orange
6 mm
25 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
120 A
IP67 plugged
≥ 100
23.2 GRM
UL 4128

Ordering data

Note

Type	Qty.	Order No.
WBC-P-60R-16	5	2905280000

Type	Qty.	Order No.
WBC-P-60R-25	5	2905300000

Accessories

Tools
Pressing tool
Replacement crimp inserts

Note

Type	Qty.	Order No.
EPG 45	1	1500830000
ES EPG 45 DIN 25	1	1501340000

Type	Qty.	Order No.
EPG 45	1	1500830000
ES EPG 45 DIN 25	1	1501340000

100 A...120 A – Plus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-S-60R-B



Technical data

Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals
Note

Screw connection
orange
6 mm
25 mm²
silver
Male
PA 66
V-0
≥ 5000 MΩ
1500 V
120 A
IP67 plugged
≥ 100
23.6 GRM
UL 4128

Ordering data

Note

Type	Qty.	Order No.
WBC-S-60R-B	5	2905340000



WBC – Battery Connector

150 A...200 A – Minus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-P-8BK-35



WBC-P-8BK-50



C

Technical data



Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals

Note

Crimp connection
black
8 mm
35 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
150 A
IP67 plugged
≥ 100
46 GRM
UL 4128

Crimp connection
black
8 mm
50 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
200 A
IP67 plugged
≥ 100
45 GRM
UL 4128

Ordering data

Note

Type	Qty.	Order No.
WBC-P-8BK-35	5	2905350000

Type	Qty.	Order No.
WBC-P-8BK-50	5	2905370000

Accessories

Tools
Pressing tool
Replacement crimp inserts

Note

Type	Qty.	Order No.
EPG 45	1	1500830000
ES EPG 45 DIN 35	1	1501350000

Type	Qty.	Order No.
EPG 45	1	1500830000
ES EPG 45 DIN 35	1	1501350000

150 A...200 A – Minus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-S-8BK-B



Technical data

Type of connection	Screw connection
Colour	black
Contact diameter, male Ø	8 mm
Conductor cross-section, max.	50 mm ²
Surface finish	silver
Type	Male
Material	PA 66
UL 94 flammability rating	V-0
Volume resistance	≥ 5000 MΩ
Rated voltage	1500 V
Rated current	200 A
Protection degree	IP67 plugged
Plugging cycles	≥ 100
Weight	46 GRM
Approvals	UL 4128
Note	

Ordering data

Type	Qty.	Order No.
WBC-S-8BK-B	5	2905310000
Note		



WBC - Battery Connector

150 A...200 A - Plus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps - and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-P-80R-35



WBC-P-80R-50



C

Technical data



Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals

Note

Crimp connection
orange
8 mm
35 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
150 A
IP67 plugged
≥ 100
46 GRM
UL 4128

Crimp connection
orange
8 mm
50 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
200 A
IP67 plugged
≥ 100
45 GRM
UL 4128

Ordering data

Note

Type	Qty.	Order No.
WBC-P-80R-35	5	2905360000

Type	Qty.	Order No.
WBC-P-80R-50	5	2905380000

Accessories

Tools
Pressing tool
Replacement crimp inserts

Note

Type	Qty.	Order No.
EPG 45	1	1500830000
ES EPG 45 DIN 35	1	1501350000

Type	Qty.	Order No.
EPG 45	1	1500830000
ES EPG 45 DIN 35	1	1501350000

150 A...200 A – Plus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-S-80R-B



Technical data

Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals
Note

Screw connection
orange
8 mm
50 mm²
silver
Male
PA 66
V-0
≥ 5000 MΩ
1500 V
200 A
IP67 plugged
≥ 100
46 GRM
UL 4128

Ordering data

Note

Type	Qty.	Order No.
WBC-S-80R-B	10	2905320000



WBC – Battery Connector

350 A – Minus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-P-10BK-70



WBC-P-10BK-95



C

Technical data



Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals

Note

Crimp connection
black
10 mm
70 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
250 A
IP20, IP67 plugged
≥ 100
72.5 GRM
UL 4128

Crimp connection
black
10 mm
95 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
350 A
IP20, IP67 plugged
≥ 100
72.5 GRM
UL 4128

Ordering data

Note

Type	Qty.	Order No.
WBC-P-10BK-70	5	2991900000

Type	Qty.	Order No.
WBC-P-10BK-95	5	2991940000

Accessories

Tools
Pressing tool
Replacement crimp inserts

Note

Type	Qty.	Order No.
APG 80	1	2853270000
ES APG 80 DIN 70	1	1502890000

Type	Qty.	Order No.
APG 80	1	2853270000
ES APG 80 DIN 70	1	1502890000

350 A – Minus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-S-10BK-M8**Technical data**

Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals

Screw connection
black
10 mm
95 mm²
silver
Male
PA 66
V-0
≥ 5000 MΩ
1500 V
350 A
IP20, IP67, IP67 plugged
≥ 100
71.3 GRM
UL 4128

Note**Ordering data****Note**

Type	Qty.	Order No.
WBC-S-10BK-M8	15	2991920000



WBC – Battery Connector

350 A – Plus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-P-10RE-70



WBC-P-10RE-95



C

Technical data



Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals

Note

Crimp connection
red
10 mm
70 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
250 A
IP20, IP67 plugged
≥ 100
72.5 GRM
UL 4128

Crimp connection
red
10 mm
95 mm ²
silver
Female
PA 66
V-0
≥ 5000 MΩ
1500 V
350 A
IP20, IP67 plugged
≥ 100
72.5 GRM
UL 4128

Ordering data

Note

Type	Qty.	Order No.
WBC-P-10RE-70	5	2991910000

Type	Qty.	Order No.
WBC-P-10RE-95	5	2991950000

Accessories

Tools
Pressing tool
Replacement crimp inserts

Note

Type	Qty.	Order No.
APG 80	1	2853270000
ES APG 80 DIN 70	1	1502890000

Type	Qty.	Order No.
APG 80	1	2853270000
ES APG 80 DIN 70	1	1502890000

350 A – Plus connector

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-S-10RE-M8**Technical data**

Type of connection
Colour
Contact diameter, male Ø
Conductor cross-section, max.
Surface finish
Type
Material
UL 94 flammability rating
Volume resistance
Rated voltage
Rated current
Protection degree
Plugging cycles
Weight
Approvals

Screw connection
red
10 mm
95 mm²
silver
Male
PA 66
V-0
≥ 5000 MΩ
1500 V
350 A
IP20, IP67, IP67 plugged
≥ 100
71.3 GRM
UL 4128

Note**Ordering data****Note**

Type	Qty.	Order No.
WBC-S-10RE-M8	15	2991930000



WBC – Battery Connector

Pre-assembled cable

Battery storage systems are playing an increasingly important role in the field of renewable energies. They usually consist of several individual modules that need to be quick and easy to replace. The Weidmüller Battery Connector (WBC) makes it possible to connect several individual batteries to an Energy storage system in just a few simple steps – and to disconnect the connections just as quickly if required. In addition to the different colours of the plus and minus poles and the very good contact protection, the clear mechanical coding of the plugs, which prevents them from being mixed up, ensures a high level of safety when handling the connectors.

WBC-CH-60R-BK-25-0023



C



Technical data

Type of connection	Crimp connection
Colour	black, orange
Contact diameter, male Ø	6 mm
Conductor cross-section, max.	25 mm ²
Surface finish	silver
Type	Female
Length	324 mm
Rated voltage	1500 V
Rated current	120 A
Protection degree	IP67 plugged
Plugging cycles	≥ 100
Weight	120 GRM
Approvals	UL 4128

Note

Ordering data

Note

Type	Qty.	Order No.
WBC-CH-60R-BK-25-0023	1	2938270000



Lightning and Surge protection for energy storage systems

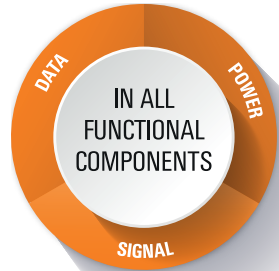
Reliable Protection for power, signal and data

C



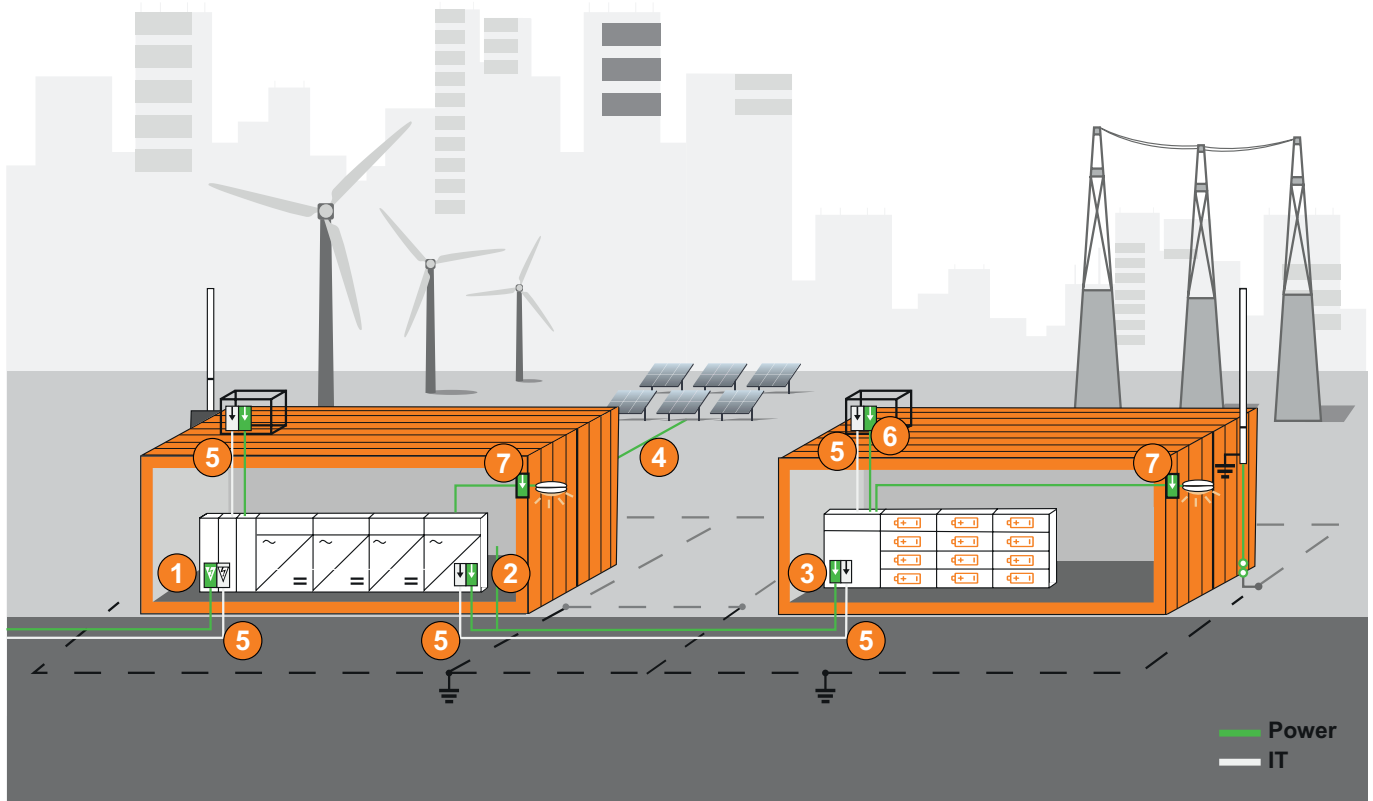
Battery energy storage systems are integral to modern energy grids, storing and redistributing energy from PV systems to balance fluctuations and meet peak demands. However, these systems are susceptible to direct exposure to lightning strikes and surges, necessitating a well-designed protection concept. It is crucial to shield sensitive electronics managing battery charging and discharging across the entire station. Surges often surpass the dielectric strength of installed electronic components, posing a risk to their integrity. Additionally, network-related voltage peaks can cause damage to electronic parts.

Implementing a comprehensive end-to-end surge protection concept is essential to prevent costly maintenance and downtime. This approach safeguards the entire system, ensuring the resilience and longevity of battery storage stations in the face of unpredictable external factors. By mitigating the impact of lightning and surges, this protective strategy contributes to the continuous and efficient operation of battery energy storage systems, supporting the stability of modern energy supply grid infrastructures.



For further products, information, technical specifications or additional services, please visit our website:
www.weidmuller.com/surge-protection





— Power
— IT

- 1** Grid feed in, inverter AC side, Compact lightning and surge protection for 230/400 V TN / TT grids
- 2** Inverter DC side, DC line protection, inverter cabinet
- 3** Battery stack DC, DC line protection, battery cabinet
- 4** PV array feed in, 1500 V DC / PV feed in protection
- 5** Ethernet communication, Protection of Ethernet communication
- 6** Rooftop AC system, Surge protection for Air Condition system
- 7** Outdoor lighting system, Single phase power line protection

No.	Location	Product	Comment	Order No.
1	Grid feed in, inverter AC side	VPU AC I 3+1 R 275/25 LCF S 2PE	Compact lightning and surge protection for 230/400 V TN / TT grids	2726770000*
2	Inverter DC side	VPU PV II 3 R 1500	DC line protection, inverter cabinet	2530650000
3	Battery stack DC	VPU PV II 3 R 1500	DC line protection, battery cabinet	2530650000
4	PV array feed in	VPU PV I+II 3 R 1500	1500 V DC/PV feed in protection	2530590000
5	Ethernet communication	VDATA Cat6	Protection of Ethernet communication	1348590000
6	Rooftop AC system	VPU AC II 3+1 R 300/50	Surge protection for Air Condition system	2591090000
7	Outdoor lighting system	VPU AC II 1+1 300/50	Single phase power line protection	2591060000
Note	* For use in DC applications, please use the DC fuse: 160 A/1500 V gBat * not yet UL/UR approved			



Terminal blocks – Klippon® Connect

Panels have to master various tasks depending on the application. However varied the challenges may be, our answer is incredibly simple: Klippon® Connect combines all the requirements placed on the relevant industries now and in the future of Industry 4.0 production plants. The range of tailor-made application products, universal terminal blocks and process-supporting Klippon® Services offer the right solution whatever the panel concept.



For further products, information, technical specifications or additional services, please visit our website: www.weidmuller.com/terminal-blocks



S-Reihe – SNAP IN technology

Type	Version	Qty	Order No.
S2C 2.5	Feed-through terminal, SNAP IN, 2,5 mm², 800 V, 24 A, dark beige	100	2674530000
S3C 2.5	Feed-through terminal, SNAP IN, 2,5 mm², 800 V, 24 A, dark beige	100	2674540000
S4C 2.5	Feed-through terminal, SNAP IN, 2,5 mm², 800 V, 24 A, dark beige	100	2674550000
S2C 4	Feed-through terminal, SNAP IN, 4 mm², 800 V, 32 A, dark beige	50	2874820000
S3C 4	Feed-through terminal, SNAP IN, 4 mm², 800 V, 32 A, dark beige	50	2874840000
S4C 4	Feed-through terminal, SNAP IN, 4 mm², 800 V, 32 A, dark beige	50	2874860000
S2T 2.5	Feed-through terminal, SNAP IN, 2,5 mm², 800 V, 24 A, dark beige	50	2902380000
S4C 2.5 PE	Protective earth terminal block, SNAP IN, 2,5 mm², 800 V, green-yellow	50	2674580000
S2T 2.5 PE	Protective earth terminal block, SNAP IN, 2,5 mm², 800 V, green-yellow	50	2902460000
S4C 4 PE	Protective earth terminal block, SNAP IN, 4 mm², 800 V, green-yellow	50	2874900000

SNAP IN



A-Series – PUSH IN technology

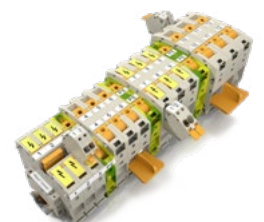
Type	Version	Qty	Order No.
A2C 2.5	Feed-through terminal, PUSH IN, 2,5 mm², 800 V, 24 A, dark beige	100	1521850000
A3C 2.5	Feed-through terminal, PUSH IN, 2,5 mm², 800 V, 24 A, dark beige	100	1521740000
A4C 2.5	Feed-through terminal, PUSH IN, 2,5 mm², 800 V, 24 A, dark beige	100	1521690000
A2C 4	Feed-through terminal, PUSH IN, 4 mm², 800 V, 32 A, dark beige	100	2051180000
A3C 4	Feed-through terminal, PUSH IN, 4 mm², 800 V, 32 A, dark beige	50	2051240000
A4C 4	Feed-through terminal, PUSH IN, 4 mm², 800 V, 32 A, dark beige	50	2051500000
A2T 1.5	Feed-through terminal, Double-tier terminal, PUSH IN, 1,5 mm², 500 V, 16 A, dark beige	50	2469370000
A2T 2.5	Feed-through terminal, Double-tier terminal, PUSH IN, 2,5 mm², 800 V, 24 A, dark beige	50	1547610000
A2T 2.5 3C	Feed-through terminal, Double-tier terminal, PUSH IN, 2,5 mm², 800 V, 22 A, dark beige	50	2531290000
A4C 2.5 PE	PE terminal, PUSH IN, 2,5 mm², Green/yellow	50	1521540000
A3C 4 PE	PE terminal, PUSH IN, 4 mm², Green/yellow	50	2051410000
ADT 2.5 2C	Test-disconnect terminal, PUSH IN, 2,5 mm², 500 V, 20 A, dark beige	50	1989800000
ADT 2.5 4C	Test-disconnect terminal, PUSH IN, 2,5 mm², 500 V, 20 A, dark beige	50	1989860000
ADT 4 2C	Test-disconnect terminal, PUSH IN, 4 mm², 500 V, 20 A, dark beige	50	2429850000
A2T 2.5 DT/DT	PUSH IN, 2,5 mm², 400 V, 16 A, dark beige	50	2744110000
AFS 4 2C BK	Fuse terminal, PUSH IN, 4 mm², 400 V, 6.3 A, black	50	2429860000
AFS 4 2C 100-250V BK	Fuse terminal, PUSH IN, 4 mm², 250 V, 6.3 A, black	50	2434390000

PUSH IN



A-Series high-current terminal blocks

Type	Version	Qty	Order No.
A2C 35	Feed-through terminal, PUSH IN, 35 mm², 1000 V, 125 A, dark beige	10	2551510000
A2C 35 BL	Feed-through terminal, PUSH IN, 35 mm², 1000 V, 125 A, blue	10	2552090000
A2C 50/70	Feed-through terminal, PUSH IN, 50 mm², 1000 V, 150 A, dark beige	5	2663250000
A2C 50/70 BL	Feed-through terminal, PUSH IN, 50 mm², 1000 V, 150 A, blue	5	2663260000
A2C 35 PE	PE terminal, PUSH IN, 35 mm², 1000 V, Green/yellow	10	2551520000
A2C 50/70 PE	PE terminal, PUSH IN, 50 mm², Green/yellow	5	2663280000



W-Series – Clamping yoke technology

Type	Version	Qty	Order No.
WDU 1.5/ZZ	Feed-through terminal, Screw connection, 1.5 mm ² , 800 V, 17.5 A, dark beige	100	1031400000
WDU 2.5N	Feed-through terminal, Screw connection, 2.5 mm ² , 500 V, 24 A, dark beige	100	1023700000
WDU 2.5	Feed-through terminal, Screw connection, 2.5 mm ² , 800 V, 24 A, dark beige	100	1020000000
WDU 4	Feed-through terminal, Screw connection, 4 mm ² , 800 V, 32 A, dark beige	100	1020100000
WDU 16N	Feed-through terminal, Screw connection, 16 mm ² , 690 V, 76 A, dark beige	50	1036100000
WDU 16 BL	Feed-through terminal, Screw connection, 16 mm ² , 1000 V, 76 A, blue	50	1020480000
WDK 4N V	Double-tier terminal, Screw connection, 4 mm ² , 800 V, 32 A, dark beige	50	1041910000
WDK 2.5N V	Double-tier terminal, Screw connection, 2.5 mm ² , 800 V, 24 A, dark beige	50	1041610000
WDK 2.5N	Double-tier terminal, Screw connection, 2.5 mm ² , 800 V, 24 A, dark beige	50	1041600000
WPE 2.5N	PE terminal, Screw connection, 2.5 mm ² , 300 A (2.5 mm ²), Green/yellow	50	1016200000
WPE 4	PE terminal, Screw connection, 4 mm ² , 480 A (4 mm ²), Green/yellow	100	1010100000
WDK 2.5PE	PE terminal, Double-tier terminal, Screw connection, 2.5 mm ² , 300 A (2.5 mm ²), Green/yellow	50	1036300000
WTR 2.5	Test-disconnect terminal, Screw connection, 2.5 mm ² , 500 V, 24 A, Pivoting, dark beige	100	1855610000
WTR 4	Test-disconnect terminal, Screw connection, 4 mm ² , 500 V, 32 A, Pivoting, dark beige	50	7910180000
WSI 25/1 10X38 1KV	W-Series, Fuse terminal, Rated cross-section: 25 mm ² , Screw connection,	12	1137790000
WSI 25/1 10X38/LED 1KV	W-Series, Fuse terminal, Rated cross-section: 25 mm ² , Screw connection,	12	1137780000
WSI 4	W-Series, Fuse terminal, Rated cross-section: 4 mm ² , Screw connection,	50	1886580000





PCB Terminals and Connectors

OMNIMATE® 4.0 follows the trend of One Cable Technology (OCT). The modular concept enables the fast configuration of hybrid interfaces, which transmit data, signals and energy in a single connector. As a result, you can reduce the cabling effort in a wide variety of applications, simplify maintenance and accelerate automation processes. The unique SNAP IN connection is the backbone and speeds up the wiring process.

OMNIMATE® Signal and **OMNIMATE® Power** are PCB terminal blocks, plug-in connector and panel feedthrough terminal blocks for industrial applications with a focus on signal processing and power electronics.

OMNIMATE® Data are RJ45 and USB circuit board sockets for safe data transmission in the Industrial Ethernet environment. RJ45 components from Weidmüller ensure reliable transmission with high data rates up to 1 Gbit/s. The different design types of the RJ45 circuit board sockets allow adaptation to the individual enclosure design.

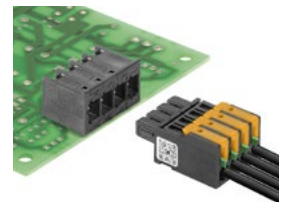


For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/omnimate



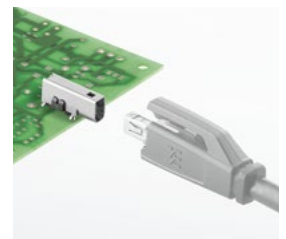
OMNIMATE® 4.0 – PCB plug-in connector in 5.00 mm pitch

Type	Version	Qty	Order No.
MPS 5/02 S TN B B	Female plug, Pitch in mm: 5.00 mm, Number of poles: 2, 180°, Box	168	2741560000
MPS 5/03 S TN B B	Female plug, Pitch in mm: 5.00 mm, Number of poles: 3, 180°, Box	114	2741570000
MPS 5/04 S TN B B	Female plug, Pitch in mm: 5.00 mm, Number of poles: 4, 180°, Box	84	2741580000
MPS 5/05 S TN B B	Female plug, Pitch in mm: 5.00 mm, Number of poles: 5, 180°, Box	72	2741590000
MPS 5/06 S TN B B	Female plug, Pitch in mm: 5.00 mm, Number of poles: 6, 180°, Box	60	2741600000
MPS 5/07 S TN B B	Female plug, Pitch in mm: 5.00 mm, Number of poles: 7, 180°, Box	48	2741610000
MPS 5/08 S TN B B	Female plug, Pitch in mm: 5.00 mm, Number of poles: 8, 180°, Box	42	2741620000
MHS 5/02 H T3 B T	Male header, THT/THR solder connection, Pitch in mm: 5.00 mm, Number of poles: 2, 90°, Tube	48	2741400000
MHS 5/03 H T3 B T	Male header, THT/THR solder connection, Pitch in mm: 5.00 mm, Number of poles: 3, 90°, Tube	33	2741420000
MHS 5/04 H T3 B T	Male header, THT/THR solder connection, Pitch in mm: 5.00 mm, Number of poles: 4, 90°, Tube	25	2741430000
MHS 5/05 H T3 B T	Male header, THT/THR solder connection, Pitch in mm: 5.00 mm, Number of poles: 5, 90°, Tube	20	2741440000
MHS 5/06 H T3 B T	Male header, THT/THR solder connection, Pitch in mm: 5.00 mm, Number of poles: 6, 90°, Tube	17	2741450000
MHS 5/07 H T3 B T	Male header, THT/THR solder connection, Pitch in mm: 5.00 mm, Number of poles: 7, 90°, Tube	15	2741460000
MHS 5/08 H T3 B T	Male header, THT/THR solder connection, Pitch in mm: 5.00 mm, Number of poles: 8, 90°, Tube	13	2741470000



OMNIMATE® Data – SPE (Single Pair Ethernet) / SPE Patch cable

Type	Version	Qty	Order No.
IE-PCB-SPE-P-90V2.1-THR RL	Male header, Clip-on flange, THT/THR solder connection, 1.80 mm, Number of poles: 2, 90°, Solder pin length: 2.1 mm, Ni/Au, silver, Tape	100	2726010000
IE-PCB-SPE-P-90V2.1-THR-YG/RL	Male header, SClip-on flange, THT/THR solder connection, 1.80 mm, Number of poles: 2, 90°, Solder pin length: 2.1 mm, Ni/Au, black, Tape	100	2795120000
IE-PCB-SPE-P-180V2.1-THR RL	Male header, Clip-on flange, THT/THR solder connection, 1.80 mm, Number of poles: 2, 180°, Solder pin length: 2.1 mm, Ni/Au, silver, Tape	100	2795170000
IE-S1DS2VE0010T01T01-E	Patch cable, SPE plug (IEC 63171-2) - IP20 socket contact straight - IP20 socket contact straight, T1-B, PVC, 1 m	1	2725850010
IE-S1DS2VE0020T01T01-E	Patch cable, SPE plug (IEC 63171-2) - IP20 socket contact straight - IP20 socket contact straight, T1-B, PVC, 2 m	1	2725850020
IE-S1DS2VE0030T01T01-E	Patch cable, SPE plug (IEC 63171-2) - IP20 socket contact straight - IP20 socket contact straight, T1-B, PVC, 3 m	1	2725850030
IE-S1DS2VE0050T01T01-E	Patch cable, SPE plug (IEC 63171-2) - IP20 socket contact straight - IP20 socket contact straight, T1-B, PVC, 5 m	1	2725850050



OMNIMATE® Data – RJ45 jacks / RJ45 Patch cable

Type	Version	Qty	Order No.
RJ45C5 S1V 2.7N4N RL	Cat. 5, SMD solder connection, 180°, Shield tabs: none, 30...80 µm Ni / ≥ 30 µm Au, LED: No, Number of poles: 8, Tape	300	143390000*
RJ45C5 T1V 3.2N4N TY	Cat. 5, THT solder connection, 180°, Shield tabs: none, 30...80 µm Ni / ≥ 30 µm Au, LED: No, Number of poles: 8, Tray	120	143381000*
RJ45C6 R1V 3.2N4N TY	Cat. 6, THT/THR solder connection, 180°, LED: No, Number of poles: 8, Tape	140	263459000*
RJ45M R1V 1.9N4YG/YG TY	10/100 Mbit/s, THT/THR solder connection, 180°, Shield tabs: none, 30...80 µm Ni / ≥ 30 µm Au, LED: Yes, Green/yellow, Number of poles: 8, Tray (manual assembly)	120	2562140000
RJ45C5 S1D 2.7N4N RL	Cat. 5, SMD solder connection, 90°, Latch option: bottom, Shield tabs: none, 30...80 µm Ni / ≥ 30 µm Au, LED: No, Number of poles: 8, Tape	260	143389000*
RJ45C5 R1V 3.2N4G/Y TY	Cat. 5, THT/THR solder connection, 180°, Shield tabs: none, 30...80 µm Ni / ≥ 30 µm Au, LED: Yes, green, yellow, Number of poles: 8, Tray	120	251638000*
RJ45C5 R1U 2.8N4G/Y RL	Cat. 5, THT/THR solder connection, 90°, Latch option: top, Shield tabs: none, 30...80 µm Ni / ≥ 30 µm Au, LED: Yes, green, yellow, Number of poles: 12, Tape	200	256295000*
IE-C6FP8L00002M40M40-0	Patch cable, RJ45 IP 20, RJ45 IP 20, <20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010), LSZH, 0.2 m	1	2563810002
IE-C6FP8L00005M40M40-0	Patch cable, RJ45 IP 20, RJ45 IP 20, <20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010), LSZH, 0.5 m	1	2563810005
IE-C6FP8L00010M40M40-0	Patch cable, RJ45 IP 20, RJ45 IP 20, <20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010), LSZH, 1 m	1	2563810010
IE-C6FP8L00020M40M40-0	Patch cable, RJ45 IP 20, RJ45 IP 20, <20 m: Cat.6A / >20 m Class EA (ISO/IEC 11801 2010), LSZH, 2 m	1	2563810020
Note	* not yet UL/UR approved		



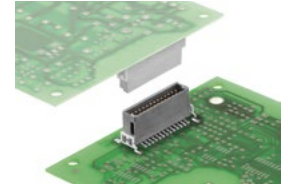
OMNIMATE® Signal – PCB terminals in 3.50 mm pitch – PUSH IN with actuator

Type	Version	Qty	Order No.
LSF-SMT 3.50/02/90 3.5SN BK TU	Number of poles: 2, 90°, Solder pin length: 3.5 mm, black, Clamping range, max.: 1.5 mm², Tube	71	1824420000
LSF-SMT 3.50/03/90 3.5SN BK TU	Number of poles: 3, 90°, Solder pin length: 3.5 mm, black, Clamping range, max.: 1.5 mm², Tube	49	1824430000
LSF-SMT 3.50/04/90 3.5SN BK TU	Number of poles: 4, 90°, Solder pin length: 3.5 mm, black, Clamping range, max.: 1.5 mm², Tube	37	1824440000
LSF-SMT 3.50/05/90 3.5SN BK TU	Number of poles: 5, 90°, Solder pin length: 3.5 mm, black, Clamping range, max.: 1.5 mm², Tube	30	1824450000
LSF-SMT 3.50/06/90 3.5SN BK TU	Number of poles: 6, 90°, Solder pin length: 3.5 mm, black, clamping range, max.: 1.5 mm², Tube	25	1824460000
LSF-SMT 3.50/07/90 3.5SN BK TU	Number of poles: 7, 90°, Solder pin length: 3.5 mm, black, Clamping range, max.: 1.5 mm², Tube	21	1824470000
LSF-SMT 3.50/08/90 3.5SN BK TU	Number of poles: 8, 90°, Solder pin length: 3.5 mm, black, Clamping range, max.: 1.5 mm², Tube	19	1824480000



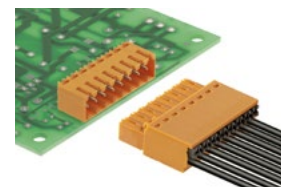
OMNIMATE® Signal – LPCB plug-in connectors in 1.27 mm pitch Board-to-Board

Type	Version	Qty	Order No.
FFH9 S1/50V F1 B RL	Female header, SMD solder connection, Pitch in mm: 1.27 mm, Number of poles: 50, 180°, Tape	280	2747400000
FFH9 S1/26V F1 B RL	Female header, SMD solder connection, Pitch in mm: 1.27 mm, Number of poles: 26, 180°, Tape	280	2747370000
FMH3 S1/50V F1 B RL	Male header, SMD solder connection, Pitch in mm: 1.27 mm, Number of poles: 50, 180°, Tape	280	2747130000
FMH3 S1/26V F1 B RL	Male header, SMD solder connection, Pitch in mm: 1.27 mm, Number of poles: 26, 180°, Tape	280	2747100000
FC10 TN/26A S1 B BX	Female plug, Pitch in mm: 1.27 mm, Number of poles: 26, Box	10	282709000*
FFP D1/50H S1 B TY	Female plug, Pitch in mm: 1.27 mm, Number of poles: 50, Tray (manual assembly)	75	2747580000
Note	* not yet UL/UR approved		



OMNIMATE® Signal – PCB plug-in connector in 3.50 mm pitch

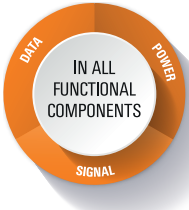
Type	Version	Qty	Order No.
BLF 3.50/02/180 SN OR BX	Female plug, Number of poles: 2, 180°, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box	264	2458950000
BLF 3.50/03/180 SN OR BX	Female plug, Number of poles: 3, 180°, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box	174	2459060000
BLF 3.50/04/180 SN OR BX	Female plug, Number of poles: 4, 180°, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box	132	2459070000
BLF 3.50/05/180 SN OR BX	Female plug, Number of poles: 5, 180°, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box	102	2459080000
BLF 3.50/06/180 SN OR BX	Female plug, Number of poles: 6, 180°, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box	84	2459090000
BLF 3.50/07/180 SN OR BX	Female plug, Number of poles: 7, 180°, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box	72	2459100000
BLF 3.50/08/180 SN OR BX	Female plug, Number of poles: 8, 180°, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box	66	2459110000
SL 3.50/02/90 3.2SN OR BX	Male header, open side, THT solder connection, Number of poles: 2, 90°, Solder pin length: 3.2 mm, tinned, Box	100	1597210000
SL 3.50/03/90 3.2SN OR BX	Male header, open side, THT solder connection, Number of poles: 3, 90°, Solder pin length: 3.2 mm, tinned, Box	100	1597220000
SL 3.50/04/90 3.2SN OR BX	Male header, open side, THT solder connection, Number of poles: 4, 90°, Solder pin length: 3.2 mm, tinned, Box	100	1597230000
SL 3.50/05/90 3.2SN OR BX	Male header, open side, THT solder connection, Number of poles: 5, 90°, Solder pin length: 3.2 mm, tinned, Box	50	1597240000
SL 3.50/06/90 3.2SN OR BX	Male header, open side, THT solder connection, Number of poles: 6, 90°, Solder pin length: 3.2 mm, tinned, Box	50	1597250000
SL 3.50/07/90 3.2SN OR BX	Male header, open side, THT solder connection, Number of poles: 7, 90°, Solder pin length: 3.2 mm, tinned, Box	50	1597260000
SL 3.50/08/90 3.2SN OR BX	Male header, open side, THT solder connection, Number of poles: 8, 90°, Solder pin length: 3.2 mm, tinned, Box	50	1597270000



OMNIMATE® Power – PCB terminals in 10.00 mm pitch – PUSH IN with actuator

Type	Version	Qty	Order No.
LUF 10.00/01/90 5.0SN BK BX	Number of poles: 1, 90°, Solder pin length: 5 mm, black, Clamping range, max.: 16 mm², Box	50	1988590000
LUF 10.00/02/90 5.0SN BK BX	Number of poles: 2, 90°, Solder pin length: 5 mm, black, Clamping range, max.: 16 mm², Box	40	1988600000
LUF 10.00/03/90 5.0SN BK BX	Number of poles: 3, 90°, Solder pin length: 5 mm, black, Clamping range, max.: 16 mm², Box	40	1988610000
LUF 10.00/04/90 5.0SN BK BX	Number of poles: 4, 90°, Solder pin length: 5 mm, black, Clamping range, max.: 16 mm², Box	30	1988620000
LUF 10.00/05/90 5.0SN BK BX	Number of poles: 5, 90°, Solder pin length: 5 mm, black, Clamping range, max.: 16 mm², Box	25	1988630000





RockStar® heavy-duty connectors

Currently, heavy-duty connectors are used wherever there is a need for a secure, simple and time-saving assembly of machinery and facilities. The connector housings are made of die-cast aluminium and offer excellent protection against dirt, moisture and mechanical stress. Special modular connectors make it possible to integrate signals, power supply and data connections into a single connector. With the RockStar® heavy-duty connectors, Weidmüller offers a product line with many patented innovations that is oriented towards the future.

The RockStar® product line defines new standards with the comprehensive depth and width of its features. What other suppliers offer only as a custom configuration, Weidmüller supplies in its standard product line. As a result, selecting the proper connector is now easier than ever. You save both time and money. And your work flow is optimised. Thus you can strengthen your position on the market and leverage your competitive advantage.



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/rockstar



RockStar® HighPower: the modular 550 A plug-in connector

Type	Rated current	Rated voltage	Conductor connection cross-section	Number of poles	Version	Qty.	Order No.
Bulkhead housing							
HDC IP68 HP 24B A						1	1120040000*
Base housing							
HDC IP68 HP 24B AS S						1	1079920000*
Plug housing							
HDC IP68 HP 24B TO						1	1079930000*
Contact holder frame							
HDC 24B HP550 MPL2 TYP1				2	Pin	1	1103710000*
HDC 24B HP550 MPL2 TYP2				2	Socket	1	1103770000*
550 A Crimpkontakte							
HDC HP 550 M 240	550 A	3000 V	240 mm ²		Pin	1	1120590000*
HDC HP 550 F 240	550 A	3000 V	240 mm ²		Socket	1	1120600000*
Cover for cable glands							
HDC IP68 24B MD 2M40					2xM40	1	1119990000*
Cable gland							
VGM40-MS68 20-32 BG					M40	10	1193620000*
Note							
	* not yet UL/UR approved						



RockStar® ModuPlug: Modular plug-in connectors with great performance in a reduced installation space

RockStar® ModuPlug: modular plug-in connector

Type	Version	Qty.	Order No.
Modular plug-in connector, size 8, M32, IP65			
HDC MF 24B AF	Modular insert AF	1	1429050000
HDC MF 24B FA	Modular insert FA	1	1429070000
HDC 24B ADLU	Bulkhead housing	1	1214300000
HDC 64D SDLU 1M32G	Base housing	1	1904440000
HDC 64D TSLU 1M32G	Plug housing, cable entry sideways	1	1786810000



Data modules – ModuPlug data inserts

Type	Version	Required plug-in slots	Qty.	Best.-Nr
HDC MRJ45 GC	RJ45-RJ45 Gender changer	1	1	2592030000
HDC MRJ45 ABP MI	EIA/TIA-568A, EIA/TIA-568B PROFINET	1	1	2592210000



Power inserts – ModuPlug power module

Type	Rated current	Rated voltage	Connection type	Conductor connection cross-section	Number of poles	Required plug-in slots	Version	Qty.	Best.-Nr
HDC MHX 4 MP	40 A	690 A	PUSH IN connection	10 mm ²	4	1	Pin	1	2772810000*
HDC MHX 4 FP	40 A	690 A	PUSH IN connection	10 mm ²	4	1	Socket	1	2772800000*
Hinweis	* noch keine UL/UR Zulassung								



Power Module – ModuPlug Powermodul

Type	Rated current	Rated voltage	Connection type	Conductor connection cross-section	Number of poles	Required plug-in slots	Version	Qty.	Order No.
HDC MHP 70 FAS	70 A	1000 V	Axial screw connection	25 mm ²	2	1	Pin	2	2748310000
HDC MHP 70 MAS	70 A	1000 V	Axial screw connection	25 mm ²	2	1	Socket	2	2748300000
HDC MHP 100 FAS	100 A	1000 V	Axial screw connection	35 mm ²	2	2	Pin	2	2748290000
HDC MHP 100 MAS	100 A	1000 V	Axial screw connection	35 mm ²	2	2	Socket	2	2748280000
HDC MHP 200 FAS	200 A	1000 V	Axial screw connection	70 mm ²	1	2	Pin	2	2748250000
HDC MHP 200 MAS	200 A	1000 V	Axial screw connection	70 mm ²	1	2	Socket	2	2748240000



Signal Module – ModuPlug Signalmodul

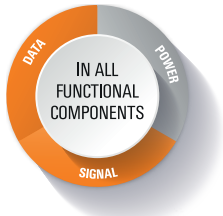
Type	Rated current	Rated voltage	Connection type	Conductor connection cross-section	Number of poles	Required plug-in slots	Version	Qty.	Order No.
HDC MHE 5 MP	16 A	400 V	PUSH IN connection	2,5 mm ²	5	1	Pin	1	2636180000
HDC MHE 5 FP	16 A	400 V	PUSH IN connection	2,5 mm ²	5	1	Socket	1	2636190000
HDC MHE 6 MP	16 A	500 V	PUSH IN connection	2,5 mm ²	6	1	Pin	1	2748420000*
HDC MHE 6 FP	16 A	500 V	PUSH IN connection	2,5 mm ²	6	1	Socket	1	2748430000*
HDC MHE 8 MP	16 A	400 V	PUSH IN connection	2,5 mm ²	8	1	Pin	1	2748440000*
HDC MHE 8 FP	16 A	400 V	PUSH IN connection	2,5 mm ²	8	1	Socket	1	2748450000*
HDC MHD 12 FP	10 A	250 V	PUSH IN connection	1,5 mm ²	12	1	Pin	1	2748470000
HDC MHD 12 MP	10 A	250 V	PUSH IN connection	1,5 mm ²	12	1	Socket	1	2748460000
HDC MDU						0,5	Dummy module	1	1429040000*
Note	* not yet UL/UR approved								



RockStar® Heavy-duty connectors

Type	Version	Connection system	Qty.	Order No.
HDC connection, 4-pin, 400 V, 16 A, size 1, M20, IP65				
HDC HA 4 FS	Insert, pin	Screw connection	1	1498400000
HDC HA 4 MS	Insert, socket	Screw connection	1	1498300000
HDC O4A ALU	Bulkhead housing		1	1497600000
HDC O4A AWLU	Angled bulkhead housing		1	1497700000*
HDC O4A TOLU 1M20G	Plug housing, cable entry at top		1	1788820000
HDC connection, 24-pin, 500 V, 16 A, size 8, M32, IP65				
HDC HE 24 MQT	Insert, pin	SNAP IN connection	1	2667010000
HDC HE 24 FP	Insert, pin	PUSH IN connection	1	1873580000
HDC HE 24 FS	Insert, pin	Screw connection	1	1211300000
HDC HE 24 FOT	Insert, socket	SNAP IN connection	1	2666990000
HDC HE 24 MP	Insert, socket	PUSH IN connection	1	1873590000
HDC HE 24 MS	Insert, socket	Screw connection	1	1211100000
HDC 24B ADLU	Bulkhead housing		1	1214300000
HDC 64D SDLU 1M32G	Base housing		1	1904440000
HDC 24B TSLU 1M32G	Plug housing, cable entry sideways		1	1787790000
Note	* not yet UL/UR approved			





Relay Modules & Solid-State Relays – Klippon® Relay

Switch to simple- with Klippon® Relay – High-quality relays with unique all-round service

Whether switching, separating, amplifying, or multiplying: relays perform a multitude of different tasks in industrial applications. They have very specific characteristics and are available in almost innumerable varieties on the market. Klippon® Relay from Weidmüller makes your choice easy. Our worldwide unique all-round offer combines maximum relay variety with matching accessories and first-class service. We provide you with high-quality products that have been thought out down to the smallest detail, combined with comprehensive support from product selection to modern data services. Only with Klippon® Relay you can be sure to get the right relay for your specific needs – and save time and money. That's our promise!



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/klipponrelay



TERMSERIES-compact – relay modules

Type	Version	Qty	Order No.
TRPL 24-230VUC 1CO	Number of contacts: 1, CO contact AgNi, Rated control voltage: 24...230 V UC ±10 %, Continuous current: 6 A, PUSH IN, Test button available: No	10	2773860000*
TRPL 12-60VUC 1CO	Number of contacts: 1, CO contact AgNi, Rated control voltage: 12...60 V UC ±10 %, Continuous current: 6 A, PUSH IN, Test button available: No	10	2773770000*
TRPL 24VDC 1CO	Number of contacts: 1, CO contact AgNi, Rated control voltage: 24 V DC ±20 %, Continuous current: 6 A, PUSH IN, Test button available: No	10	2773890000

Note * not yet UL/UR approved



TERMSERIES – relay modules

Type	Version	Qty	Order No.
TRP 24VDC 1CO AGSNO AU PB	Number of contacts: 1, CO contact AgSnO gold-plated, Rated control voltage: 24 V DC ±20 %, Continuous current: 6 A, PUSH IN, Test button available: Yes	10	2855830000
TRP 24VDC 1CO AGSNO PB	Number of contacts: 1, CO contact AgSnO, Rated control voltage: 24 V DC ±20 %, Continuous current: 6 A, PUSH IN, Test button available: Yes	10	2855800000
TRS 24VDC 1CO AGSNO AU PB	Number of contacts: 1, CO contact AgSnO gold-plated, Rated control voltage: 24 V DC ±20 %, Continuous current: 6 A, Screw connection, Test button available: Yes	10	2855860000
TRS 24VDC 1CO AGSNO PB	Number of contacts: 1, CO contact AgSnO, Rated control voltage: 24 V DC ±20 %, Continuous current: 6 A, Screw connection, Test button available: Yes	10	2855870000
TRP 24-230VUC 1CO AGSNO ED2 PB	Number of contacts: 1, CO contact AgSnO, Rated control voltage: 24...230 V UC ±10 %, Continuous current: 6 A, PUSH IN, Test button available: Yes	10	2855910000
TRP 24VDC 2CO	Number of contacts: 2, CO contact AgNi, Rated control voltage: 24 V DC ±20 %, Continuous current: 8 A, PUSH IN, Test button available: No	10	2618400000
TRP 24-230VUC 2CO ED2	Number of contacts: 2, CO contact AgNi, Rated control voltage: 24...230 V UC ±10 %, Continuous current: 8 A, PUSH IN, Test button available: No	10	2663040000
TRP 24VDC 1NO HC	Number of contacts: 1, NO contact AgSnO, Rated control voltage: 24 V DC ±20 %, Continuous current: 16 A, PUSH IN, Test button available: No	10	2618090000
TRP 24VDC 1NO HCP	Number of contacts: 1, NO contact AgSnO + W, Rated control voltage: 24 V DC ±20 %, Continuous current: 16 A, PUSH IN, Test button available: No	10	2617930000
TRP 24-230VUC 2CO ED2	Number of contacts: 2, CO contact AgNi, Rated control voltage: 24...230 V UC ±10 %, Continuous current: 8 A, PUSH IN, Test button available: No	10	2663040000
TRP 24VDC 2CO	Number of contacts: 2, CO contact AgNi, Rated control voltage: 24 V DC ±20 %, Continuous current: 8 A, PUSH IN, Test button available: No	10	2618400000



D-Series – relay modules

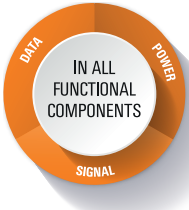
Type	Version	Qty	Order No.
DRMKITP 24VDC 4CO LD	Number of contacts: 4, CO contact AgNi flash gold-plated, Rated control voltage: 24 V DC, Continuous current: 5 A, PUSH IN, Test button available: No	10	2576130000*
DRMKITP 24VDC 4CO LD/PB	Number of contacts: 4, CO contact AgNi flash gold-plated, Rated control voltage: 24 V DC, Continuous current: 5 A, PUSH IN, Test button available: Yes	10	2576140000*
DRIKITP 24VDC 2CO LD	Number of contacts: 2, CO contact AgSnO, Rated control voltage: 24 V DC, Continuous current: 5 A, PUSH IN, Test button available: No	10	2576200000*
DRIKITP 24VDC 2CO LD/PB	Number of contacts: 2, CO contact AgSnO, Rated control voltage: 24 V DC, Continuous current: 5 A, PUSH IN, Test button available: Yes	10	2576190000*
Note	* not yet UL/UR approved		



Energy storage

C





Power Supplies

The switch-mode power supplies feature a high efficiency, compact dimensions and minimal heat generation. They are an excellent and reliable solution for providing power in all automation applications – safely providing 24 V DC and 48 V DC voltage. The different product series are optimised for the automation industry: they feature Ex approvals for the processing industry, a flat shape perfect for distribution tasks within buildings and provide decentralised control voltages.

All-purpose usage: with a wide range of AC/DC inputs, single-, double- or three-phase versions and a wide temperature range. Additional performance increases are possible using simple parallel connection. Weidmüller switch-mode power supplies are reliable usable for all applications because of their high efficiency and their resistance to both short circuits and overloads.



For further products, information, technical specifications or additional services, please visit our website:
www.weidmuller.com/powermanagement



Connect Power PROtop

Type	Version	Qty	Order No.
Connect Power PROtop single-phase			
PRO TOP1 120W 24V 5A	Power supply, switch-mode power supply unit, 24 V	1	2466870000
PRO TOP1 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	2466880000
PRO TOP1 480W 24V 20A	Power supply, switch-mode power supply unit, 24 V	1	2466890000
PRO TOP1 960W 24V 40A	Power supply, switch-mode power supply unit, 24 V	1	2466900000
PRO TOP1 480W 48V 10A	Power supply, switch-mode power supply unit, 48 V	1	2467030000
PRO TOP1 960W 48V 20A	Power supply, switch-mode power supply unit, 48 V	1	2466920000
Connect Power PROtop for highest demands, 3-phase			
PRO TOP3 120W 24V 5A CO	Power supply, switch-mode power supply unit, 24 V	1	2467070000
PRO TOP3 240W 24V 10A CO	Power supply, switch-mode power supply unit, 24 V	1	2467090000
PRO TOP3 480W 24V 20A CO	Power supply, switch-mode power supply unit, 24 V	1	2467110000
PRO TOP3 960W 24V 40A CO	Power supply, switch-mode power supply unit, 24 V	1	2467130000
PRO TOP3 480W 48V 10A	Stromversorgung, Schaltnetzgerät, 48 V	1	2467150000
PRO TOP3 960W 48V 20A	Stromversorgung, Schaltnetzgerät, 48 V	1	2467170000



Connect Power PROmax

Type	Version	Qty	Order No.
Connect Power PROmax single-phase			
PRO MAX 70W 5V 14A	Power supply, switch-mode power supply unit, 5 V	1	1478210000
PRO MAX 72W 24V 3A	Power supply, switch-mode power supply unit, 24 V	1	1478100000
PRO MAX 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	1478130000
PRO MAX 480W 24V 20A	Power supply, switch-mode power supply unit, 24 V	1	1478140000
PRO MAX 960W 24V 40A	Power supply, switch-mode power supply unit, 24 V	1	1478150000
PRO MAX 240W 48V 5A	Power supply, switch-mode power supply unit, 48 V	1	1478240000
PRO MAX 480W 48V 10A	Power supply, switch-mode power supply unit, 48 V	1	1478250000
PRO MAX 960W 48V 20A	Power supply, switch-mode power supply unit, 48 V	1	1478270000
Connect Power PROmax 3-phase			
PRO MAX3 120W 24V 5A	Power supply, switch-mode power supply unit, 24 V	1	1478170000
PRO MAX3 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	1478180000
PRO MAX3 480W 24V 20A	Power supply, switch-mode power supply unit, 24 V	1	1478190000
PRO MAX3 960W 24V 40A	Power supply, switch-mode power supply unit, 24 V	1	1478200000



DC/DC converter

Type	Version	Qty	Order No.
PRO TOPDC 24V/24V 5A	DC/DC converter	1	2627650000*
PRO TOPDC 24V/24V 10A	DC/DC converter	1	2627640000*
PRO TOPDC 24V/24V 20A	DC/DC converter	1	2627630000*
PRO TOPDC 24V/48V 10A	DC/DC-Wandler	1	2627660000*
Note	* not yet UL/UR approved		

**maxGUARD – Electronic load monitoring**

Type	Version	Qty	Order No.
AMG AM CO	Alarm module, 24 V DC	1	2082770000
AMG CM	Control module, 24 V DC	1	2081900000
AMG ELM-18	Electronic load monitoring, 18 A, 24 V DC	10	2859800000
AMG DIS	Potential distributor	10	2123050000
AMG ELM-18	Electronic load monitoring, 18 A, 24 V DC	10	2859800000
AMG MD	Potential distributor	10	2122930000
AMG PD	Potential distributor	10	2122920000

**topGUARD – Electronic load monitoring**

Type	Version	Qty	Order No.
TGD FIM-C	Supply module	1	2625000000

**Communication modules**

Type	Version	Qty	Order No.
PRO COM DISPLAY 7S	Communication module	1	2466960000
PRO COM IO-LINK	Communication module	1	2587360000
PRO COM CAN OPEN	Communication module	1	2467320000

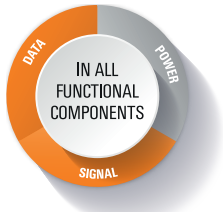
**UPS control unit**

Type	Version	Qty	Order No.
CP DC UPS 24V 20A/10A	UPS control unit	1	1370050010

**Battery module**

Type	Version	Qty	Order No.
DURA ECO LA-BAT 24V 7AH	Battery	1	2789910000
DURA ECO LA-BAT 24V 12AH	Battery	1	2789920000
DURA ECO LA-BAT 24V 17AH	Battery	1	2789930000





Industrial Ethernet

Weidmüller Industrial Ethernet components are the perfect link for data communication between Ethernet enabled devices in industrial automation. By supporting various topologies and protocols, they can be used in many industrial applications. As a complete provider of industrial network infrastructure for machine and equipment manufacture, we offer a wide range of switch products to suit the individual needs of our customers. In particular, Gigabit switches (unmanaged and managed) and media converters, Power-over-Ethernet switches, WLAN devices and serial/Ethernet converters to meet the highest requirements and provide a reliable and flexible Ethernet communication. An extensive passive product portfolio consisting of RJ 45 and fibre optic connectors and cables make Weidmüller your partner for industrial Ethernet solutions.



For further products, information, technical specifications or additional services, please visit our website: www.weidmueller.com/ie



Industrial Ethernet – Active components

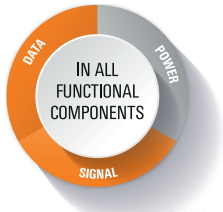
Type	Version	Qty	Order No.
IE-SW-EL05-5TX	Network switch, unmanaged, Fast Ethernet, Number of ports: 5x RJ45, IP30, -40 °C...75 °C	1	2682130000
IE-SW-EL10-8GT-2GESFP	Network switch, unmanaged, Gigabit Ethernet, Number of ports: 8x RJ45, 2x 100/1000BaseSFP Slot, IP30, -40 °C...75 °C	1	2682240000
IE-SW-EL08-8POE	Network switch, unmanaged PoE, Fast Ethernet, Number of ports: 8x RJ45 10/100 BaseT(X) PoE+, IP30, -40 °C...75 °C	1	2682380000
IE-SW-AL12M-8GT-4GESFP	Network switch, managed, Gigabit Ethernet, Number of ports: 8x RJ45, 4x 100/1000BaseSFP Slot, IP30, -40 °C...75 °C	1	2682340000
IE-SW-SL26M-24TX-2GC-LV	Layer 2 Network Switch, 19" rack mount, managed, Fast/Gigabit Ethernet, IEC 61850-3 / IEEE 1613, low voltage, Number of ports: 24x RJ45 10/100BASE-T(X), 2x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP), IP30, -40 °C...85 °C	1	2779000000*
IE-SFP-1GE-SM-10	SFP Transceiver, 1000 Mbps, Singlemode, LC-Duplex, 10 km, -40 °C...85 °C	1	2682500000
IE-CS-MBGW-2TX-1COM	Serial/Ethernet converter and Modbus TCP/RTU gateway, Number of ports: 2x RJ45 10/100BASE-T(X), 1x DB9 male for RS-232/422/485, IP30, -40 °C...70 °C	1	2682600000
IE-MC-VLT-1TX-1SCS	Media converter, Fast Ethernet, Number of ports: 1x RJ45, 1 * SC Single-mode, IP30, -40 °C...75 °C	1	1286900000
IE-WLT-VL-AP-BR-CL-EU	Wireless Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, EU-Model, IP30, -40 °C...75 °C	1	2536690000*
IE-SR-4GT-LTE/4G-USEMEA	Security/NAT/VPN/U-link Router, with integrated multi-band modem (4G/3G), US/EMEA-model, Gigabit Ethernet, 4x RJ45 10/100/1000BaseT(X), IP20, -25 °C...70 °C	1	2873930000*
U-LINK-50-DEVICES-1Y	License code for u-link Remote Access Service., Adds 50 additional configurable u-link clients on Weidmüller hardware to the basic license and extends the period of the basic license accordingly.	1	2870090000*
LMF APL 5.00/03/90 3.5SN BX	Printed circuit board terminals foe Ethernet-APL, Pitch 5.00 mm, Number of poles: 3, 90°, PUSH IN with actuator,	1	2873480000
Note	* not yet UL/UR approved		



Industrial Ethernet – Passive component

Type	Version	Qty	Order No.
IE-FC-SET-IPDED003-KY-M	Service Interface for Cabinets	1	2460640000*
IE-FCM-RJ45-C	Service Interface for Cabinets	1	1018790000
IE-PS-RJ45-FH-BK	RJ45 IP20 Connector	1	1963600000
IE-TO-RJ45-C	Outlet for Cabinet	1	8946920000*
IE-C6FP8LD0002M40M40-D	Patchcord	1	1165940002
Note	* not yet UL/UR approved		





I/O Systems

For future-oriented Industry 4.0 inside and outside the electrical cabinet, Weidmüller's flexible remote I/O systems offer automation at it's best. u-remote from Weidmüller forms a reliable and efficient interface between the control and field levels. The I/O system impresses with its simple handling, high degree of flexibility and modularity as well as outstanding performance. The two I/O systems UR20 and UR67 cover all common signals and fieldbus/network protocols in automation technology.



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/u-remote



Fieldbus coupler

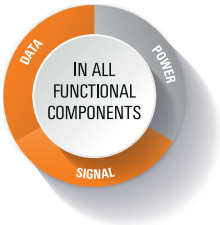
Type	Version	Qty	Order No.
UR20-FBC-PN-IRT-V2	Remote I/O fieldbus coupler, IP20, Ethernet, PROFINET IRT	1	2566380000
UR20-FBC-PB-DP-V2	Remote I/O fieldbus coupler, IP20, PROFIBUS DP-V1	1	2614380000
UR20-FBC-EC	Remote I/O fieldbus coupler, IP20, Ethernet, EtherCAT	1	1334910000
UR20-FBC-MOD-TCP-V2	Remote I/O fieldbus coupler, IP20, Ethernet, Modbus/TCP	1	2476450000
UR20-FBC-EIP	Remote I/O fieldbus coupler, IP20, Ethernet, EtherNet/IP	1	1334920000
UR20-FBC-CAN	Remote I/O fieldbus coupler, IP20, CANopen	1	1334890000
UR20-FBC-DN	Remote I/O fieldbus coupler, IP20, DeviceNet	1	1334900000
UR20-FBC-CC	Remote I/O fieldbus coupler, IP20, CC-Link	1	2625010000
UR20-FBC-CC-TSN	Remote I/O fieldbus coupler, IP20, CC-Link IE TSN	1	2680260000
UR20-FBC-PL	Remote I/O fieldbus coupler, IP20, Ethernet, POWERLINK	1	1334940000
UR20-FBC-IEC61162-450	Remote I/O fieldbus coupler, IP20, Ethernet, IEC 61162-450	1	2661310000



Modules

Type	Version	Qty	Order No.
Digital input modules			
UR20-4DI-P	Remote I/O module, IP20, Digital signals, Input, 4-channel	1	1315170000
UR20-8DI-P-2W	Remote I/O module, IP20, Digital signals, Input, 8-channel, 2-conductor connection	1	1315180000
UR20-16DI-P	Remote I/O module, IP20, Digital signals, Input, 16-channel	1	1315200000
UR20-4DO-P	Remote I/O module, IP20, Digital signals, Output, 4-channel	1	1315220000
UR20-4DO-P-2A	Remote I/O module, IP20, Digital signals, Output, 4-channel, 2 A per channel	1	1315230000
UR20-8DO-P	Remote I/O module, IP20, Digital signals, Output, 8-channel	1	1315240000
UR20-16DO-P	Remote I/O module, IP20, Digital signals, Output, 16-channel	1	1315250000
UR20-8DI-P-3W	Remote I/O module, IP20, Digital signals, Input, 8-channel	1	1394400000
Analogue input modules			
UR20-4AI-UI-16	Remote I/O module, IP20, 4-channel, Analog signals, Input, Current/Voltage, 16 Bit	1	1315620000
UR20-4AI-HART-16-DIAG	Remote I/O module, IP20, Analog signals, Input, 4-channel, HART®	1	2617520000*
Analogue output modules			
UR20-4AO-UI-16	Remote I/O module, IP20, Analog signals, Output, 4-channel, Current/Voltage	1	1315680000
UR20-2AO-UI-16	Remote I/O module, IP20, Analog signals, Output, 2-channel, Current/Voltage	1	2705630000*
Temperature modules and potentiometer input module			
UR20-4AI-RTD-DIAG	Remote I/O module, IP20, Analog signals, Temperature, RTD	1	1315700000
UR20-4AI-TC-DIAG	Remote I/O module, IP20, Analog signals, Temperature, TC	1	1315710000
Power-feed modules			
UR20-PFI	Remote I/O module, IP20, Power supply unit, 24 VDC-Input	1	1334710000
UR20-PFO	Remote I/O module, IP20, Power supply unit, 24 VDC-Output	1	1334740000
Safe I/O modules and safe power-feed modules			
UR20-4DI-4DO-PN-FSPS-V2	Remote I/O module, IP20, Safety, Digital signals, 4-channel	1	2464570000
UR20-8DI-4DO-PN-FSPS-V2	Remote I/O module, IP20, Safety, Digital signals, 8-channel	1	2464590000
Digital counter- and communication- modules			
UR20-1COM-232-485-422-V2	Remote I/O module, IP20, 1-channel, RS232/RS485/RS422 communication, PUSH IN connection	1	2826800000*
Note	* not yet UL/UR approved		





Controls & Edge

For modern IoT applications, automation technology needs to be increasingly more powerful and adaptable. u-mation offers a coordinated hardware portfolio designed for the future-proof preparation of your machines and systems. u-control 2000 is one of the most compact and state-of-the-art control systems on the market and is the centrepiece of our hardware portfolio. u-control 2000 forms the basis required for use of our engineering solutions u-create web, studio and IoT.

With u-control M3000, automation solutions can be perfectly integrated into the IoT. The powerful controller also works as an edge device for providing local information in the network and can be expanded by connecting function modules – ideal for automation and IIoT applications. u-control M4000 offers two additional CPU cores, two additional Ethernet interfaces and more RAM, NV RAM, and flash memory for complex edge computing in automation.

The controllers modular design is based on the remote I/O system u-remote, and allows for needs-based expansion to include other components from the u-mation family.



For further products, information, technical specifications or additional services, please visit our website: www.weidmuller.com/controls



u-control

Type	Version	Qty	Order No.
for standard applications			
UC20-WL2000-AC	Controller, IP20, AutomationController, Web-based, u-control 2000 web, integrated engineering tools: u-create web for PLC - (real-time system) & IIoT applications and CODESYS (u-OS) compatible	1	1334950000
UC20-WL2000-AC-CAN	Controller, IP20, AutomationController, Web-based, u-control 2000 web, CAN interface, integrated engineering tools: u-create web for PLC - (real-time system) & IIoT applications and CODESYS (u-OS) compatible	1	2928020000*
for high-performance applications			
UC20-M3000	Controller, IP20, AutomationController, Web-based, u-control M3000, integrated engineering tools: IIoT applications and CODESYS (u-OS)	1	2839150000*
UC20-M4000	Controller, IP20, AutomationController, Web-based, u-control M4000, integrated engineering tools: IIoT applications and CODESYS (u-OS)	1	2839160000*
Note	* not yet UL/UR approved		



Hydrogen

Hydrogen	Introduction	D.2
	Weidmüller Solutions for Electrolysis & Fuel Cell Stacks	D.6
	Solutions for Electrolysis	D.8
	Solutions for Hydrogen Refuelling Stations	D.10
	High-performance components	D.12



Activating the power of hydrogen

Weidmüller Solutions for the hydrogen industrialisation

Industrialisation plays a crucial role in reducing the cost of hydrogen production. We are convinced that our solutions make an important contribution to helping our customers achieve their industrialisation goals faster. Our comprehensive range of products and services is focused on modularisation, standardisation, plug and play, parallel workflows and supply partnerships to reduce CAPEX and increase operational efficiency.

D



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/hydrogen



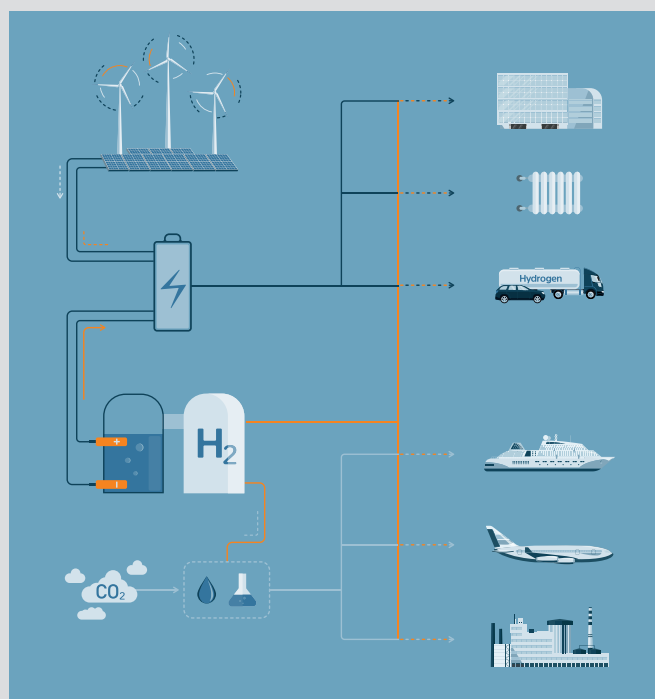
The transition to a sustainable energy landscape requires innovative concepts and our commitment to digitalisation. We utilise cutting-edge technologies, our solutions include digital databases, seamless integration with CAE tools and offer our customers rapid engineering capabilities. Our advanced software allows plants and systems to be monitored remotely in real time, enabling proactive measures to be taken to prevent potential failures. Our machine learning solutions contribute to this monitoring performance and detect problems before they escalate. This reduce OPEX and ensures smooth operations.

As we aid stakeholders in the hydrogen sector with CAPEX and OPEX reduction, we contribute to achieving a significant milestone – lowering the Levelized Cost of Hydrogen (LCOH). Weidmüller's solutions boast decades of industry experience and hold the necessary certifications, inspiring confidence, and trust among our valued clients.

Now is the right time to join forces and support the industries in their rapid growth while fighting climate change together. We all envision a green future where we reduce the carbon footprint. Our solutions are used in a wide range of applications in electrolysis, compressors, hydrogen processing, H₂ refuelling stations, H₂ gas turbines and fuel cells.

At Weidmüller, we have made it our mission to drive the hydrogen revolution and lay the foundation for a sustainable future. Let's work together to drive a functioning hydrogen economy, for a cleaner greener world, supported by Weidmüller solutions.

D



The Power-to-X concept

Power-to-X describes the conversion of renewable energies into hydrogen, hydrogen-based synthetic fuels and basic materials. In combination with smart energy grids, this enables the use of renewable energies such as solar and wind energy even when they are not available. Furthermore, the technology also allows use in transport sectors such as aviation and long-haul shipping, where direct use of electricity is not expected to be possible in the future.

Power-to-X is therefore seen as a key technology on the road to the energy transition in the medium and long term.

Our expertise for a decarbonised future

Pioneering mindset and know-how for the industrialisation

Industry Competence

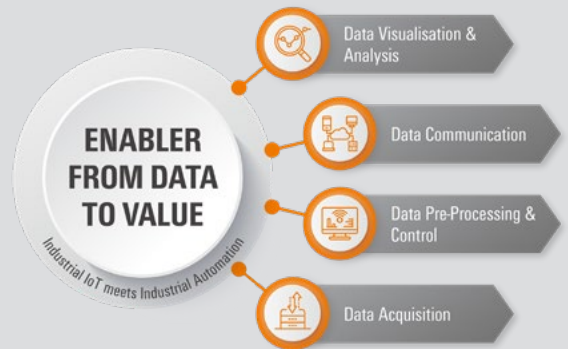
- Certification Expertise
- Harzardous Area Approvals
- Engineering Competence



D



Our comprehensive and cutting-edge IIoT portfolio applies for both, greenfield and brownfield applications. We offer components and solutions from data acquisition, data pre-processing, data communication and data analysis. The added value is exploited in the specific use case, whether this is increasing the energy efficiency or deploying service technicians more efficiently thanks to remote maintenance. And last but not least, we enable our customers to develop new business models by using artificial intelligence.



Fast Delivery Service

WMC

The Fast Delivery Service simplifies your planning, accelerates your production processes, and guarantees the delivery of individually assembled and ready-to-install terminal rails and enclosures. This way, you reduce costs, increase flexibility and stay one step ahead of your competitors. The Weidmüller Configurator (WMC) software is available for free download on our website, customers can start designing their EX or non-EX enclosures right away. WMC enables users to create custom enclosures with markers and pre-assembled rails, ensuring accuracy and efficiency in the assembly process.



www.weidmueller.com/wmc



Weidmüller Solutions for Electrolysis & Fuel Cell Stack Condition Monitoring

Pioneering Efficiency and Reliability

D



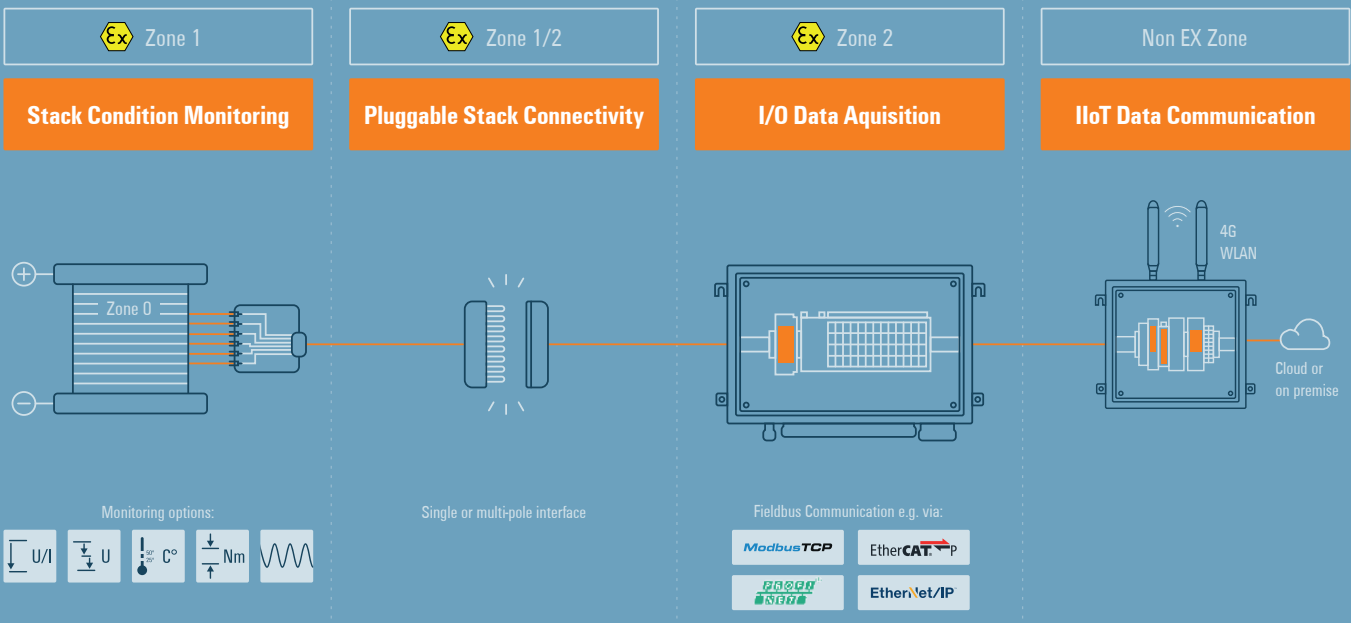
Bipolar plates are the heart of electrolyzers used to produce hydrogen. Depending on the manufacturing process, stacks can consist of hundreds of such bipolar plates, whereby a single defective plate can negatively impact the performance of the entire stack. Because of this, it makes sense to monitor the voltage of each plate separately. We have developed the appropriate solution for this and thus the measured values can be recorded and processed reliably, safely and economically in potentially explosive areas..

Stack Connectivity- Cell Voltage Pickup (CVP)

In addition to single connections, multipoint connections are also possible. The contacts are applied to the printed circuit boards in such a way that several boards can be contacted in a single plug-in operation. The temperature-related expansion of the stack must be taken into account- for the typical stacks of PEM electrolysis, this means an enormous time saving..

Data Acquisition

Data pre-processing is handled by the u-remote station with Ex approval for zone 2. The data is passed to a gateway or a router. For connection to the control system, we provides variants for all common fieldbus protocols like PROFINET, Modbus TCP and of course Ethernet.





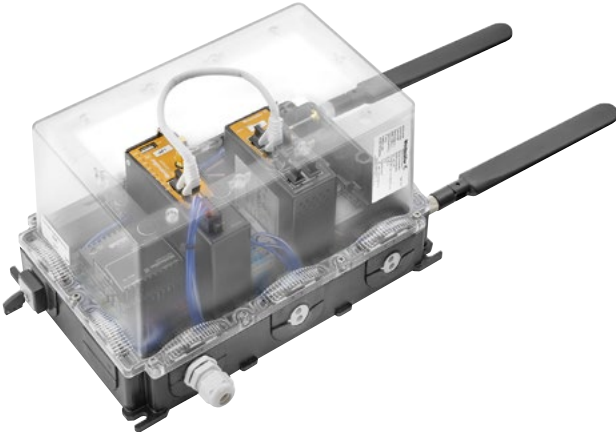
IloT Data Communication

In addition to the LAN connection, a connection via IoT-boxes to the customer's cloud or our own cloud is also possible. This also makes it possible to monitor the external data of stationary equipment. This allows not only the user, but also the system manufacturer to access the system for diagnostics, service, or support.

Visualization and analysis

With our visualization hardware and software solutions, we enable real-time data acquisition from stacks, empowering manufacturers and operators to monitor crucial parameters and identify potential failures like cell degradation, gas crossover, leaks, sealing issues, and stack contamination. Our integrated approach ensures seamless data flow from the stack to ProconWeb, where it can be fed into our on-premise or cloud-based Automated Machine Learning (AML) tool.

AML handles large-scale data, extracts valuable insights, and triggers alarm functions or email notifications on ProconWeb for anomaly detection. You can continuously improve model performance easily by retraining models as you gain more insights and collect more data from stacks and processes. The performance of the data models is continuously improved by training with new data from stacks and processes.



Solutions for electrolysers

Electrical Connectivity and Automation

D



At Weidmüller, we are setting new standards and focusing in particular on providing the best possible support for the „green“ hydrogen industry. We achieve this by offering customized solutions for all electrolysis processes, e.g. AE (Alkaline Electrolysis), PEM (Proton Exchange Membrane), AEM (Anion Exchange Membrane) and SOEC (Solid Oxide Electrolysis Cell). Thanks to our know-how in the areas of energy, signal and data transmission, we can offer precise technical solutions to effectively reduce costs and space requirements. Whether it's optimizing the electrolysis process, ensuring seamless signal transmission or enabling fast data communication, our comprehensive product range covers the diverse requirements of green hydrogen production.

Sensor/ Actuator Connectivity



Industrial Cabinet



Data Communication

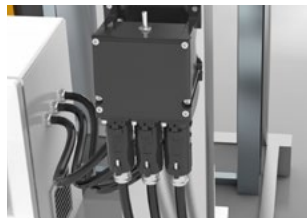


For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/h2electrolysis

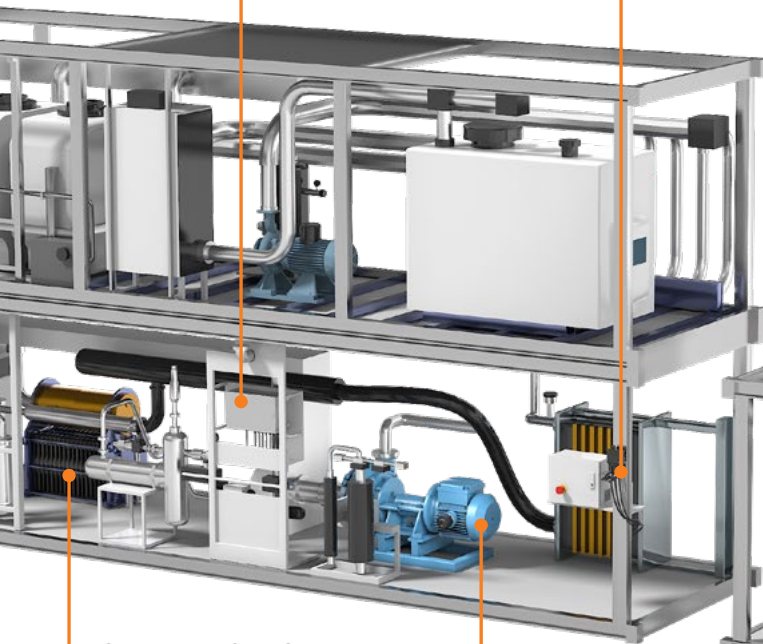
Data Acquisition



High Power Connectors



Energy Management



Customized CVM Stack Connectivity



Vibration Monitoring | u-sense

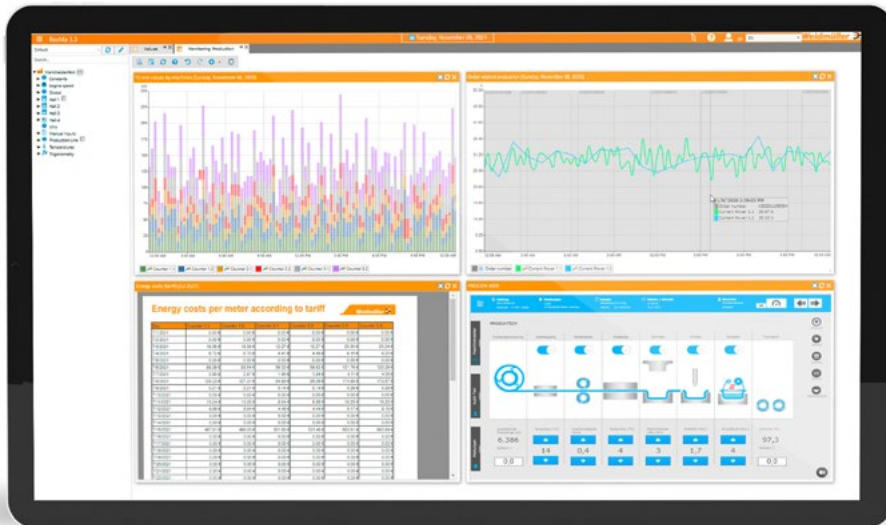


Weidmüller Solutions for Hydrogen Refueling Stations

Empowering Efficiency and Innovation

Weidmüller offers advanced technology for hydrogen refueling stations that enables green innovation with a focus on modularity and efficiency. We simplify the assembly of hydrogen refueling stations with modular and standardised sensor cables for plug-and-play connections. Safety is a top priority in hazardous environments, our solutions simplify various safety requirements for hazardous areas. Integrating SCADA with u-view HMIs improves visibility and provides insight into system performance.

D



Control Room

- Modular controller
- Modular or compact remote I/O
- Remote access & Web-based SCADA
- Industrial Analytics
- Measuring & Monitoring systems
- Energy Management with ResMa®
- easyConnect Plattform
- Data Communication: Industrial ethernet portfolio and gateways
- Fieldbus distribution



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/h2refuelling



Compressor

- Modular controller
- Modular or compact remote I/O
- Modified & Assembled enclosures (ATEX)
- Intrinsically safe analog signal conditioning, HART® repeaters
- Data communication: Industrial ethernet portfolio
- Industrial Analytics
- Relay Couplers & Solid State Relays
- Distribution boxes
- Terminal boxes & Sensor distribution block (Ex i-)
- Sensor cables

Cooling Unit

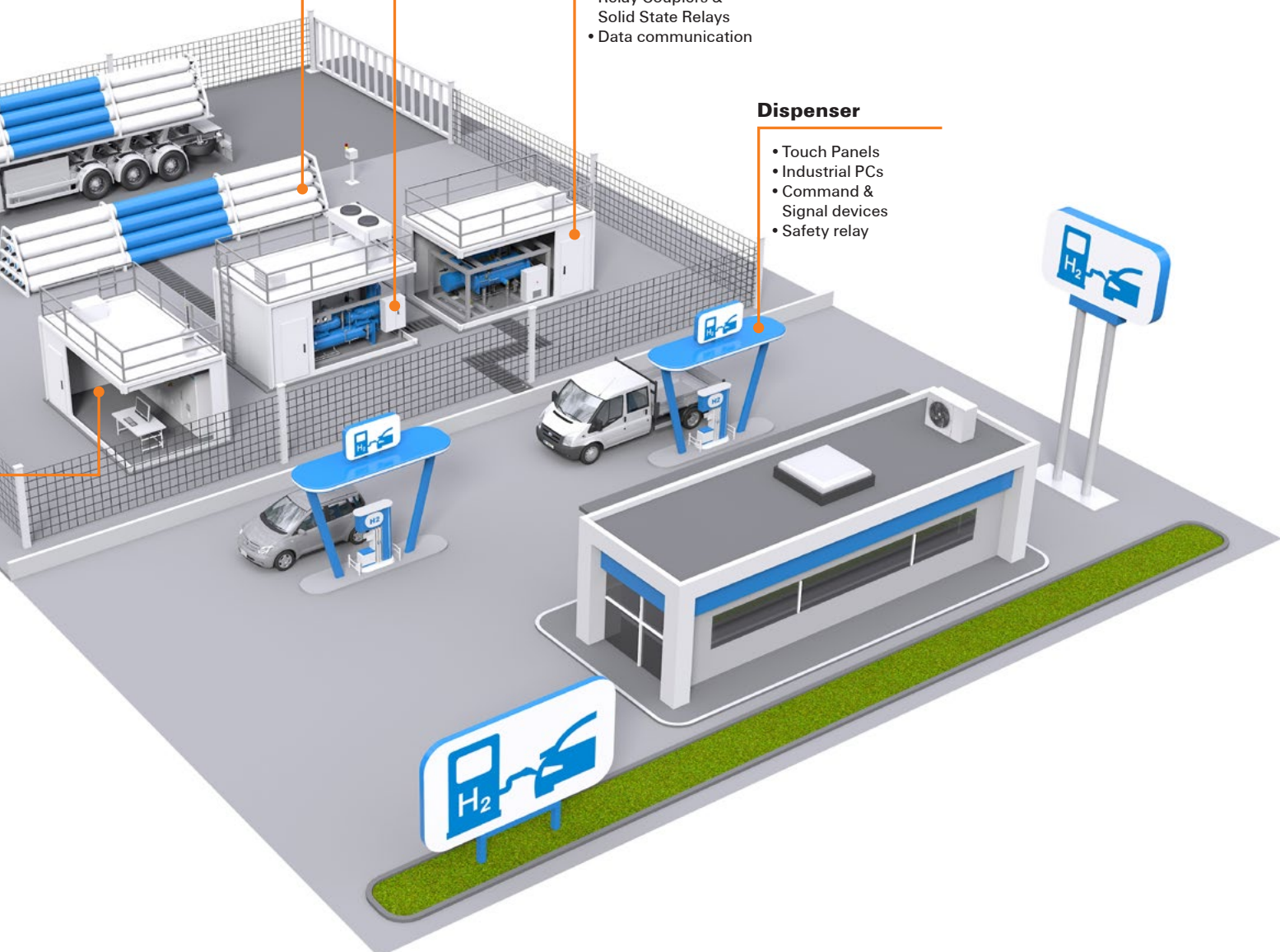
- Modular controller
- Modular or compact remote I/O
- DC UPS battery backup systems
- Power supplies PROtop with I/O Link communication
- Electronic Load Monitoring
- Relay Couplers & Solid State Relays
- Data communication

Dispenser

- Touch Panels
- Industrial PCs
- Command & Signal devices
- Safety relay

Trailer Swap

- Communication box
- Heating system (ATEX)
- Heavy-Duty Connectors
- Enclosures





Terminal blocks – Klippon® Connect

SNAP IN technology:

The fastest, safest and easiest connection for hydrogen applications. With the innovative Weidmüller SNAP IN technology makes connecting terminal simpler. Experience time-saving connections with visual and acoustic noise make error-free installations. Our diverse product range also ensures the efficiency and reliability of your hydrogen applications.

Rely on SNAP IN for strong performance, safety and simplification for your hydrogen projects.



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/terminal-blocks



S-Series – SNAP IN technology

Type	Version	Qty	Order No.
S2C 2.5	Feed-through terminal, SNAP IN, 2,5 mm ² , 800 V, 24 A, dark beige	100	2674530000
S3C 2.5	Feed-through terminal, SNAP IN, 2,5 mm ² , 800 V, 24 A, dark beige	100	2674540000
S4C 2.5	Feed-through terminal, SNAP IN, 2,5 mm ² , 800 V, 24 A, dark beige	100	2674550000
S2C 4	Feed-through terminal, SNAP IN, 4 mm ² , 800 V, 32 A, dark beige	50	2874820000
S3C 4	Feed-through terminal, SNAP IN, 4 mm ² , 800 V, 32 A, dark beige	50	2874840000
S4C 4	Feed-through terminal, SNAP IN, 4 mm ² , 800 V, 32 A, dark beige	50	2874860000
S2T 2.5	Feed-through terminal, SNAP IN, 2,5 mm ² , 800 V, 24 A, dark beige	50	2902380000

SNAP IN



A-Series – PUSH IN technology

Type	Version	Qty	Order No.
A2C 1.5	Feed-through terminal, PUSH IN, 1,5 mm ² , 500 V, 17,5 A, dark beige	100	1552790000
A3C 1.5	Feed-through terminal, PUSH IN, 1,5 mm ² , 500 V, 17,5 A, dark beige	50	1552740000
A4C 1.5	Feed-through terminal, PUSH IN, 1,5 mm ² , 500 V, 17,5 A, dark beige	100	1552690000
A2C 2.5	Feed-through terminal, PUSH IN, 2,5 mm ² , 800 V, 24 A, dark beige	100	1521850000
AL2C 2.5	Feed-through terminal, PUSH IN, 2,5 mm ² , 800 V, 24 A, dark beige	100	2847200000
A3C 2.5	Feed-through terminal, PUSH IN, 2,5 mm ² , 800 V, 24 A, dark beige	100	1521740000

PUSH IN



W-Series – Clamping yoke technology

Type	Version	Qty	Order No.
WDU 2.5	Feed-through terminal, Screw connection, 2,5 mm ² , 800 V, 24 A, dark beige	100	1020000000
WDU 4	Feed-through terminal, Screw connection, 4 mm ² , 800 V, 32 A, dark beige	100	1020100000
WDU 6	Feed-through terminal, Screw connection, 6 mm ² , 800 V, 41 A, dark beige	100	1020200000
WDU 10	Feed-through terminal, Screw connection, 10 mm ² , 1000 V, 57 A, dark beige	50	1020300000



WPD Power Distribution

Type	Version	Qty	Order No.
WPD 130 1X50/1X50 GY	W-Series, Distribution block, Rated cross-section: 50 mm ² , Terminal rail / mounting plate	9	2502530000
WPD 131 1X95/1X95 GY	W-Series, Distribution block, Rated cross-section: 95 mm ² , Terminal rail / mounting plate	2	2503090000
WPD 132 1X185/1X185 GY	W-Series, Distribution block, Rated cross-section: 185 mm ² , Terminal rail / mounting plate	1	2502750000
WPD 133 1X300/1X300 GY	W-Series, Distribution block, Rated cross-section: 300 mm ² , Terminal rail / mounting plate	1	2502850000



Klippon® Connect TTB-Range

Type	Version	Qty	Order No.
ATTB 6	Test-disconnect terminal, PUSH IN, 6 mm ² , 500 V, 30 A, dark beige	50	2710070000
ATTB 6 PE	Test-disconnect terminal PE-version, PUSH IN, 6 mm ² , 500 V, green-yellow	50	2710080000
WTTB 6	Test-disconnect terminal, Screw connection, 6 mm ² , 500 V, 30 A, dark beige	50	2710090000
WTTB 6 PE	Test-disconnect terminal PE-version, Screw connection, 6 mm ² , 500 V, green-yellow	50	2710100000

Note





SAI Distribution Boxes

Our sensor actuator boxes are equipped with metal threaded rings as standard. This ensures a particularly secure screw connection. The portfolio includes M8 and M12 distribution boxes in plastic and metal. We also develop customised variants according to your individual specifications.



For further products, information, technical specifications or additional services, please visit our website:
www.weidmuller.com/sensor-actuator-boxes



EX ia distributors

Type	Version	Qty	Order No.
SAI-8-M 4P EXI Z1 OL	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	1894380000
SAI-8-M 4P M12 EX IA	Hood version Ex, M12, 30 V, A-coded, LED: Yes	1	1896080000



Signal distribution boxes - M12 distribution boxes

Type	Version	Qty	Order No.
SAI-4-M 5P M12 1:1	Hood distributor, M12, 30 V, A-coded, LED: No, LED initiator: No, Wiring type: 1:1	1	1806010000
SAI-8-M 5P M12 OL2	Hood distributor, M12, 30 V, A-coded, LED: No, LED initiator: No	1	1816610000



Power distributors

Type	Version	Qty	Order No.
SAI-4-M-MVV-M12 1:1	Hood version, M12, 400 V, S-coded, LED: Yes	1	2009620000



M12 EX distributor - OL2 wiring

Type	Version	Qty	Order No.
SAI-04D-VPPP-5A-M120-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2943810000
SAI-08D-VPPP-5A-M120-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2902930000
SAI-04D-VPHP-5A-M120-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2943800000
SAI-08D-VPHP-5A-M120-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2921130000



M12 EX distributor for NAMUR sensors

Type	Version	Qty	Order No.
SAI-4-M 4P EXI Z1 OL	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	1868350000
SAI-8-M 4P EXI Z1 OL	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	1894380000
SAI-04D-VPHP-2A-M120-NAM-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2921100000
SAI-04D-VPHP-2A-M120-NAM-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2921120000



M12 EX distributor - 1:1 wiring

Type	Version	Qty	Order No.
SAI-04D-VPPP-5A-M120-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2943810000
SAI-04D-VPHP-5A-M120-OL2-EX	Hood version Ex, M12, 30 V, A-coded, LED: No, LED initiator: No	1	2943800000





RockStar® heavy-duty connectors

Simple installation with SNAP IN & PUSH IN Connection technologies

New technologies pose new challenges. For example increasingly relying on CO₂-neutral technologies neutral technologies. One of these new forms of generation isis hydrogen production. As this produces explosive gases, it is also necessary to use approved connectors. HDC Rockstar® also offers the right solution here in proven quality.

The heavy-duty connectors were designed for:

- Intrinsically safe circuits
- Limit temperatures from -50 degrees to +120 degrees
- Protection class IP65 in mated condition

The following advantages have been incorporated into the development:

- SNAP IN & PUSH IN connection technologies for quick assembly
- Extended temperature range



For further products, information, technical specifications or additional services, please visit our website:

www.weidmueller.com/rockstar

EXI – Plug connector for intrinsically safe circuits

Technical data	
Rated current	max: 5A at 60 degrees ambient temperature T6
Rated voltage (IEC 60079 Part 11)	60 V AC / DC
Protection level	II 2G Ex ib IIC T6 Gb
Approval	EXI, intrinsic safety according to IEC 60079- 11
Conductor connection	0.5... 2.5 mm ²
Labelling	via material designation and EXI screw connection

Type	Version	Connection technology	Qty	Order No.
HDC connection 6 pole, 5A, 1xM20, IP65				
HDC HE 6 MP EXI	Insert, male	PUSH IN connection	1	3001200000
HDC HE 6 FP EXI	Insert, female	PUSH IN connection	1	3001190000
HDC 06B ALU EXI	Bulkhead housing		1	3001300000
HDC 06B TSLU 1M20G EXI	Hood, Cable Entry sideways		1	3001350000
HDC 06B TOLU 1M20G EXI	Hood, Cable Entry at top		1	3001360000
VG M20 EXI 7-13 CR7J G4	Cable Glands M20, IP68		50	2722250000
HDC connection 10 pole 5A, 1xM20, IP65				
HDC HE 10 MP EXI	Insert, male	PUSH IN connection	1	3001230000
HDC HE 10 FP EXI	Insert, female	PUSH IN connection	1	3001220000
HDC 10B ABU EXI	Bulkhead housing		1	3001310000
HDC 10B TSBU 1M25G EXI	Hood, Cable Entry sideways		1	3001370000
HDC 10B TOBU 1M25G EXI	Hood, Cable Entry at top		1	3001390000
VG M25 EXI 12-17 CR7J G4	Cable Glands M25, IP68		50	2722270000
HDC connection 16 pole, 5A, 1xM25, IP65				
HDC HE 16 MP EXI	Insert, male	PUSH IN connection	1	3001250000
HDC HE 16 FP EXI	Insert, female	PUSH IN connection	1	3001240000
HDC 16B ABU EXI	Bulkhead housing		1	3001320000
HDC 16B TSBU 1M25G EXI	Hood, Cable Entry sideways		1	3001400000
HDC 16B TOBU 1M25G EXI	Hood, Cable Entry at top		1	3001440000
VG M25 EXI 12-17 CR7J G4	Cable Glands M25, IP68		50	2722270000
HDC connection 24 pole, 5A, 1xM25, IP65				
HDC HE 24 MP EXI	Insert, male	PUSH IN connection	1	3001280000
HDC HE 24 FP EXI	Insert, female	PUSH IN connection	1	3001270000
HDC 24B ABU EXI	Bulkhead housing		1	3001330000
HDC 24B TSBU 1M25G EXI	Hood, Cable Entry sideways		1	3001460000
HDC 24B TOBU 1M25G EXI	Hood, Cable Entry at top		1	3001520000
VG M25 EXI 12-17 CR7J G4	Cable Glands M25, IP68		50	2722270000



RockStar® HighPower: the modular 550 A connector

Type	Rated current	Rated voltage	Conductor cross-section	Number of poles	Version	Qty	Order No.
Bulkhead housing							
HDC IP68 HP 24B A						1	1120040000
Base housing							
HDC IP68 HP 24B AS S						1	1079920000
Plug housing							
HDC IP68 HP 24B TO						1	1079930000
Contact mounting frame							
HDC 24B HP550 MPL2 TYP1				2	Male	1	1103710000
HDC 24B HP550 MPL2 TYP2				2	Female	1	1103770000
550 A Crimp contacts							
HDC HP 550 M 240	550 A	3000 V	240 mm ²		Male	1	1120590000
HDC HP 550 F 240	550 A	3000 V	240 mm ²		Female	1	1120600000
Cover for cable glands							
HDC IP68 24B MD 2M40					2xM40	1	1119990000
Cable gland							
VGM40-MS68 20-32 BG					M40	10	1193620000

**RockStar® ModuPlug: Modular connectors with great performance in a reduced installation space****RockStar® ModuPlug: Modular connectors**

Type	Version	Qty	Order No.
Modular connectors, size 8, M32, IP65			
HDC MF 24B AF	Modular insert AF	1	1429050000
HDC MF 24B FA	Modular insert FA	1	1429070000
HDC 24B ADLU	Bulkhead housing	1	1214300000
HDC 64D SDLU 1M32G	Base housing	1	1904440000
HDC 64D TSLU 1M32G	Hood, Cable Entry sideways	1	1786810000

**Data modules - ModuPlug data inserts**

Type	Version	Required plug-in slots	Qty	Order No.
HDC MRJ45 GC	RJ45-RJ45 Gender changer	1	1	2592030000
HDC MRJ45 ABP MI	EIA/TIA-568A, EIA/TIA-568B PROFINET	1	1	2592210000

**Power inserts - ModuPlug power module**

Type	Rated current	Rated voltage	Connection type	Conductor cross-section	Number of poles	Required plug-in slots	Version	Qty	Order No.
HDC MHX 4 MP	40 A	690 A	PUSH IN connection	10 mm ²	4	1	Male	1	2772810000
HDC MHX 4 FP	40 A	690 A	PUSH IN connection	10 mm ²	4	1	Female	1	2772800000

**Power Module - ModuPlug power module**

Type	Rated current	Rated voltage	Connection type	Conductor cross-section	Number of poles	Required plug-in slots	Version	Qty	Order No.
HDC MHP 70 FAS	70 A	1000 V	Axial screw connection	25 mm ²	2	1	Male	2	2748310000
HDC MHP 70 MAS	70 A	1000 V	Axial screw connection	25 mm ²	2	1	Female	2	2748300000
HDC MHP 100 FAS	100 A	1000 V	Axial screw connection	35 mm ²	2	2	Male	2	2748290000
HDC MHP 100 MAS	100 A	1000 V	Axial screw connection	35 mm ²	2	2	Female	2	2748280000
HDC MHP 200 FAS	200 A	1000 V	Axial screw connection	70 mm ²	1	2	Male	2	2748250000
HDC MHP 200 MAS	200 A	1000 V	Axial screw connection	70 mm ²	1	2	Female	2	2748240000



Signal modules – ModuPlug signal modules

Type	Rated current	Rated voltage	Connection type	Conductor cross-section	Number of poles	Required plug-in slots	Version	Qty	Order No.
HDC MHE 5 MP	16 A	400 V	PUSH IN connection	2.5 mm ²	5	1	Male	1	2636180000
HDC MHE 5 FP	16 A	400 V	PUSH IN connection	2.5 mm ²	5	1	Female	1	2636190000
HDC MHE 6 MP	16 A	500 V	PUSH IN connection	2.5 mm ²	6	1	Male	1	2748420000
HDC MHE 6 FP	16 A	500 V	PUSH IN connection	2.5 mm ²	6	1	Female	1	2748430000
HDC MHE 8 MP	16 A	400 V	PUSH IN connection	2.5 mm ²	8	1	Male	1	2748440000
HDC MHE 8 FP	16 A	400 V	PUSH IN connection	2.5 mm ²	8	1	Female	1	2748450000
HDC MHD 12 FP	10 A	250 V	PUSH IN connection	1.5 mm ²	12	1	Male	1	2748470000
HDC MHD 12 MP	10 A	250 V	PUSH IN connection	1.5 mm ²	12	1	Female	1	2748460000
HDC MDU						0.5	Dummy module	1	1429040000



RockStar® Heavy-duty connectors

Type	Version	Connection technology	Qty	Order No.
HDC connection 4 pole, 400V, 16A, size 1, M20, IP65				
HDC HA 4 FS	Insert, male	Screw connection	1	1498400000
HDC HA 4 MS	Insert, female	Screw connection	1	1498300000
HDC O4A ALU	Bulkhead housing		1	1497600000
HDC O4A AWLU	Angled bulkhead housing		1	1497700000
HDC O4A TOLU 1M20G	Hood, Cable Entry at top		1	1788820000
HDC connection 24 pole, 500V, 16A, size 8, M32, IP65				
HDC HE 24 MQT	Insert, male	SNAP IN connection	1	2667010000
HDC HE 24 FP	Insert, male	PUSH IN connection	1	1873580000
HDC HE 24 FS	Insert, male	Screw connection	1	1211300000
HDC HE 24 FQT	Insert, female	SNAP IN connection	1	2666990000
HDC HE 24 MP	Insert, female	PUSH IN connection	1	1873590000
HDC HE 24 MS	Insert, female	Screw connection	1	1211100000
HDC 24B ADLU	Bulkhead housing		1	1214300000
HDC 64D SDLU 1M32G	Base housing		1	1904440000
HDC 24B TSLU 1M32G	Hood, Cable Entry sideways		1	1787790000





For further products, information, technical specifications or additional services, please visit our website:
www.weidmuller.com/as-product-overview

Analogue Signal Conditioning

When used for industrial monitoring applications, sensors can record ambience conditions. Sensor signals are used within the process to continually track changes to the area being monitored. Both digital and analogue signals can occur. Normally an electrical voltage or current value is produced which corresponds proportionally to the physical variables that are being monitored. Analogue signal processing is required when automation processes have to constantly maintain or reach defined conditions. This is particularly significant for process automation applications. Standardised electrical signals are typically used for process engineering. Analogue standardised currents & voltages 0(4)...20 mA/ 0...10 V have established themselves as physical measurement and control variables.

WAVESERIES – Universal signal converter for hazardous areas

Type	Version	Qty	Order No.
WAZ6 TTA EX	Input: EX, universal U, I, R, S, Output: I/U universal, 2 x relays	1	8964320000



ACT20P – Signal converter and process monitoring for industrial applications

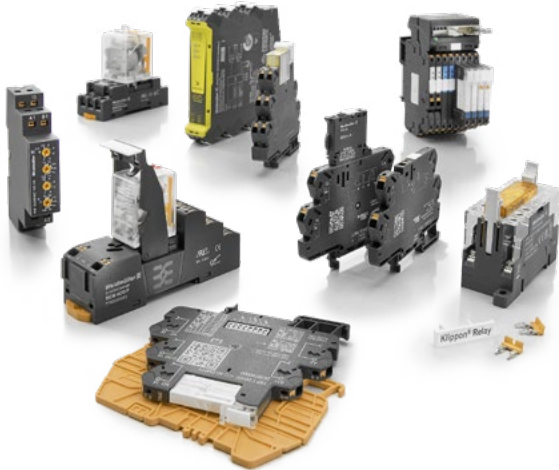
Type	Version	Qty	Order No.
ACT20P-VM-AO-P	Signal converter/isolator, Input: AC/DC voltage, 0...600 V DC, 0...440 V AC, Output: 0-10 V, 0(4)-20 mA, Signal converter/isolator	1	7760054360
ACT20P-CI-VO-P	Signal converter/isolator, Input: 0(4)-20 mA, Output: 0-10 V, Signal converter/isolator	1	2489740000
ACT20P-CI-CO-P-P	Signal converter/isolator, Input: 0(4)-20 mA, Output: 0(4)-20 mA, Voltage supply also via CH20M rail bus, Signal converter/isolator, HART®	1	2514620000
ACT20P-CI1-CO-OLP-P	Signal converter/isolator, Input: 0-20 mA, Output: 4-20 mA, (loop powered), Signal converter/isolator, Output current loop powered	1	7760054353
ACT20P-PRO-RTCI-AO-DO-S	Temperature converter, Limit value monitoring, Input: Temperature, Resistance, Potentiometer, Output: I/U universal, Transistor (Alarm), Temperature converter, Limit value monitoring	1	2448100000
ACT20P-UI-2RCD-DC-S	Limit value monitoring, Input: universal U, I, R, S, Output: 2 x relays, Input: temperature, R, U, I, Relay output, 24 V DC power supply	1	7940045760
ACT20P-TCI-2AO-P	Signal duplicator/isolator, Input: Temperature, thermocouple, Output: 2 x I/U, Signal converter/isolator	1	7760054188
ACT20P-VMR-1PH-H-P	Limit value monitoring, Input: 110 / 240 / 400 V AC/DC, Output: 2 x relays, Input: single-phase voltage, Relay output	1	7760054359
ACT20P-UI-2RCD-DC-S	Limit value monitoring, Input: universal U, I, R, S, Output: 2 x relays, Input: temperature, R, U, I, Relay output, 24 V DC power supply	1	7940045760
ACT20P-CMT-60-AO-RC-P	Current-measuring transducer, Limit value monitoring, Input: 0...40/50/60 A, Analogue output, Relay output, Current-carrying cable in feed-through hole	1	1510290000
ACT20P-PRO-FI-AO-DO-P	Frequency signal converter, Limit value monitoring, Frequency, PWM, analogue V / mA, Transistor (Alarm)	1	2447950000



ACT20X – Intrinsically safe signal converter for hazardous areas

Type	Version	Qty	Order No.
ACT20X-HUI-SAO-P	EX signal isolating converter, Ex-output: U, I, R, S, Safe-output: 4-20mA/ relay, 1-channel	1	2456200000
ACT20X-2HAI-2SAO-P	EX signal isolating converter, Ex-input: 4 - 20 mA, Safe-output: 4-20mA, 2-channel	1	2456150000
ACT20X-2SAI-2HAO-P	EX signal isolating converter, Safe-input: 4-20mA, Ex output: 4 - 20 mA, 2-channel	1	2456170000
ACT20X-2HTI-2SAO-P	EX signal isolating converter, Ex-input: I, S, Safe-output: 4-20mA, 2-channel	1	2456190000
ACT20X-2HDI-2SDO-RNO-P	EX signal isolating converter, Ex-input: NAMUR sensor/switch, Safe-output: relay, NO contact, 2-channel	1	2456080000
ACT20X-2HDI-2SDO-P	EX signal isolating converter, Ex-input: NAMUR sensor/switch, Safe-output: Optocoupler, 2-channel	1	2456100000
ACT20X-2SDI-2HDO-P	EX signal isolating converter, Safe-input: relay, Ex-output: Opto module, 2-channel, Output current: max. 35 mA	1	2456130000





Relay Modules & Solid-State Relays – Klippon® Relay

Switch to simple– with Klippon® Relay – High-quality relays with unique all-round service

Whether switching, separating, amplifying, or multiplying: relays perform a multitude of different tasks in industrial applications. They have very specific characteristics and are available in almost innumerable varieties on the market. Klippon® Relay from Weidmüller makes your choice easy. Our worldwide unique all-round offer combines maximum relay variety with matching accessories and first-class service. We provide you with high-quality products that have been thought out down to the smallest detail, combined with comprehensive support from product selection to modern data services. Only with Klippon® Relay you can be sure to get the right relay for your specific needs – and save time and money. That’s our promise!



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/klipponrelay

TERMSERIES – relay modules

Type	Version	Qty	Order No.
TRP 24VDC 1C0	TERMSERIES, Relay module, Number of contacts: 1, CO contact AgNi, Rated control voltage: 24 V DC ±20 %, Continuous current: 6 A, PUSH IN, Test button available: No	10	2618000000
TRP 24VDC 1C0 16A	TERMSERIES, Relay module, Number of contacts: 1, CO contact AgNi, Rated control voltage: 24 V DC ±20 %, Continuous current: 16 A, PUSH IN, Test button available: No	10	2618100000



D-Series – relay modules

Type	Version	Qty	Order No.
SDI 1C0 P	D-SERIES DRI, Relay socket, Number of contacts: 1, CO contact, Continuous current: 12 A, PUSH IN	20	7760056364
SCM 2C0 P	D-SERIES DRM, Relay socket, Number of contacts: 2, CO contact, Continuous current: 12 A, PUSH IN	10	7760056362
SDI 2C0 P	D-SERIES DRI, Relay socket, Number of contacts: 2, CO contact, Continuous current: 8 A, PUSH IN	20	7760056365
SCM 4C0 P	D-SERIES DRM, Relay socket, Number of contacts: 4, CO contact, Continuous current: 6 A, PUSH IN	10	7760056363
DRI424024LTD	D-SERIES DRI, Relay, Number of contacts: 2, CO contact AgSnO, Rated control voltage: 24 V DC, Continuous current: 5 A, Flat blade connections (2.5 mm x 0.5 mm), Test button available: Yes	20	7760056340
DRI424024	D-SERIES DRI, Relay, Number of contacts: 2, CO contact AgSnO, Rated control voltage: 24 V DC, Continuous current: 5 A, Flat blade connections (2.5 mm x 0.5 mm), Test button available: No	20	7760056322
DRM570024LT	D-SERIES DRM, Relay, Number of contacts: 4, CO contact, AgNi flash gold-plated, Rated control voltage: 24 V DC, Continuous current: 5 A, Plug-in connection	20	7760056097
DRM570220	D-SERIES DRM, Relay, Number of contacts: 4, CO contact, AgNi flash gold-plated, Rated control voltage: 220 V DC, Continuous current: 5 A, Plug-in connection	20	7760056082
DRH276024LT	D-SERIES DRW / DRH, Relay, Number of contacts: 2, NO contact with blow-out magnet AgSnO, Rated control voltage: 24 V DC, Continuous current: 16 A, Flat blade connections (4.8 mm x 0.5 mm), Test button available: Yes		1220150000
PWR173024L	D-SERIES PWR, Relay module, Number of contacts: 1, NO contact AgSnO, Rated control voltage: 24 V DC, Continuous current: 30 A, Screw connection, Test button available: No		1219480000



SIL safety relay

Type	Version	Qty	Order No.
SCS 24VDC P2SIL3ES	SAFESERIES, Safety relay, 24 V DC ±15 %, 24 VDC +15% / -10% during auto-start, 35 mA, 5, SIL 3, DIN EN 61508, EN ISO 13849-1 (PLe)	1	1319280000
SCS 24VDC P2SIL3DSES	SAFESERIES, Safety relay, 24 V DC -15 / +20%, 35 mA, Max. switching current, internal fuse: 5 A (refer to derating curve), SIL 3, DIN EN 61508	1	1319270000
SCS 24VDC P1SIL3DS M	SAFESERIES, Safety relay, 24 V DC ± 20%, 35 mA, Max. switching current, internal fuse: 5 A (refer to derating curve), SIL 3, EN 61508:2010	1	1303760000
SCS 24VDC P1SIL3ES LL	Safety relay, 24 V DC ± 20%, , Max. switching current, internal fuse, Safety category: SIL 3 EN 61508:2010	1	2633940000
SCS 24VDC P1SIL3ES LL-T	Safety relay, 24 V DC ± 20%, , Max. switching current, internal fuse, Safety category: SIL 3 EN 61508:2010	1	2634010000



SAFESERIES Contact Extension with forcibly guided contacts

Type	Version	Qty	Order No.
FSKIT 24VDC 2NO2NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 2 NC and 2 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	2759080000
FSKIT 24VDC 3NO1NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 1 NC and 3 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	2759070000
FSKIT 24VDC 3NO3NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 3 NC and 3 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	2759100000
FSKIT 24VDC 4NO2NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 2 NC and 4 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	2759090000
FSKIT 24VDC 5NO1NC FG LD AGSNO AU	SAFESERIES, Relay module with positively driven contacts 1 NC and 5 NO contacts forcibly guided (EN 61810-3 type A) AgSnO gold-plated, Rated control voltage: 24 V DC ±10 %, Continuous current: 6 A, Screw connection, Test button available: No	1	2860020000





Power Supplies

The switch-mode power supplies feature a high efficiency, compact dimensions and minimal heat generation. They are an excellent and reliable solution for providing power in all automation applications – safely providing 24 V DC voltage. The different product series are optimised for the automation industry: they feature Ex approvals for the processing industry, a flat shape perfect for distribution tasks within buildings and provide decentralised control voltages.

All-purpose usage: with a wide range of AC/DC inputs, single-, double- or three-phase versions and a wide temperature range. Additional performance increases are possible using simple parallel connection. Weidmüller switch-mode power supplies are reliable usable for all applications because of their high efficiency and their resistance to both short circuits and overloads.



For further products, information, technical specifications or additional services, please visit our website: www.weidmuller.com/powermanagement



Connect Power PROtop

Type	Version	Qty	Order No.
Connect Power PROtop single-phase			
PRO TOP1 120W 24V 5A	Power supply, switch-mode power supply unit, 24 V	1	2466870000
PRO TOP1 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	2466880000
PRO TOP1 480W 24V 20A	Power supply, switch-mode power supply unit, 24 V	1	2466890000
PRO TOP1 960W 24V 40A	Power supply, switch-mode power supply unit, 24 V	1	2466900000
PRO TOP1 120W 24V 5A EX	Power supply, switch-mode power supply unit, 24 V	1	2466980000
PRO TOP1 240W 24V 10A EX	Power supply, switch-mode power supply unit, 24 V	1	2466990000
PRO TOP1 480W 24V 20A EX	Power supply, switch-mode power supply unit, 24 V	1	2467000000
PRO TOP1 960W 24V 40A EX	Power supply, switch-mode power supply unit, 24 V	1	2467010000
Connect Power PROtop for highest demands, 3-phase			
PRO TOP3 120W 24V 5A CO	Power supply, switch-mode power supply unit, 24 V	1	2467070000
PRO TOP3 240W 24V 10A CO	Power supply, switch-mode power supply unit, 24 V	1	2467090000
PRO TOP3 480W 24V 20A CO	Power supply, switch-mode power supply unit, 24 V	1	2467110000
PRO TOP3 960W 24V 40A CO	Power supply, switch-mode power supply unit, 24 V	1	2467130000



Communication modules

Type	Version	Qty	Order No.
PRO COM DISPLAY 7S	Communication module	1	2466960000
PRO COM IO-LINK	Communication module	1	2587360000
PRO COM CAN OPEN	Communication module	1	2467320000



DC/DC converter

Type	Version	Qty	Order No.
PRO TOPDC 24V/24V 5A	DC/DC converter	1	2627650000
PRO TOPDC 24V/24V 10A	DC/DC converter	1	2627640000
PRO TOPDC 24V/24V 20A	DC/DC converter	1	2627630000



maxGUARD – Electronic load monitoring

Type	Version	Qty	Order No.
AMG CM EX	Control module, 24 V DC	1	2083360000
AMG ELM-18 EX	Electronic load monitoring, 18 A, 24 V DC	1	2838520000
AMG DIS EX	Potential distributor	10	2495100000
AMG AM CO	Alarm module, 24 V DC	1	2082770000
AMG CM	Control module, 24 V DC	1	2081900000
AMG ELM-18	Electronic load monitoring, 18 A, 24 V DC	10	2859800000
AMG DIS	Potential distributor	10	2123050000
AMG ELM-18	Electronic load monitoring, 18 A, 24 V DC	10	2859800000
AMG MD	Potential distributor	10	2122930000
AMG PD	Potential distributor	10	2122920000

**topGUARD – Electronic load monitoring**

Type	Version	Qty	Order No.
TGD FIM-C	Supply module	1	2625000000

**Connect Power PROmax**

Type	Version	Qty	Order No.
Connect Power PROmax single-phase			
PRO MAX 70W 5V 14A	Power supply, switch-mode power supply unit, 5 V	1	1478210000
PRO MAX 72W 24V 3A	Power supply, switch-mode power supply unit, 24 V	1	1478100000
PRO MAX 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	1478130000
PRO MAX 960W 48V 20A	Power supply, switch-mode power supply unit, 48 V	1	1478270000
Connect Power PROmax 3-phase			
PRO MAX3 120W 24V 5A	Power supply, switch-mode power supply unit, 24 V	1	1478170000
PRO MAX3 240W 24V 10A	Power supply, switch-mode power supply unit, 24 V	1	1478180000
PRO MAX3 480W 24V 20A	Power supply, switch-mode power supply unit, 24 V	1	1478190000
PRO MAX3 960W 24V 40A	Power supply, switch-mode power supply unit, 24 V	1	1478200000

**UPS control unit**

Type	Version	Qty	Order No.
CP DC UPS 24V 20A/10A	UPS control unit	1	1370050010

**Battery module**

Type	Version	Qty	Order No.
DURA ECO LA-BAT 24V 7AH	Battery	1	2789910000
DURA ECO LA-BAT 24V 12AH	Battery	1	2789920000
DURA ECO LA-BAT 24V 17AH	Battery	1	2789930000





Lightning and Surge Protection

Due to the increasing digitalisation and inter-communication of various electronic devices, they are now much more susceptible to transient and high-energy voltage peaks. With Weidmüller lightning and surge protection for energy, data and signals, you can protect your system and prevent downtimes.



For further products, information, technical specifications or additional services, please visit our website: www.weidmueller.com/surge-protection



Surge protection type I

Type	Version	Qty	Order No.
VPU AC I 3+1 R 440/25 LCF	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C-S, TN-S, TT, IT with N, IT without N	1	2619260000
VPU AC I 3 R 440/25 LCF	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C	1	2619170000
VPU AC I F 1 R 275/25	Surge voltage arrester, Low voltage, Surge protection, TT nur für L-N, TN-C, TN-S	1	2859340000
VPU AC I 3+1 R 275/25 LCF S 2PE	Surge voltage arrester, Low voltage, Surge protection, Leakage-current-free, with remote contact, TN-C-S, TN-S, TT, IT with N, IT without N	1	2726770000
VPU AC I 3 R 275/25 LCF S	Surge voltage arrester, Low voltage, Surge protection, Leakage-current-free, with remote contact, TN-C	1	2726750000
VPU AC I 1+1 R 300/12.5	Surge voltage arrester, Low voltage, Surge protection, with remote contact, Single-phase, TN-C, TN-C-S, TN-S, TT, TN, IT with N, IT without N	1	2591490000
VPU AC I 3+1 R 300/12.5	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C-S, TN-S, TT, IT with N, IT without N	1	2591470000
VPU AC I 3 R 300/12.5	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C	1	2591450000



Surge protection type II

Type	Version	Qty	Order No.
VPU AC II 2 R 75/50	Surge voltage arrester, Low voltage, Surge protection, with remote contact, Single-phase	1	2591630000
VPU AC II 2 300/50	Surge voltage arrester, Low voltage, Surge protection, Single-phase, TN-S	1	2591040000
VPU AC II 2 R 480/50	Surge voltage arrester, Low voltage, Surge protection, with remote contact, Single-phase	1	2591240000
VPU AC II 4 480/50	Surge voltage arrester, Low voltage, Surge protection, TN-C-S, TN-S	1	2591270000
VPU AC II 1+1 R 300/50	Surge voltage arrester, Low voltage, Surge protection, with remote contact, Single-phase, TN, TN-S, TT, IT with N, IT without N	1	2591070000
VPU AC II 3+1 R 300/50	Surge voltage arrester, Low voltage, Surge protection, with remote contact, TN-C-S, TN-S, TT, IT with N, IT without N	1	2591090000



Surge protection type III

Type	Version	Qty	Order No.
VPU III R 24V/4KV AC/DC	Surge voltage arrester, Low voltage, with remote contact, Single-phase	1	1351580000
VPU III R 230V/6KV AC	Surge voltage arrester, Low voltage, with remote contact, Single-phase	1	1351650000



Surge protection for data interfaces

Type	Version	Qty	Order No.
VSPC RS485 2CH R	Surge protection for instrumentation and control, with warning function / function indicator, U_p (L/N-PE) 250 V	1	8951670000
VSPC 2CL HF 24VDC R	Surge protection for instrumentation and control, with warning function / function indicator, U_p (L/N-PE) < 800 V	1	8951700000
VSPC BASE 2CL FG R	Surge protection, Flange-mounted housing, Flange-mounted housing	1	8951720000
VSPC CONTROL UNIT 24VDC	Surge protection for instrumentation and control, with warning function / function indicator	1	8972270000
VSPC 4SL 24VDC EX	Surge protection for instrumentation and control, without warning function / function indicator, U_p (L/N-PE) 250 V	1	1161190000
VSPC BASE 4SL FG EX	Surge protection, Flange-mounted housing, Flange-mounted housing	1	8951840000
VSPC 2CL 24VDC EX	Surge protection for instrumentation and control, without warning function/function indicator, U_p (L/N-PE) < 800 V	1	8953720000
VSPC BASE 2CL FG EX	Surge protection, Flange-mounted housing, Flange-mounted housing	1	8951820000
VSSC6 CL 24VAC/DC 0.5A	Surge protection for instrumentation and control, U_p (L/N-PE) 900 V	10	1064170000
VSSC6 TRSL24VAC/DC0.5A	Surge protection for instrumentation and control, U_p (L/N-PE) 150 V	10	1354790000
VSSC6 RS485	Surge protection for instrumentation and control, U_p (L/N-PE) \leq 100 V	10	1064980000
VSSC6 TR SL FG 24VAC/DC EX	Surge protection for instrumentation and control, U_p (L/N-PE) \leq 1870 V	1	1421440000
VSSC4 CL FG 24VAC/DC EX	Surge protection for instrumentation and control, U_p (L/N-PE) \leq 2000 V	1	1063810000
VSSC6 RS485 PA EX	Surge protection for instrumentation and control, U_p (L/N-PE) \leq 2 kV	1	1065020000

Surge protection for four wire pairs with RJ45 socket

Type	Version	Qty	Order No.
VDATA CAT6	Terminal rail fixing, Surge protection, Cat.6, PoE, 802.3 bt at Type 1, 802.3 bt at Type 2, 8 3, 802.3 bt at Type 4	1	1348590000





Enclosure systems and components

We designed the Klippon® Protect enclosure ranges to satisfy the extraordinary protection requirements for field applications. They provide outstanding high-performance features that satisfy the toughest demands within every industry and every application.

Our Klippon® Protect application range provides solutions for monitoring and safety, measurement and control technology, and power distribution. These application solutions are based on high quality and comprehensive approvals for explosive risk zones.

Irrespective of which application users are planning, Weidmüller offers numerous precisely fitting enclosure solutions and individual services: turnkey enclosures with customer-specific configurations such as terminal rails, drilled holes, cable glands, cutouts, special coatings and much more besides.



For further products, information, technical specifications or additional services, please visit our website: www.weidmueller.com/klippon-protect



Klippon® TB – steel enclosures

Description	Height x width x depth in mm	0 Gland Plates	1 Gland Plate (below)	2 Gland Plates (above + below)	3 Gland plates (below + sides)	4 Gland plates (all sides)
KTb MH 403015 S4E_*	400 x 300 x 150	1194900000	1194910000	1194920000	1194930000	1194940000
KTb MH 403020 S4E_*	400 x 300 x 200	1194950000	1194960000	1194970000	1194980000	1194990000
KTb MH 453815 S4E_*	458 x 382 x 150	1195000000	1195010000	1195020000	1195030000	1195040000
KTb MH 453820 S4E_*	458 x 382 x 200	1195050000	1195060000	1195070000	1195080000	1195090000
KTb QL 403015 S4E_*	400 x 300 x 150	1200220000	1200230000	1200240000	1200250000	1200260000
KTb QL 403020 S4E_*	400 x 300 x 200	1200270000	1200280000	1200290000	1200310000	1200320000
KTb QL 453815 S4E_*	458 x 382 x 150	1200330000	1200340000	1200350000	1200360000	1200370000
KTb QL 453820 S4E_*	458 x 382 x 200	1200380000	1200390000	1200410000	1200420000	1200430000

Note * Placeholder for the number of gland plates (0, 1, 2, 3, 4). The Klippon® TB enclosures with 2 and 4 gland plates are subject to minimum order quantities.



The enclosures are available in 32 standard sizes and three depths. They are made of stainless steel (1.4404 / 316L) and guarantee excellent protection even in the harshest environments thanks to the electropolished surface. In addition customised enclosures with individual dimensions can also be manufactured.



Klippon® EB – steel enclosures

Description	Dimensions (H x W x D)	Gaskets (lid and gland plate)	PE rivet	Gland plate	Order No.
HS-variants					
KEBxHS303020S4B1 AK	300 x 300 x 200mm	Silicone	x	1	8000071019
KEBxHS403020S4B1 AK	400 x 300 x 200mm	Silicone	x	1	8000071020
KEBxHS404020S4B1 AK	400 x 400 x 200mm	Silicone	x	1	8000071021
KEBxHS406020S4B1 AK	400 x 600 x 200mm	Silicone	x	1	8000071022
QL-variants					
KEBxQL403030S4B1 AK	400 x 300 x 300mm	Silicone	x	1	8000071035
KEBxQL404030S4B1 AK	400 x 400 x 300mm	Silicone	x	1	8000071036
KEBxQL406030S4B1 AK	400 x 600 x 300mm	Silicone	x	1	8000071037
Note	You can find further variants in our online catalogue at eshop.weidmueller.com				



Hydrogen

Modified and assembled enclosures

Type	Version	Qty	Order No.
KLIPPON CS STB 1-1	Klippon Control Station (control and signalling device), Control / signalling device, KLIPPON STB 1 SS, Stainless steel 1.4404 (316L), EMERGENCY-STOP pushbutton with yellow, contrasting label, 2 NC contact, positive opening contacts, -55 °C...+55 °C, IP54, IP66	1	1537200000
KLIPPON CS STB 2.1-2	Klippon Control Station (control and signalling device), Control / signalling device, KLIPPON STB 2.1 SS, Stainless steel 1.4404 (316L), Pushbutton - red, Pushbutton - green, 2 NC contact, 2 NO contacts, -55 °C...+55 °C, IP54, IP66	1	1537300000
KLIPPON CS STB 2.1-7	Klippon Control Station (control and signalling device), Control / signalling device, KLIPPON STB 2.1 SS, Stainless steel 1.4404 (316L), Pushbutton - green, Pushbutton - red, EMERGENCY-STOP pushbutton with yellow, contrasting label, 2 NO contacts, 2 NC contact, positive opening contacts, -55 °C...+55 °C, IP54, IP66	1	1537370000
KLIPPON CS POK 122209-4	Klippon Control Station (control and signalling device), Control / signalling device, KLIPPON POK 122209 EX, Glass-fibre reinforced polyester with graphite mixture, Light module - red, Pushbutton - red, Light module - green, Pushbutton - green, 2 NC contact, 2 NO contacts, -55 °C...+55 °C, IP54, IP66	1	1537180000



D





Cable Entry Systems and Components

Weidmüller offers you a variety of add-on components for a multitude of applications in addition to its wide range of enclosures. This includes standard brass, plastic, and stainless steel cable glands for industrial and hazardous area applications. In addition to cable glands, there are sealing plugs, pressure compensation elements, and adapters. Relevant accessories, such as lock nuts, sealing and earthing rings are also available.

Furthermore, we support you with our cable entry system, Cabtite. Cabtite offers maximum flexibility and time-savings in the cable management of control cabinets, enclosures, and machines - high packing density in a very small space for pre-assembled and non-preassembled cables.

D



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/cabite



Cable entry system – Cabtite

Type	Version	Qty	Order No.
CABTITE FRFT 4-1 SET	Frame, Cabtite (cable entry system), Polyamide, glass fibre-reinforced, Deep black, Height: 64 mm, Width: 81 mm, Depth: 24.2 mm, -40 °C...120 °C, IP66	1	2891470000
CABTITE FRFT 10/6 SET	Frame, Cabtite (cable entry system), Polyamide, glass fibre-reinforced, Deep black, Height: 64 mm, Width: 106 mm, Depth: 24.2 mm, -40 °C...120 °C, IP66	1	2891500000
CABTITE FRFT 16/8 SET	Frame, Cabtite (cable entry system), Polyamide, glass fibre-reinforced, Deep black, Height: 64 mm, Width: 126 mm, Depth: 24.2 mm, -40 °C...120 °C, IP66	1	2891530000
CABTITE FRFT 24/10 SET	Frame, Cabtite (cable entry system), Polyamide, glass fibre-reinforced, Deep black, Height: 64 mm, Width: 153 mm, Depth: 24.2 mm, -40 °C...120 °C, IP66	1	2891560000
CABTITE BSE SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	2583350000
CABTITE BSE LRG GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 42.8 mm, Width: 42.8 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	2584520000
CABTITE SE 5-6 SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	2583450000
CABTITE SE 6-7 SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	2583460000
CABTITE SE 10-11 SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	2584610000
CABTITE SE 34-35 LRG GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 42.8 mm, Width: 42.8 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	2595530000
CABTITE SE 2/5-6 SML GY	Sealing element, Cabtite (cable entry system), TPE, Light Grey, Height: 20.3 mm, Width: 20.3 mm, Depth: 17.7 mm, -40 °C...90 °C, IP66	10	2584890000
Note	You can find further variants in our online catalogue at eshop.weidmueller.com		





Industrial Ethernet

Weidmüller Industrial Ethernet components are the perfect link for data communication between Ethernet enabled devices in industrial automation. By supporting various topologies and protocols, they can be used in many industrial applications. As a complete provider of industrial network infrastructure for machine and equipment manufacture, we offer a wide range of switch products to suit the individual needs of our customers. In particular, Gigabit switches (unmanaged and managed) and media converters, Power-over-Ethernet switches, WLAN devices and serial/Ethernet converters to meet the highest requirements and provide a reliable and flexible Ethernet communication. An extensive passive product portfolio consisting of RJ 45 and fibre optic connectors and cables make Weidmüller your partner for industrial Ethernet solutions.



For further products, information, technical specifications or additional services, please visit our website:

www.weidmueller.com/ie

Industrial Ethernet – Active components

Type	Version	Qty	Order No.
IE-SW-EL05-5TX	Network switch, unmanaged, Fast Ethernet, Number of ports: 5x RJ45, IP30, -40 °C...75 °C	1	2682130000
IE-SW-EL10-8GT-2GESFP	Network switch, unmanaged, Gigabit Ethernet, Number of ports: 8x RJ45, 2x 100/1000BaseSFP Slot, IP30, -40 °C...75 °C	1	2682240000
IE-SW-EL08-8PDE	Network switch, unmanaged PoE, Fast Ethernet, Number of ports: 8x RJ45 10/100 BaseT(X) PoE+, IP30, -40 °C...75 °C	1	2682380000
IE-SW-AL12M-8GT-4GESFP	Network switch, managed, Gigabit Ethernet, Number of ports: 8x RJ45, 4x 100/1000BaseSFP Slot, IP30, -40 °C...75 °C	1	2682340000
IE-SW-SL26M-24TX-2GC-LV	Layer 2 Network Switch, 19" rack mount, managed, Fast/Gigabit Ethernet, IEC 61850-3 / IEEE 1613, low voltage, Number of ports: 24x RJ45 10/100BASE-T(X), 2x combo-ports (10/100/1000BaseT(X) or 100/1000BaseSFP), IP30, -40 °C...85 °C	1	2779000000
IE-SFP-1GE-SM-10	SFP Transceiver, 1000 Mbps, Singlemode, LC-Duplex, 10 km, -40 °C...85 °C	1	2682500000
IE-CS-MBGW-2TX-1COM	Serial/Ethernet converter and Modbus TCP/RTU gateway, Number of ports: 2x RJ45 10/100BASE-T(X), 1x DB9 male for RS-232/422/485, IP30, -40 °C...70 °C	1	2682600000
IE-MC-VLT-1TX-1SCS	Media converter, Fast Ethernet, Number of ports: 1x RJ45, 1 * SC Single-mode, IP30, -40 °C...75 °C	1	1286900000
IE-WLT-VL-AP-BR-CL-EU	Wireless Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, EU-Model, IP30, -40 °C...75 °C	1	2536690000
IE-SR-4GT-LTE/4G-USEMEA	Security/NAT/VPN/U-link Router, with integrated multi-band modem (4G/3G), US/EMEA-model, Gigabit Ethernet, 4x RJ45 10/100/1000BaseT(X), IP20, -25 °C...70 °C	1	2873930000
U-LINK-50-DEVICES-1Y	License code for u-link Remote Access Service., Adds 50 additional configurable u-link clients on Weidmüller hardware to the basic license and extends the period of the basic license accordingly.	1	2870090000
LMF APL 5.00/03/90 3.5SN BX	Printed circuit board terminals for Ethernet-APL, Pitch 5.00 mm, Number of poles: 3, 90°, PUSH IN with actuator,	1	2873480000



Industrial Ethernet – Passive components

Type	Version	Qty	Order No.
IE-FC-SET-IPDED003-KY-M	Service Interface for Cabinets	1	2460640000
IE-FCM-RJ45-C	Service Interface for Cabinets	1	1018790000
IE-PS-RJ45-FH-BK	RJ45 IP20 Connector	1	1963600000
IE-TO-RJ45-C	Outlet for Cabinet	1	8946920000
IE-C6FP8LD0002M40M40-D	Patchcord	1	1165940002





Controls and Gateways

For modern IoT applications, automation technology needs to be increasingly more powerful and adaptable. u-mation offers a coordinated hardware portfolio designed for the future-proof preparation of your machines and systems. u-control 2000 is one of the most compact and state-of-the-art control systems on the market and is the centrepiece of our hardware portfolio. With u-control M3000, automation solutions can be perfectly integrated into the IoT. The powerful controller also works as an edge device for providing local information in the network and can be expanded by connecting function modules – ideal for automation and IIoT applications. The controllers modular design is based on the remote I/O system u-remote, and allows for needs-based expansion to include other components from the u-mation family.

D



For further products, information, technical specifications or additional services, please visit our website:
www.weidmueller.com/controls



u-control web

Type	Version	Qty	Order No.
UC20-WL2000-AC	Controller, IP20, AutomationController, Web-based, u-control 2000 web, integrated engineering tool: u-create web for PLC - (real-time system) & IIoT applications, CoDeSys	1	1334950000
UC20-WL2000-AC-CAN	Controller, IP20, AutomationController, Web-based, u-control 2000 web, integrated engineering tool: u-create web for PLC - (real-time system) & IIoT applications, CoDeSys	1	2928020000



u-control M3000/M4000

Type	Version	Qty	Order No.
UC20-M3000	Controller, IP20, AutomationController, CoDeSys	1	2839150000
UC20-M4000	Controller, IP20, AutomationController, CoDeSys	1	2839160000



IoT-Gateways

Type	Version	Qty	Order No.
IOT-GW30	IoT Gateway, Fast Ethernet, IP20, -20 °C...60 °C	1	2682620000
IOT-GW30-4G-EU	IoT Gateway, Fast Ethernet, IP20, -20 °C...60 °C	1	2682630000



Industrial PCs

Type	Version	Qty	Order No.
UV20-B-IPC-2001.01	Industrial PC, IP20	1	2676370000
UV20-B-IPC-3000.01	Industrial PC, IP20	1	2676390000





I/O Systems

For future-oriented Industry 4.0 inside and outside the electrical cabinet, Weidmüller's flexible remote I/O systems offer automation at it's best.

u-remote from Weidmüller forms a reliable and efficient interface between the control and field levels. The I/O system impresses with its simple handling, high degree of flexibility and modularity as well as outstanding performance. The two I/O systems UR20 and UR67 cover all common signals and fieldbus/network protocols in automation technology.



For further products, information, technical specifications or additional services, please visit our website:

www.weidmueller.com/u-remote



D



Fieldbus coupler

Type	Version	Qty	Order No.
UR20-FBC-PN-IRT-V2	Remote I/O fieldbus coupler, IP20, Ethernet, PROFINET IRT	1	2566380000
UR20-FBC-PB-DP-V2	Remote I/O fieldbus coupler, IP20, PROFIBUS DP-V1	1	2614380000
UR20-FBC-EC	Remote I/O fieldbus coupler, IP20, Ethernet, EtherCAT	1	1334910000
UR20-FBC-MOD-TCP-V2	Remote I/O fieldbus coupler, IP20, Ethernet, Modbus/TCP	1	2476450000
UR20-FBC-EIP	Remote I/O fieldbus coupler, IP20, Ethernet, EtherNet/IP	1	1334920000
UR20-FBC-CAN	Remote I/O fieldbus coupler, IP20, CANopen	1	1334890000
UR20-FBC-DN	Remote I/O fieldbus coupler, IP20, DeviceNet	1	1334900000
UR20-FBC-CC	Remote I/O fieldbus coupler, IP20, CC-Link	1	2625010000
UR20-FBC-CC-TSN	Remote I/O fieldbus coupler, IP20, CC-Link IE TSN	1	2680260000
UR20-FBC-PL	Remote I/O fieldbus coupler, IP20, Ethernet, POWERLINK	1	1334940000
UR20-FBC-IEC61162-450	Remote I/O fieldbus coupler, IP20, Ethernet, IEC 61162-450	1	2661310000



Modules

Type	Version	Qty	Order No.
Digital input modules			
UR20-4DI-P	Remote I/O module, IP20, Digital signals, Input, 4-channel	1	1315170000
UR20-8DI-P-2W	Remote I/O module, IP20, Digital signals, Input, 8-channel, 2-conductor connection	1	1315180000
UR20-16DI-P	Remote I/O module, IP20, Digital signals, Input, 16-channel	1	1315200000
UR20-4DO-P	Remote I/O module, IP20, Digital signals, Output, 4-channel	1	1315220000
UR20-4DO-P-2A	Remote I/O module, IP20, Digital signals, Output, 4-channel, 2 A per channel	1	1315230000
UR20-8DO-P	Remote I/O module, IP20, Digital signals, Output, 8-channel	1	1315240000
UR20-16DO-P	Remote I/O module, IP20, Digital signals, Output, 16-channel	1	1315250000
UR20-8DI-P-3W	Remote I/O module, IP20, Digital signals, Input, 8-channel	1	1394400000
Analogue input modules			
UR20-4AI-UI-16	Remote I/O module, IP20, 4-channel, Analog signals, Input, Current/Voltage, 16 Bit	1	1315620000
UR20-4AI-HART-16-DIAG	Remote I/O module, IP20, Analog signals, Input, 4-channel, HART®	1	2617520000
Analogue output modules			
UR20-4AO-UI-16	Remote I/O module, IP20, Analog signals, Output, 4-channel, Current/Voltage	1	1315680000
UR20-2AO-UI-16	Remote I/O module, IP20, Analog signals, Output, 2-channel, Current/Voltage	1	2705630000
Temperature modules and potentiometer input module			
UR20-4AI-RTD-DIAG	Remote I/O module, IP20, Analog signals, Temperature, RTD	1	1315700000
UR20-4AI-TC-DIAG	Remote I/O module, IP20, Analog signals, Temperature, TC	1	1315710000
Power-feed modules			
UR20-PF-I	Remote I/O module, IP20, Power supply unit, 24 VDC-Input	1	1334710000
UR20-PF-O	Remote I/O module, IP20, Power supply unit, 24 VDC-Output	1	1334740000
Safe I/O modules and safe power-feed modules			
UR20-4DI-4DO-PN-FSPS-V2	Remote I/O module, IP20, Safety, Digital signals, 4-channel	1	2464570000
UR20-8DI-PN-FSPS-V2	Remote I/O module, IP20, Safety, Digital signals, 8-channel	1	2464590000
Digital counter- and communication- modules			
UR20-1COM-232-485-422-V2	Remote I/O module, IP20, 1-channel, RS232/RS485/RS422 communication, PUSH IN connection	1	2826800000





Measuring and Monitoring Systems

Many companies would like to save energy at source, use energy more efficiently and maximise the availability of energy networks. This not only shows responsibility, but is also recommended for economic reasons. Weidmüller energy meters can do far more than just measure the consumption of electrical energy. For example, the basic parameters for energy quality can also be determined or the currents of all conductors can be analysed individually or differentially - e.g. with our Energy Meter. This allows you a quick status overview of the electrical energy in your production facility. This applies both in relation to efficient usage, as well as to quality, stability and availability.

D



For further products, information, technical specifications or additional services, please visit our website: www.weidmueller.com/measuring-and-monitoring



Energy meters – BasicLine

Type	Version	Qty	Order No.
EM220-RTU-4DI2DO-6W	Power measurement/display for 1-; 3-phase mains, use of CT, pulse output, digital input/output,, Modbus RTU, Modbus TCP/IP, Gateway	1	7760051006
EM122-RTU-2P	Power measurement/display for 1-; 3-phase mains, 100 A, direct measurement, pulse output,, Modbus RTU	1	7760051003



Energy meters – ValueLine

Type	Version	Qty	Order No.
ENERGY METER 750-230		1	2540910000



Energy Analyser

Type	Version	Qty	Order No.
ENERGY ANALYSER 750-24		1	2534160000



Energy / Data Logger

Type	Version	Qty	Order No.
ENERGY LOGGER D550		1	2425520000



Mechanical- & electronic sensors - u-sense vibration

Type	Version	Qty	Order No.
US67-V1T-BLE	Smart vibration sensor	1	2751260000



ResMa® – Resource Management for Process and Energy Optimisation

Type	Version	Qty	Order No.
Resma Base Package	Create the necessary transparency with ResMa® Basic as energy management software to make optimal use of your data and uncover potential.		Please contact us
ResMa® Energy Package	The ResMa® Energy Package is a DIN EN ISO 50001 certified energy management system that supports you as energy management software.		Please contact us
ResMa® Production Package	The ResMa® Energy Package is a DIN EN ISO 50001 certified energy management system that supports you as energy management software.		Please contact us
Note	For more information, please visit our website www.weidmueller-gti-software.com		



DC Microgrids

DC Microgrids	Introduction	E.2
	Applications and design for DC Microgrids	E.3
	Overview of products and solutions	E.6
	DC ready products and solutions	E.8



DC Microgrids

Higher energy efficiency and grid quality thanks to direct current

The use of direct current in microgrids is establishing itself as a transformative technology and a path to climate neutrality. The technology significantly reduces energy consumption in industrial plants or buildings. It prevents peak loads and allows power to be utilised for other consumers directly, safely and in high quality by means of recuperation, e.g. through braking or lowering energy. At the same time, it enables the seamless integration of new energy sources.

E

Another key advantage of DC grids is the significantly improved grid quality and the associated higher security of supply compared to conventional AC grids.



As a founding member of the ODCA (Open DC Alliance) and an active stakeholder in the initial projects DC-INDUSTRIE and DC-INDUSTRIE 2, we are pioneers in the industrial application of DC grids. We already offer a comprehensive portfolio of solutions and components that enable the implementation and commissioning of DC grids.



For further information, technical specifications or additional services, please visit our website: www.weidmueller.com/dc-microgrids

Potentials of industrial DC power distribution



Energy efficiency

Lower conversion and transport losses, use of recuperation, direct use of renewable energy sources as well as peak power reduction through the use of suitable storage systems.



Grid stability

No need for additional investments for grid filtering and compensation, support for existing grids and prevention and reduction of production losses due to grid disturbances.



Resource efficiency

Reduction of copper consumption for cables and lower equipment costs and space savings through the elimination of power electronics.



Industrial smart DC grid

Infrastructure for intelligent control of energy flows, offering advantages in energy purchasing and support for modular machine concepts.

DC Microgrids in various applications

Direct current technology for a sustainable industry

DC Microgrids can demonstrably improve energy efficiency in various applications in industrial plants and buildings. Machines, robots, ventilation, lifting and conveyor belt applications stand to benefit in particular from the utilisation of braking and sinking energy. This can measurably reduce energy consumption by up to 10% and the feed-in power by up to 80%. With integrated storage, peak loads can be reduced by up to 50%.

E

DC ready



Automotive & Robotics



Intralogistics



Machine and factory automation



Building

Set-up of a DC Microgrid

From generation to storage to supply

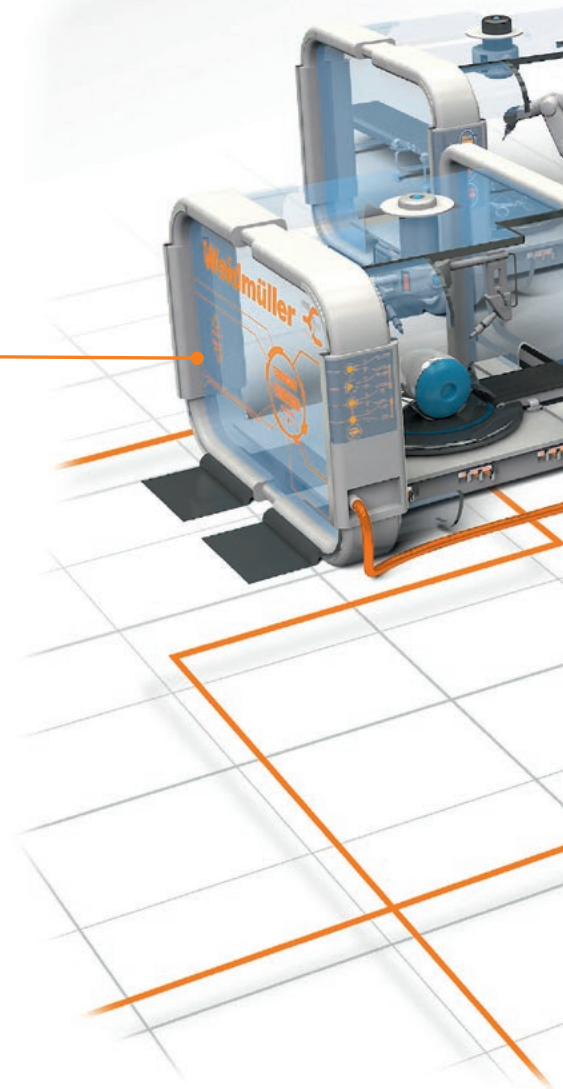
A DC microgrid is an independent grid that is connected to the public AC supply grid and contains various DC sectors, i.e. more than one machine. The simplified bidirectionality of DC current make functions such as recuperation possible. This improves the energy efficiency and flexibility of the overall system.

E



Applications

Machines and devices in industrial plants and commercial buildings with active drive systems, e.g. for production, conveying and ventilation, all benefit from DC Microgrids.



Convert, protect and distribute energy flows

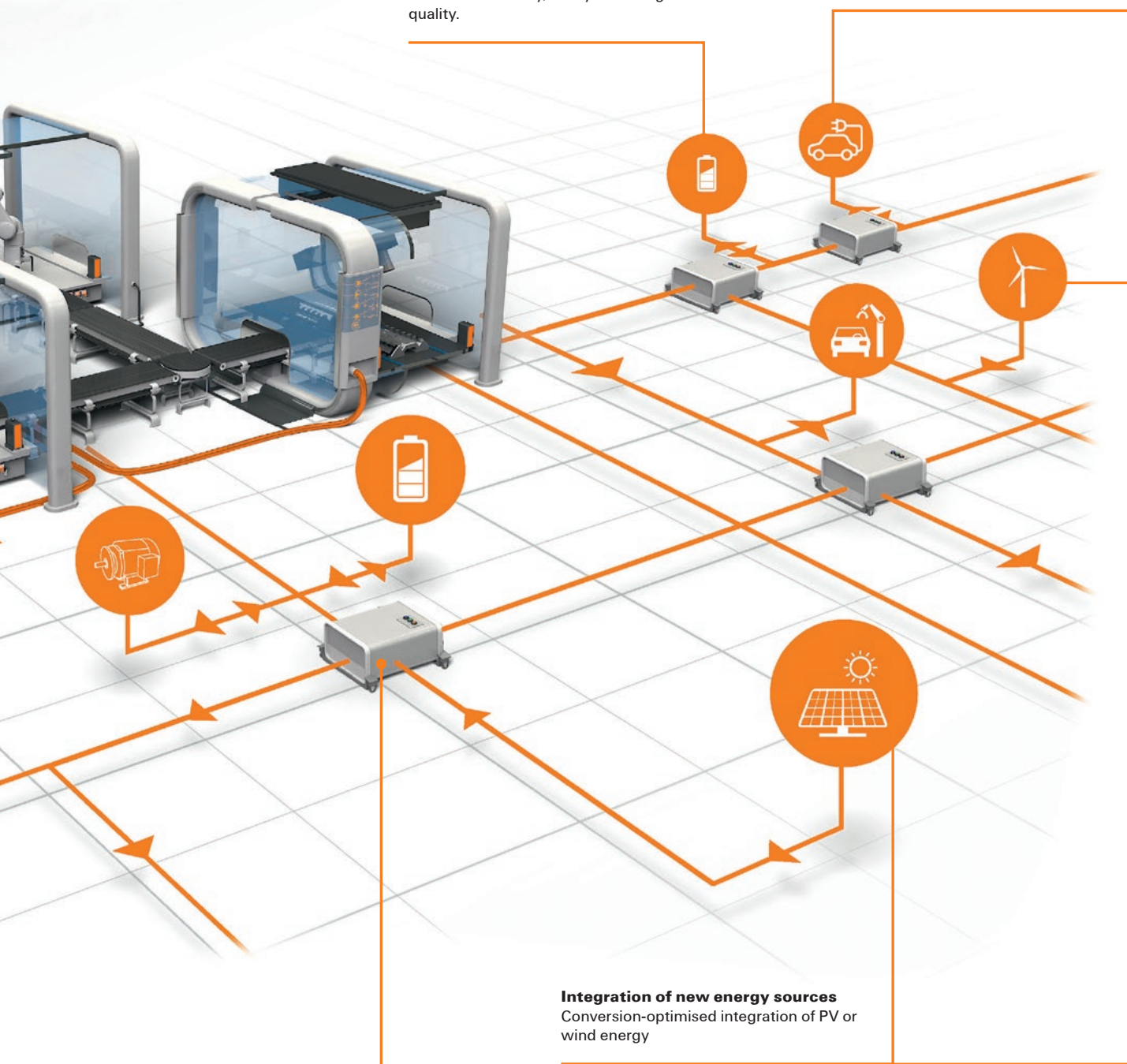
Conversion of both AC to DC and DC to DC voltages, secure and controlled precharging of capacities and distribution in the control cabinet and in the field.

Energy storage

Energy from recuperation, for example, can be stored and supplied to other consumers directly, safely and in high quality.

E-mobility

Integration of efficient charging concepts and dynamic load management



Integration of new energy sources

Conversion-optimised integration of PV or wind energy



Our products, solutions and services for DC Microgrids

Fields of application for centralised DC power distribution and processing

We offer a comprehensive portfolio of solutions and components for the implementation and commissioning of DC Microgrids. This includes secure connectivity, solutions for power distribution and monitoring energy flows and decentralised automation tasks. We're **DC ready**. How about you?

E



Power supplies and DC pre charge units (PCU)

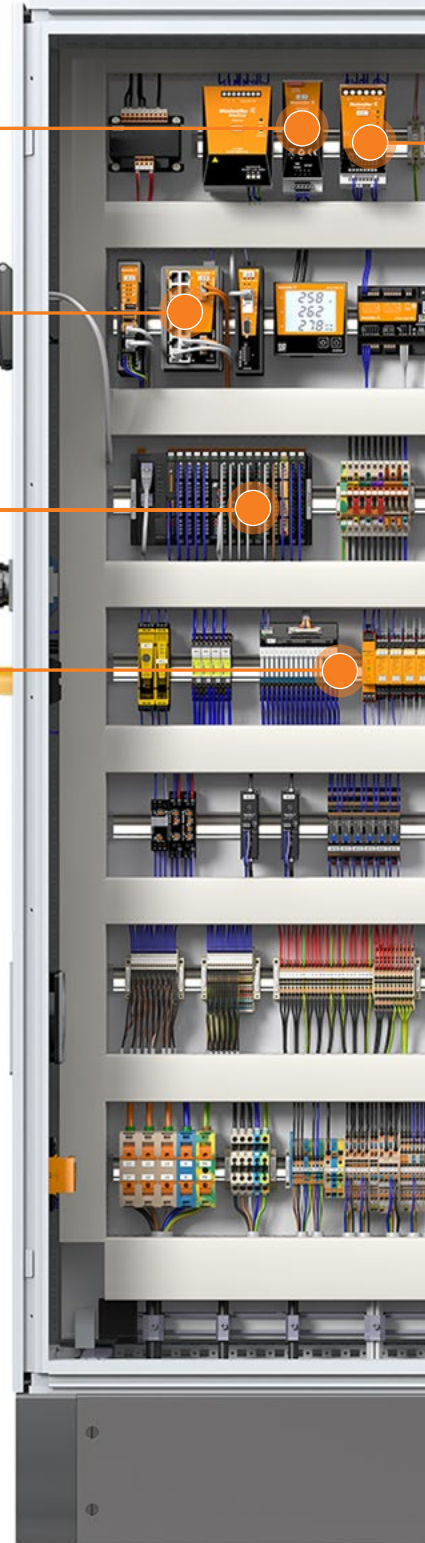
Industrial power supplies, upstream DC pre charge units and additional components with DC/DC converters and UPS control modules all the way to electronic fuses.

Automation and software

Optimise your automation processes – Easy and IoT ready

VARITECTOR lightning and surge protection

Lightning and surge protection devices that conform to the standards of DIN VDE 0100-443 and -534 for mandatory surge protection in building infrastructures.





OMNIMATE® PCB terminal blocks and plug-in connectors

OMNIMATE® Power: the secure AC and DC connection with PCB terminal blocks, PCB connectors and feed-through terminals fulfil the requirements of AC and DC rated voltages up to 1000 V.

Media converters and protocol gateways

Our media converters and protocol gateways ensure smooth communication between all network participants and are also especially convenient and economical.

RockStar® heavy-duty connectors

RockStar® heavy-duty connectors ensure the safe and reliable transmission of power, signals and data in industrial environments, both inside the control cabinet and outside in the field. Locks for selected plug-in connectors fulfil the requirements of the DC system concept up to level 3, i.e. allowing extended deliberate unlocking with a standard specialist tool.

Connectivity – Klippon® Connect terminal blocks

Terminal blocks with the SNAP IN or PUSH IN connection system fulfil the requirements of AC and DC rated voltages up to 1000 V for wiring to the feed-in and distribution to the functional areas.

Workshop & Accessories

Practical advantages for optimised work processes. Professional tools, printing solutions, markers, industrial luminaires and accessories for the highest demands.



Switch on DC Microgrids in segments, operate and monitor them safely

Pre charge units with many setting and diagnostic options

Our pre charge units are simple and reliable companions on the way to the future of DC Microgrids.

Pre charge units enable controlled, sequential ramp-up of industrial DC Microgrids. This means that loads such as drives, motors, or complex load circuits can be started one after the other to avoid current peaks. Our pre charge units are available in several performance variants. Operating mode and switch-on delay can be set directly on the device. Further setting and diagnostic options can be selected via the optional communication interface.



For further information, technical specifications or additional services, please visit our website: www.weidmueller.com/pcu



Optional, external 24V supply

Device status detectable via fieldbus – even without DC Microgrid

Simple fault detection

Even without communication, faults can be detected via LED and relay output

Control element on the device

Simple setting of the switch-on delay and operating mode (controller/device) directly on the device

Connections DC microgrid

Up to 16 mm² possible, saves fuse protection in case of cross section reduction

Different variants

Pre charge units available for DC sectors with 40 A, 100 A or 500 A

DC Industry V3 system concept

Complies with all specifications and thus ensures interoperability

Mounting options

In addition to mounting on DIN rail, wall mounting is also optionally possible

Optional communication interface

Comprehensive parameterisation and diagnosis of unit and DC sector can be performed via fieldbus



Adaptable to any application: For simple and quick commissioning, the operating mode and switch-on delay can be selected directly on the unit. With the optionally available communication interface, the pre charge unit can be precisely adapted to any application.

Extensive diagnostic options: Faults are signalled via the integrated LED and the relay output. The optional communication interface can be used to set and monitor threshold values – e.g. for microgrid symmetry or sector capacity.

Conforms to the system concept: The pre charge unit complies with all specifications of the DC Industry V3 system concept, which defines the general conditions of DC Microgrids. This ensures smooth operation with other devices.

Ordering data

Variant	Type	Order No.
Pre charge unit, 650VDC, without optional communication, 40A DC sector	MAX PCU DC650 40	2921580000
Pre charge unit, 650VDC, with optional communication, 40A DC sector	TOP PCU DC650 40	2921590000
Pre charge unit, 650VDC, with optional communication, 100A DC sector	TOP PCU DC650 100	2921600000
Pre charge unit, 650VDC, with optional communication, 500A DC sector	TOP PCU DC650 500	2921610000

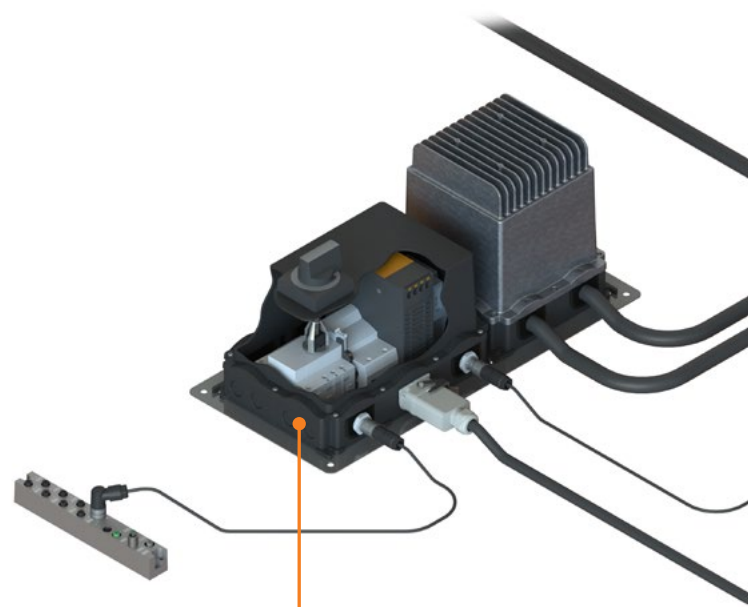
Solve decentralised automation tasks economically.

Function-orientated solutions with FieldPower® for DC Microgrids

Simple system planning, fast and error-free installation and reliable operation of widely branched, modular systems are also possible for DC Microgrids with our proven FieldPower® system.

In addition to established control cabinet functions such as feeding, switching, protecting and monitoring, the controlled precharging of sectors and secure decentralised power distribution in the field are also possible.

E

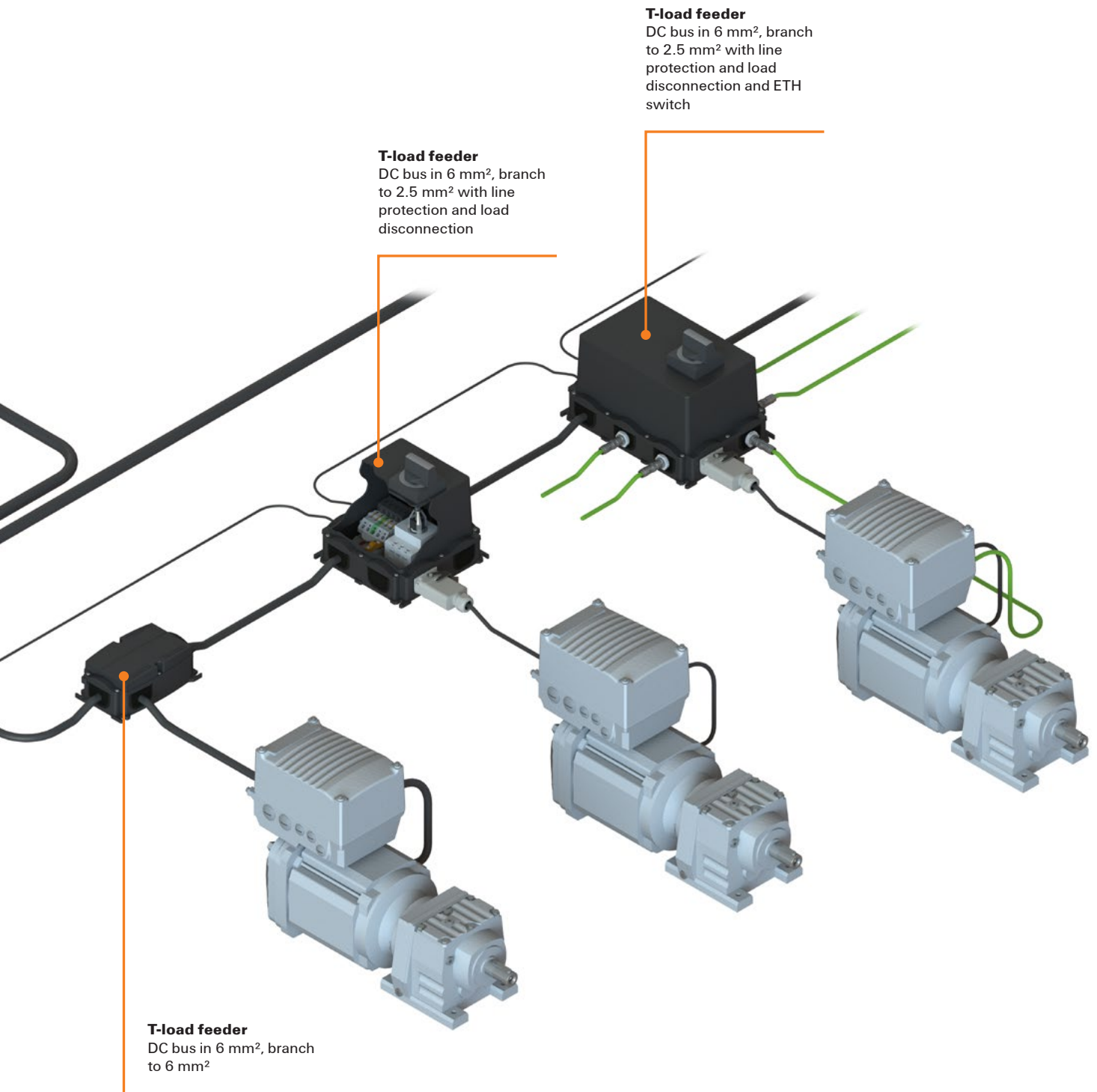


Sector feed box

DC bus distributor 16 mm² and sector feed 6 mm² with precharging, bridging, short-circuit & line protection and load disconnection, optionally with DCDC converter 24 V DC for auxiliary power supply



For further information, technical specifications or additional services, please visit our website:
www.weidmueller.com/fieldpower



Testing and safe disconnection

Two-pole voltage tester for safety-relevant DC voltages up to 1,000 V

Size isn't everything. That is why we have made our new generation of two-pole voltage testers even more compact and powerful. In addition to their proven functions, they offer a range of innovative features. The VT Digi Pro now makes it possible to test up to 1,000 V AC or DC. It not only measures voltage, rotating field, and continuity, but also frequency and resistance. And best of all: the tester can also be operated with one hand. So you always have everything under control.



E



Type	Version	Qty	Order No.
VT DIGI PRO	Testing tools, 2-pole voltage tester type 1152	1	9918870000



e-mobility

e-mobility	Introduction	F.2
	Charging box family AC SMART	F.4
	Charging box accessories	F.22
	Load management with SMARTcharge	F.24
	AC & DC charging cables	F.34
	Measuring & monitoring systems	F.48



CHARGE FOR THE CHANGE

Smart charging infrastructure for the challenges of our time

„CHARGE FOR THE CHANGE“ is the motto for e-mobility made by Weidmüller. Our experts deal with the questions that literally move our time: What does the easy entry into e-mobility look like? How can we as a community charge „green“ and climate-friendly energy in the future? How can we use available energy in the best possible way? How do we provide owners, tenants, customers and employees with enough charging points? We don't have one answer to all questions. But as a family company with a pioneering spirit and over 170 years of experience in electrical engineering, we are your partner for finding answers together.

F



For further information, technical specifications or additional services, please visit our website:
www.weidmueller.com/e-mobility



CHARGE your community

Sharing charging points in a community, whether in an apartment block, company building or hotel - no problem with our solutions.



CHARGE renewable energy

Charge surplus energy from the PV system directly into the EV: easy realisation of PV surplus charging with the AC SMART.



CHARGE expertise

With a pioneering spirit and over 170 years of experience in electrical engineering, we are your partner for long-lasting charging solutions.



CHARGE your battery

With the AC SMART App, you can charge your electric car according to your needs and without interruption. Make the most of your charging time: with our solutions, you can rely on a smooth charging process, recharge your own battery and get back on the road soon.



CHARGE your network

Simple installation and integration of backends, inverters and bidirectional meters as well as load management for multiple charging points - in our service area we have all the documentation in place for planners and installers.

Our solutions for e-mobility

AC SMART charging box family



Load management with SMARTcharge



Accessories for charging boxes



Charging cable for electric vehicle



Smart charging solutions for individual challenges

The intelligent and networkable charging box family AC SMART

The new charging box family AC SMART is ready for any application scenario in the private and commercial sector. The platform-based charging concept with its basic equipment in three lines ECO, VALUE and ADVANCED covers the most common applications and can be adapted to individual applications by means of standardised interfaces and versatile configuration options.

Explore smarter charging solutions for individual electromobility challenges through our AC SMART Mobile App.

Simple & fast installation

The design and realisation of the AC SMART product family not only took into account the wishes and needs of the operators and users of charging infrastructure, but also those who have to install and maintain this infrastructure.

F

Advantages of the AC SMART family:

- Installation- and maintenance-friendly design
- Simple access options to the charging station
- Greater efficiency over the entire life cycle
- Simpler and faster installation and maintenance
- Minimised potential for errors
- Durability and expandability of the charging station



All variants compared

Compare our three variants ECO, VALUE and ADVANCED of the AC SMART family with each other and find out which charging box from Weidmüller is best suited for charging your electric car. Using standardized interfaces and versatile configuration options, these can be adapted to your individual use cases. You are not sure which of the variants suits you best? Then get in touch with us!

	ECO	VALUE	ADVANCED
Max. charging power 7.4 kW (1-phase)	●	●	●
Max. charging power 11 kW (3-phase)	●	●	●
Max. charging power 22 kW (3-phase)	●	●	●
Attached EV charging cable with 5m length and type 2 plug	●	●	●
Socket outlet Type 2 with integrated shutter	●	●	●
DC-residual current detection	●	●	●
Max. charging current adjustable	●	●	●
Digital inputs/outputs	●	●	●
Serial communication (RS485/Modbus-RTU)	●	●	●
Ethernet communication (Modbus-TCP)	●	●	●
WLAN-Interface	●	●	●
Mobile App	●	●	●
Data communication acc. to OCPP 1.6 (J)	—	●	●
Access control via RFID	—	●	●
Load/charge management integrated (static)	—	●	●
Load/charge management integrated (dynamic)	—	—	●
MID compliant energy meter	—	—	●
Mobile modem incl. flat rate SIM* (LTE)	—	—	●
Powerline communication with EV (AutoCharge)	—	—	●

* 1 GB respectively 10 years



AC SMART ECO

Intuitive – The ideal charging box for your home

The AC SMART ECO is the efficient stand-alone wallbox for your home. Easy to handle, safe and robust in operation, adaptable to individual needs and framework conditions.

The AC SMART ECO can be integrated easily and efficiently into existing environments and saves cost-intensive renovations of the of the building's electrical installation. The charging box can be networked via interfaces with any existing building automation system to charge your electric car effectively.



F



Benefits of the AC SMART ECO:

- Stand alone charging box
- Max. charging power from 7.4 to 22 kW
- Power connection: 1-phase 230 V / 32 A, 3-phase 400 V / 16 A or 32 A
- Type 2 socket or attached 5 m Type 2 charging cable
- Status and configuration by app and integrated web server



AC SMART VALUE

Safe – No overloading when installing multiple charging boxes

The AC SMART VALUE charging box is the ideal solution for charging electric cars for private multi-family homes or properties with multiple parking spaces. For fixed allocation of individual charging points or to prevent unauthorised access, user authentication can be activated via RFID/NFC or a mobile app.

The integrated static load management prevents overloading of the existing electrical installation and efficiently distributes the available resources to all connected EV charging boxes. Through the integrated energy measurement, consumption data can be recorded and, if necessary, transmitted and processed via the mobile app or the local network. Integration into an already existing building automation system is also possible in order to realise a network-based bidirectional charging control.

Benefits of the AC SMART VALUE:

- Switch functionality to connect several charging boxes in line
- Max. charging power from 11 to 22 kW
- Power connection: 3-phase 400 V / 16 A or 32 A
- Type 2 socket or attached 5 m Type 2 charging cable
- RFID authentication



F



AC SMART ADVANCED

Efficient – Optimized charging with dynamic load management

Geared in particular to the needs of companies, self-employed persons or municipalities in a semi-public environment, the EV charging box AC SMART ADVANCED has all the technical and functional features for a professional, commercial use for charging your electric vehicles.

These features include secure and convenient access control via RFID/NFC, mobile app or powerline communication directly with the car. In addition, MID-compliant recording of charging data and secure back-end communication via OCPP 1.6 using Ethernet- or mobile radio-based data transmission. Also an integrated, dynamic load management for an efficient and cost-optimised use of the existing electrical installation, even with several wallboxes. This also allows, for example, a cost-efficient feed-in of PV electricity generated on the roof of a building.

F



Benefits of the AC SMART ADVANCED:

- Dynamic load/charge management integrated
- Max. charging power from 11 to 22 kW
- Power connection: 3-phase 400 V / 16 A or 32 A
- Type 2 socket or attached 5 m Type 2 charging cable
- Mobile communication modem (4G/LTE) incl. lifetime SIM



AC SMART Mobile App

The smarter way of charging

With the mobile app for the AC SMART charging boxes, you can use the full range of functions of your charging solution in a simple and secure way. Once connected, you can check the status of your charging box, start and stop charging processes of your electric vehicles, set an individual charging current if required and make further configurations on the box.

Our app is available free of charge with the purchase of a charging box from the AC SMART family.



F



Download app

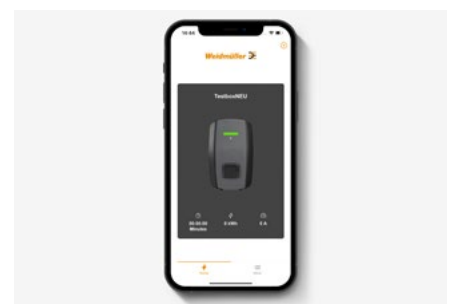
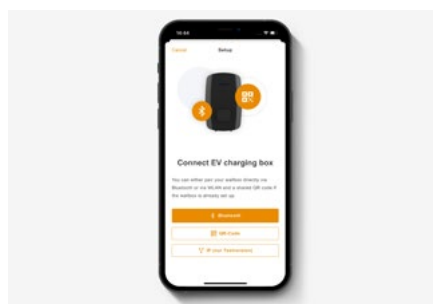
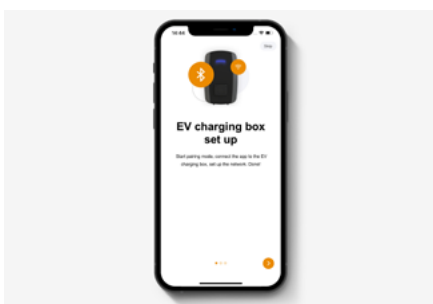
Download app, start pairing mode, connect the app to the wallbox and set up the network!

Connect charging box

You can either pair your charging box directly via Bluetooth or via WLAN using a provided QR-code if the charging box is already set up.

Use app

Now you can start and stop your charging, set the maximum charging current, adjust settings of the LED timeout function and LED brightness, and register, manage and delete RFID tags.

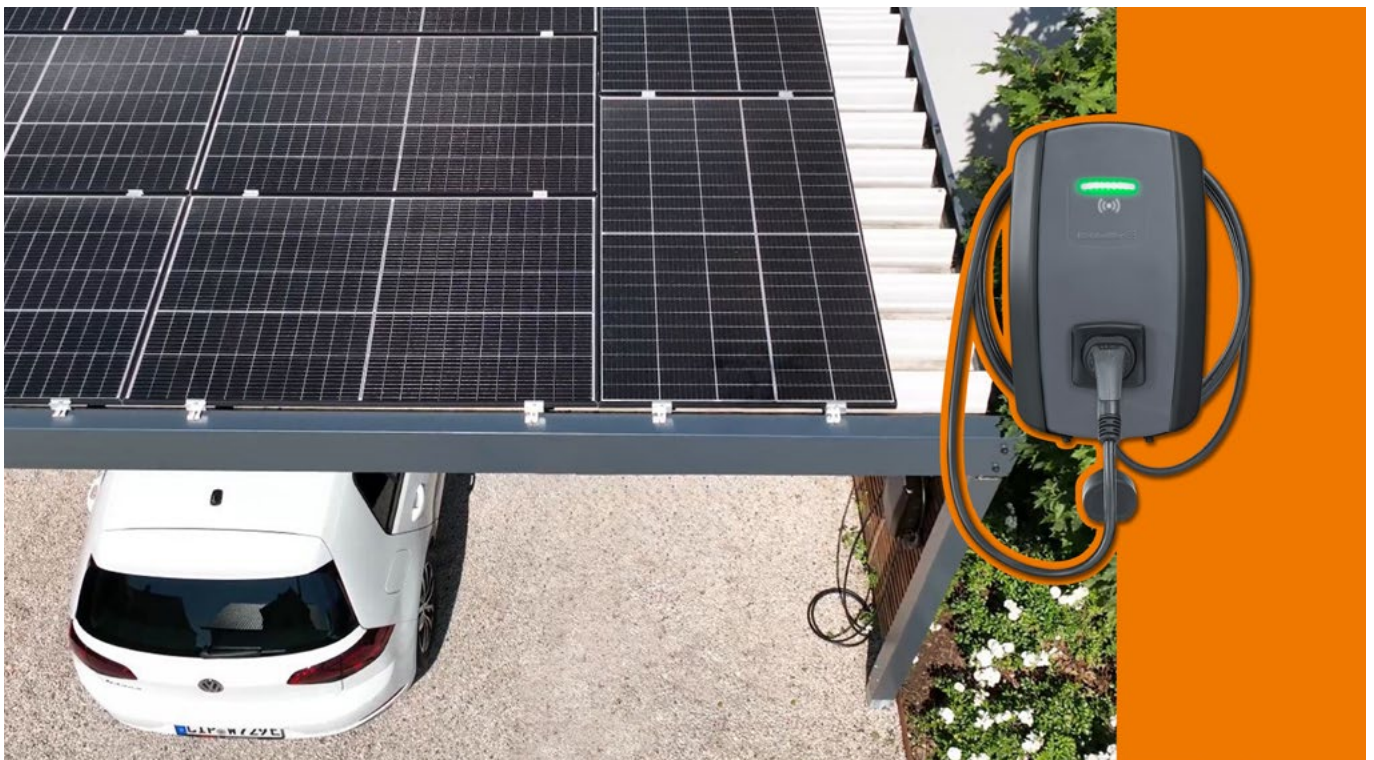


PV Surplus Charging with AC SMART

Charge for the change: Charging solar power for a sustainable future

With your PV system, you are already on the path to a sustainable future. But did you know that you can also make your mobility sustainable with green solar power? The keyword here is PV surplus charging. This allows you to charge your electric car with self-generated electricity from your PV system. If your PV system produces more electricity than you consume in your household, this results in a so-called PV surplus. Instead of feeding this surplus solar power into the public grid, it can be intelligently used by the AC SMART to charge your electric car without draining your storage unit. This increases your self-consumption share and is not only good for the environment but also for your wallet.

F



How do I implement PV surplus charging in practice?

For direct connection to your inverter you only need an Ethernet cable (RJ45). You can find detailed instructions on how to connect your charging box to various inverters here



www.weidmueller.com/ac-smart-inverter

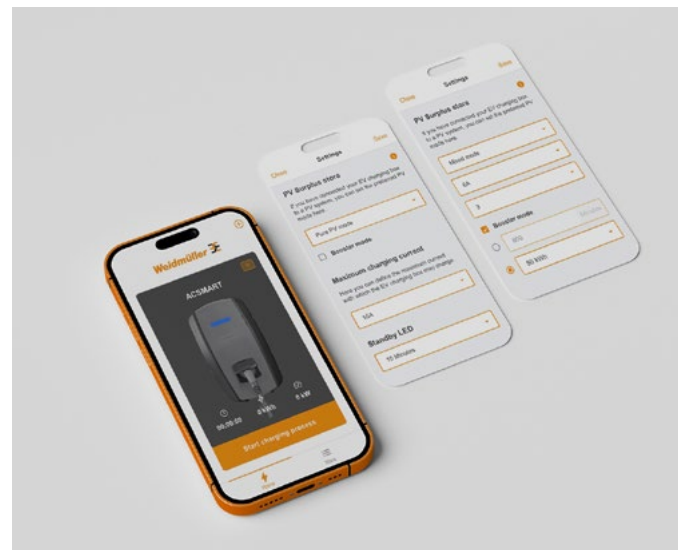
The Modbus RTU/TCP interfaces of our AC SMART VALUE and ADVANCED are used for PV surplus charging with the help of an additional energy meter. You will also find the required bidirectional meter with us. Detailed instructions on how to connect an additional bidirectional meter to your charging box and a list of all compatible bidirectional meters can be found here:



www.weidmueller.com/ac-smart-energy-meter

What are the variants of the PV surplus charging?

As you know, the sun does not shine constantly. Therefore, the amount of electricity generated by your PV system fluctuates over the course of a year. But even within a day, the solar power generated varies considerably. In order to make ideal use of the available solar power, we have integrated various PV modes into our products. You can easily switch between these in our AC SMART app or in SMARTcharge.



Charging box family AC SMART

Intuitive – The optimal charging box for your home

The AC SMART ECO is the efficient stand-alone charging box for your home. Easy to handle, safe and robust in operation, adaptable to individual needs and framework conditions. The AC SMART ECO can be integrated easily and efficiently into existing environments and eliminates the need for cost-intensive renewals of the building's electrical installation. Linkable with possibly existing building automation systems through different interfaces to charge efficiently and effectively.

Technical data

Short description	
Number of phases input	1
Input voltage	230V AC
Input current, max.	32A
Charging power, max.	7.4kW
Charging current, min.	6.00A
Adjustment accuracy	1.00A
Conductor cross-section, max.	16 mm ²
Performance specification	max. charging capacity of 7.4 kW @ 1-phase (230 V) grid connection, max. current 32 A
Connection system	With attached 5 m cable and type 2 plug
Charge mode	Mode 3
Type of status indicator	RGB LED
Protection class	I
Impact resistance	IK10 in accordance with IEC 62262
DC - residual current detection integrated	Yes
DC - residual current	6 mA
Failure shutdown method	All-pole
Welding detection	Yes
User authentication	Yes
User authentication type	Mobile App
Energy measurement integrated	No
Supported protocols	Modbus RTU, Modbus TCP
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Load management integrated	No
Failure shutdown	Yes
Type of residual current detection to be provided by the installation	RCD Type A
Communication integrated	Yes
Protection degree	IP54
Interfaces	
Wifi frequency	2,4 GHz
Wi-Fi Standard	802.11 b/g/n
Bluetooth module	Bluetooth Low Energy
Digital inputs	1 (12 V / 6 mA)
Digital outputs	1 (12 V / 100 mA)
Type of protocol of serial interface	RS485
Ethernet ports	1
General data	
Operating temperature	-30 °C...50 °C
Depth / Width / Height	150 / 268 / 433 mm
Weight	5009 GRM
Approvals	IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011
Note	

Ordering data

Cable length 5.0 m without cable	
Note	

CH-W-S-A7.4-P-E



Short description	Charging box, max. charging capacity of 7.4 kW @ 1-phase (230 V) grid connection, max. current 32 A, With attached 5 m cable and type 2 plug, Mobile App,
Number of phases input	1
Input voltage	230V AC
Input current, max.	32A
Charging power, max.	7.4kW
Charging current, min.	6.00A
Adjustment accuracy	1.00A
Conductor cross-section, max.	16 mm ²
Performance specification	max. charging capacity of 7.4 kW @ 1-phase (230 V) grid connection, max. current 32 A
Connection system	With attached 5 m cable and type 2 plug
Charge mode	Mode 3
Type of status indicator	RGB LED
Protection class	I
Impact resistance	IK10 in accordance with IEC 62262
DC - residual current detection integrated	Yes
DC - residual current	6 mA
Failure shutdown method	All-pole
Welding detection	Yes
User authentication	Yes
User authentication type	Mobile App
Energy measurement integrated	No
Supported protocols	Modbus RTU, Modbus TCP
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Load management integrated	No
Failure shutdown	Yes
Type of residual current detection to be provided by the installation	RCD Type A
Communication integrated	Yes
Protection degree	IP54
Interfaces	
Wifi frequency	2,4 GHz
Wi-Fi Standard	802.11 b/g/n
Bluetooth module	Bluetooth Low Energy
Digital inputs	1 (12 V / 6 mA)
Digital outputs	1 (12 V / 100 mA)
Type of protocol of serial interface	RS485
Ethernet ports	1
General data	
Operating temperature	-30 °C...50 °C
Depth / Width / Height	150 / 268 / 433 mm
Weight	5009 GRM
Approvals	IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011
Note	

Type	Qty.	Order No.
CH-W-S-A7.4-P-E	1	2875210000

CH-W-S-A7.4-S-E



Short description	Charging box, max. charging capacity of 7.4 kW @ 1-phase (230 V) grid connection, max. current 32 A, Type 2 socket outlet, Mobile App,
Number of phases input	1
Input voltage	230V AC
Input current, max.	32A
Charging power, max.	7.4kW
Charging current, min.	6.00A
Adjustment accuracy	1.00A
Conductor cross-section, max.	16 mm ²
Performance specification	max. charging capacity of 7.4 kW @ 1-phase (230 V) grid connection, max. current 32 A
Connection system	Type 2 socket outlet
Charge mode	Mode 3
Type of status indicator	RGB LED
Protection class	I
Impact resistance	IK10 in accordance with IEC 62262
DC - residual current detection integrated	Yes
DC - residual current	6 mA
Failure shutdown method	All-pole
Welding detection	Yes
User authentication	Yes
User authentication type	Mobile App
Energy measurement integrated	No
Supported protocols	Modbus RTU, Modbus TCP
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Load management integrated	No
Failure shutdown	Yes
Type of residual current detection to be provided by the installation	RCD Type A
Communication integrated	Yes
Protection degree	IP54
Interfaces	
Wifi frequency	2,4 GHz
Wi-Fi Standard	802.11 b/g/n
Bluetooth module	Bluetooth Low Energy
Digital inputs	1 (12 V / 6 mA)
Digital outputs	1 (12 V / 100 mA)
Type of protocol of serial interface	RS485
Ethernet ports	1
General data	
Operating temperature	-30 °C...50 °C
Depth / Width / Height	167 / 268 / 433 mm
Weight	3600 GRM
Approvals	IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011
Note	

Type	Qty.	Order No.
CH-W-S-A7.4-S-E	1	2875200000



Charging box family AC SMART

Intuitive – The optimal charging box for your home

The AC SMART ECO is the efficient stand-alone charging box for your home. Easy to handle, safe and robust in operation, adaptable to individual needs and framework conditions. The AC SMART ECO can be integrated easily and efficiently into existing environments and eliminates the need for cost-intensive renewals of the building's electrical installation. Linkable with possibly existing building automation systems through different interfaces to charge efficiently and effectively.

Technical data

Short description	
Number of phases input	3
Input voltage	400V AC
Input current, max.	16A
Charging power, max.	11kW
Charging current, min.	6.00A
Adjustment accuracy	1.00A
Conductor cross-section, max.	16 mm ²
Integrated phase changeover (1- / 3-phase)	yes
Performance specification	max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A
Connection system	With attached 5 m / 7.5 m / 10 m cable and type 2 plug
Charge mode	Mode 3
Type of status indicator	RGB LED
Protection class	I
Impact resistance	IK10 in accordance with IEC 62262
DC - residual current detection integrated	Yes
DC - residual current	6 mA
Failure shutdown method	All-pole
Welding detection	Yes
User authentication	Yes
User authentication type	Mobile App
Energy measurement integrated	No
Supported protocols	Modbus RTU, Modbus TCP
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Load management integrated	No
Failure shutdown	Yes
Type of residual current detection to be provided by the installation	RCD Type A
Communication integrated	Yes
Protection degree	IP54
Interfaces	
Wifi frequency	2.4 GHz
Wi-Fi Standard	802.11 b/g/n
Bluetooth module	Bluetooth Low Energy
Digital inputs	1 (12 V / 6 mA)
Digital outputs	1 (12 V / 100 mA)
Type of protocol of serial interface	RS485
Ethernet ports	1
General data	
Operating temperature	-30 °C...50 °C
Depth / Width / Height	150 / 268 / 433 mm
Weight	4900 GRM
Approvals	IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011
Note	

Ordering data

Cable length 5.0 m	
Cable length 7.5 m	
Cable length 10.0 m without cable	
Note	

CH-W-S-A11-P/P7.5/P10-E



Charging box, max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A, With attached 5 m / 7.5 m / 10 m cable and type 2 plug, Mobile App,		
3		
400V AC		
16A		
11kW		
6.00A		
1.00A		
16 mm ²		
yes		
max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A		
With attached 5 m / 7.5 m / 10 m cable and type 2 plug		
Mode 3		
RGB LED		
I		
IK10 in accordance with IEC 62262		
Yes		
6 mA		
All-pole		
Yes		
Yes		
Mobile App		
No		
Modbus RTU, Modbus TCP		
Control Pilot (CP), Proximity Pilot / Plug Present (PP)		
No		
Yes		
RCD Type A		
Yes		
IP54		
Interfaces		
2.4 GHz		
802.11 b/g/n		
Bluetooth Low Energy		
1 (12 V / 6 mA)		
1 (12 V / 100 mA)		
RS485		
1		
General data		
-30 °C...50 °C		
150 / 268 / 433 mm		
4900 GRM		
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011		
Note		

Type	Qty.	Order No.
CH-W-S-A11-P-E	1	2863090000
CH-W-S-A11-P7.5-E	1	2911200000
CH-W-S-A11-P10-E	1	2911210000
Note		

CH-W-S-A11-S-E



Charging box, max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A, Type 2 socket outlet, Mobile App,		
3		
400V AC		
16A		
11kW		
6.00A		
1.00A		
16 mm ²		
yes		
max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A		
Type 2 socket outlet		
Mode 3		
RGB LED		
I		
IK10 in accordance with IEC 62262		
Yes		
6 mA		
All-pole		
Yes		
Yes		
Mobile App		
No		
Modbus RTU, Modbus TCP		
Control Pilot (CP), Proximity Pilot / Plug Present (PP)		
No		
Yes		
RCD Type A		
Yes		
IP54		
Interfaces		
2.4 GHz		
802.11 b/g/n		
Bluetooth Low Energy		
1 (12 V / 6 mA)		
1 (12 V / 100 mA)		
RS485		
1		
General data		
-30 °C...50 °C		
167 / 268 / 433 mm		
3600 GRM		
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011		
Note		

Type	Qty.	Order No.
CH-W-S-A11-S-E	1	2863070000
Note		

CH-W-S-A22-P/P7.5-E



Charging box, max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A, With attached 5 m / 7.5 m cable and type 2 plug, Mobile App,
3
400V AC
32A
22kW
6.00A
1.00A
16 mm ²
yes
max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A
With attached 5 m / 7.5 m cable and type 2 plug
Mode 3
RGB LED
I
IK10 in accordance with IEC 62262
Yes
6 mA
All-pole
Yes
Yes
Mobile App
No
Modbus RTU, Modbus TCP
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
No
Yes
RCD Type A
Yes
IP54
2,4 GHz
802.11 b/g/n
Bluetooth Low Energy
1 (12 V / 6 mA)
1 (12 V / 100 mA)
RS485
1
-30 °C...50 °C
150 / 268 / 433 mm
6100 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Type	Qty.	Order No.
CH-W-S-A22-P-E	1	2863100000
CH-W-S-A22-P7.5-E	1	2911220000

CH-W-S-A22-S-E



Charging box, max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A, Type 2 socket outlet, Mobile App,
3
400V AC
32A
22kW
6.00A
1.00A
16 mm ²
yes
max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A
Type 2 socket outlet
Mode 3
RGB LED
I
IK10 in accordance with IEC 62262
Yes
6 mA
All-pole
Yes
Yes
Mobile App
No
Modbus RTU, Modbus TCP
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
No
Yes
RCD Type A
Yes
IP54
2,4 GHz
802.11 b/g/n
Bluetooth Low Energy
1 (12 V / 6 mA)
1 (12 V / 100 mA)
RS485
1
-30 °C...50 °C
167 / 268 / 433 mm
3600 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Type	Qty.	Order No.
CH-W-S-A22-S-E	1	2863080000



Charging box family AC SMART

Safe – No overloading when installing multiple charging boxes

The intelligent and networkable charging box AC SMART VALUE is the ideal solution for private multi-apartment buildings or properties with several parking spaces. Having fixed allocation of individual charging points or to avoid unauthorized access, user authentication can be activated through RFID/NFC or mobile app. The integrated static load management prevents an overloading of the existing electrical installation and efficiently spreads the available resources across all connected EV charging boxes. Through the integrated energy measurement, consumption data can be recorded and if necessary transmitted and processed via the mobile app or the local network. An integration into an already existing building automation system is also possible, to realise a network-based charging control in both directions.

Technical data

Short description

Number of phases input
Input voltage
Charging power, max.
Input current, max.
Charging current, min.
Adjustment accuracy
Conductor cross-section, max.
Integrated phase changeover (1- / 3-phase)
Performance specification

Connection system
Charge mode
Type of status indicator
Protection class
Impact resistance
DC - residual current detection integrated
DC - residual current
Failure shutdown method
Welding detection
User authentication
User authentication type
Energy measurement integrated
Supported protocols
Type of communication to vehicle
Load management integrated
Failure shutdown
Type of residual current detection to be provided by the installation
Communication integrated
Protection degree

Interfaces

Wifi frequency
Wi-Fi Standard
Bluetooth module
Digital inputs
Digital outputs
Type of protocol of serial interface
Ethernet ports

General data

Operating temperature
Depth / Width / Height
Weight
Approvals

Note

Ordering data

Cable length 5.0 m
Cable length 7.5 m
Cable length 10.0 m
without cable

Note

CH-W-S-A11-P/P7.5/P10-V



VALUE

Charging box, max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A, With attached 5 m / 7.5 m / 10 m cable and type 2 plug, Mobile App, RFID/NFC,

3
400V AC
11kW
16A
6.00A
1.00A
16 mm²
yes

max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A

With attached 5 m / 7.5 m / 10 m cable and type 2 plug

Mode 3
RGB LED
I

IK10 in accordance with IEC 62262

Yes
6

All-pole
Yes
Yes

Mobile App, RFID/NFC
Yes

Modbus RTU, Modbus TCP, OCPP 1.6 (J)
Control Pilot (CP), Proximity Pilot / Plug Present (PP)

Yes
Yes

RCD Type A
Yes

IP54

2,4 GHz
802.11 b/g/n

Bluetooth Low Energy
5 (12 V / 6 mA)

1 (12 V / 100 mA)
RS485

2

-30 °C...50 °C
149 / 273 / 439 mm

5700 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620,

EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Type	Qty.	Order No.
CH-W-S-A11-P-V	1	2875240000
CH-W-S-A11-P7.5-V	1	2911240000
CH-W-S-A11-P10-V	1	2911250000

CH-W-S-A11-S-V



VALUE

Charging box, max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A, Type 2 socket outlet, Mobile App, RFID/NFC,

3
400V AC
11kW
16A
6.00A
1.00A
16 mm²
yes

max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A

Type 2 socket outlet

Mode 3
RGB LED
I

IK10 in accordance with IEC 62262

Yes
6

All-pole
Yes
Yes

Mobile App, RFID/NFC
Yes

Modbus RTU, Modbus TCP, OCPP 1.6 (J)
Control Pilot (CP), Proximity Pilot / Plug Present (PP)

Yes
Yes

RCD Type A
Yes

IP54

2,4 GHz
802.11 b/g/n

Bluetooth Low Energy
5 (12 V / 6 mA)

1 (12 V / 100 mA)
RS485

2

-30 °C...50 °C
167 / 273 / 439 mm

4300 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620,

EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Type	Qty.	Order No.
CH-W-S-A11-S-V	1	2875220000

CH-W-S-A22-P/P7.5-V



CH-W-S-A22-S-V



Charging box, max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A, With attached 5 m / 7.5 m cable and type 2 plug, Mobile App, RFID/NFC,
3
400V AC
22kW
32A
6.00A
1.00A
16 mm ²
yes
max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A
With attached 5 m / 7.5 m cable and type 2 plug
Mode 3
RGB LED
I
IK10 in accordance with IEC 62262
Yes
6
All-pole
Yes
Yes
Mobile App, RFID/NFC
Yes
Modbus RTU, Modbus TCP, OCPP 1.6 (J)
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Yes
Yes
RCD Type A
Yes
IP54
2,4 GHz
802.11 b/g/n
Bluetooth Low Energy
5 (12 V / 6 mA)
1 (12 V / 100 mA)
RS485
2
-30 °C...50 °C
149 / 273 / 439 mm
6808 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Charging box, max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A, Type 2 socket outlet, Mobile App, RFID/NFC,
3
400V AC
22kW
32A
6.00A
1.00A
16 mm ²
yes
max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A
Type 2 socket outlet
Mode 3
RGB LED
I
IK10 in accordance with IEC 62262
Yes
6
All-pole
Yes
Yes
Mobile App, RFID/NFC
Yes
Modbus RTU, Modbus TCP, OCPP 1.6 (J)
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Yes
Yes
RCD Type A
Yes
IP54
2,4 GHz
802.11 b/g/n
Bluetooth Low Energy
5 (12 V / 6 mA)
1 (12 V / 100 mA)
RS485
2
-30 °C...50 °C
167 / 273 / 439 mm
4300 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Type	Qty.	Order No.
CH-W-S-A22-P-V	1	2875250000
CH-W-S-A22-P7.5-V	1	2911260000

Type	Qty.	Order No.
CH-W-S-A22-S-V	1	2875230000



Efficient – Optimized charging with dynamic load Management

Geared in particular to the needs of companies, selfemployed persons or municipalities in a semi-public environment, the EV charging box AC SMART ADVANCED has all the technical and functional features for a professional, commercial use. These include, above all, secure and convenient access control via RFID/NFC, mobile app or powerline communication directly with the car. In addition, a MID-compliant recording of charging data and a secure backend communication via OCPP 1.6 through ethernet- or mobile radio-based data transmission. And finally an integrated, dynamic load management for an efficient and cost-optimized use of the existing electrical installation, even with several Charging boxes. This can also be used, for example, to realize a cost-efficient charging of PV electricity produced on the roof top of a building.

Technical data

Short description

Number of phases input
 Input voltage
 Input current, max.
 Charging power, max.
 Adjustment accuracy
 Charging current, min.
 Conductor cross-section, max.
 Integrated phase changeover (1- / 3-phase)
 Performance specification

Connection system
 Charge mode
 Type of status indicator
 Protection class
 Impact resistance
 DC - residual current detection integrated
 DC - residual current
 Failure shutdown method
 Welding detection
 User authentication
 User authentication type
 Supported protocols
 Type of communication to vehicle
 Load management integrated
 Failure shutdown
 Type of residual current detection to be provided by the installation
 Communication integrated
 Protection degree

Interfaces

Wifi frequency
 Wi-Fi Standard
 Bluetooth module
 Digital inputs
 Digital outputs
 Type of protocol of serial interface
 Ethernet ports

General data

Operating temperature
 Depth / Width / Height
 Weight
 Approvals

Note

Ordering data

Cable length 5.0 m
 Cable length 7.5 m
 Cable length 10.0 m
 without cable

Note

CH-W-S-A11-P/P7.5/P10-A



Charging box, max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A, With attached 5 m / 7.5 m / 10 m cable and type 2 plug, Mobile App, RFID/NFC, Auto charge,
3
400V AC
16A
11kW
1.00A
6.00A
16 mm ²
yes
max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A
With attached 5 m / 7.5 m / 10 m cable and type 2 plug
Mode 3
RGB LED
I
IK10 in accordance with IEC 62262
Yes
6
All-pole
Yes
Yes
Mobile App, RFID/NFC, Auto charge
Modbus RTU, Modbus TCP, OCPP 1.6 (J)
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Yes
Yes
RCD Type A
Yes
IP54
2,4 GHz
802.11 b/g/n
Bluetooth Low Energy
5 (12 V / 6 mA)
1 (12 V / 100 mA)
RS485
2
-30 °C...45 °C
167 / 273 / 439 mm
5766 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Type	Qty.	Order No.
CH-W-S-A11-P-A	1	2875280000
CH-W-S-A11-P7.5-A	1	2911280000
CH-W-S-A11-P10-A	1	2911290000

CH-W-S-A11-S-A



Charging box, max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A, Type 2 socket outlet, Mobile App, RFID/NFC, Auto charge,
3
400V AC
16A
11kW
1.00A
6.00A
16 mm ²
yes
max. charging capacity of 11 kW @ 3-phase (400 V) grid connection, max. current 16 A
Type 2 socket outlet
Mode 3
RGB LED
I
IK10 in accordance with IEC 62262
Yes
6
All-pole
Yes
Yes
Mobile App, RFID/NFC, Auto charge
Modbus RTU, Modbus TCP, OCPP 1.6 (J)
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Yes
Yes
RCD Type A
Yes
IP54
2,4 GHz
802.11 b/g/n
Bluetooth Low Energy
5 (12 V / 6 mA)
1 (12 V / 100 mA)
RS485
2
-30 °C...45 °C
167 / 273 / 439 mm
4291 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Type	Qty.	Order No.
CH-W-S-A11-S-A	1	2875260000

CH-W-S-A22-P/P7.5-A



CH-W-S-A22-S-A



Charging box, max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A, With attached 5 m / 7.5 m cable and type 2 plug, Mobile App, RFID/NFC, Auto charge,
3
400V AC
32A
22kW
1.00A
6.00A
16 mm ²
yes
max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A
With attached 5 m / 7.5 m cable and type 2 plug
Mode 3
RGB LED
I
IK10 in accordance with IEC 62262
Yes
6
All-pole
Yes
Yes
Mobile App, RFID/NFC, Auto charge
Modbus RTU, Modbus TCP, OCPP 1.6 (J)
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Yes
Yes
RCD Type A
Yes
IP54
2,4 GHz
802.11 b/g/n
Bluetooth Low Energy
5 (12 V / 6 mA)
1 (12 V / 100 mA)
RS485
2
-30 °C...45 °C
167 / 273 / 439 mm
6925 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Charging box, max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A, Type 2 socket outlet, Mobile App, RFID/NFC, Auto charge,
3
400V AC
32A
22kW
1.00A
6.00A
16 mm ²
yes
max. charging capacity of 22 kW @ 3-phase (400 V) grid connection, max. current 32 A
Type 2 socket outlet
Mode 3
RGB LED
I
IK10 in accordance with IEC 62262
Yes
6
All-pole
Yes
Yes
Mobile App, RFID/NFC, Auto charge
Modbus RTU, Modbus TCP, OCPP 1.6 (J)
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Yes
Yes
RCD Type A
Yes
IP54
2,4 GHz
802.11 b/g/n
Bluetooth Low Energy
5 (12 V / 6 mA)
1 (12 V / 100 mA)
RS485
2
-30 °C...45 °C
167 / 273 / 439 mm
6390 GRM
IEC 61851-1, IEC 61851-21-2, IEC 62196-1, IEC 62196-2, EN 50620, EN 301 489-1, EN 301 908-1, EN 301 511, EN 300 328, EN 300 330 v.2.1.1, EN 62368-1, EN 55011

Type	Qty.	Order No.
CH-W-S-A22-P-A	1	2875290000
CH-W-S-A22-P7.5-A	1	2911300000

Type	Qty.	Order No.
CH-W-S-A22-S-A	1	2875270000



Charging box family AC SMART

Charging box Design-Cover

Customise your charging box to your taste with a design cover in black or white. With our freely usable 3D models in the Weidmüller online catalog, you can customize your design cover with a partner according to your wishes

EQ-W-S-C2-D-BK



EQ-W-S-C2-D-WH



Technical data

EQ-W-S-C2-D-BK		EQ-W-S-C2-D-WH	
Material	AM50CM SOLAR EG	Material	AM50CM SOLAR EG
Colour	black	Colour	white
Weight	0.87 GRM	Weight	0.87 GRM

EQ-W-S-C2-D-BK		EQ-W-S-C2-D-WH	
Note		Note	

Ordering data

EQ-W-S-C2-D-BK		EQ-W-S-C2-D-WH			
Type	Qty.	Order No.	Type	Qty.	Order No.
EQ-W-S-C2-D-BK	1	2958080000	EQ-W-S-C2-D-WH	1	2922620000
Note			Note		





Free-standing installation of charging points

The Weidmüller stand for more flexibility in charging solutions

Attractive and compact

Thanks to its compact and timeless design, the Weidmüller stand fits into any architectural environment. The housing surfaces offer space for individualization – for example with logos or company names.

F

High quality, robust and durable

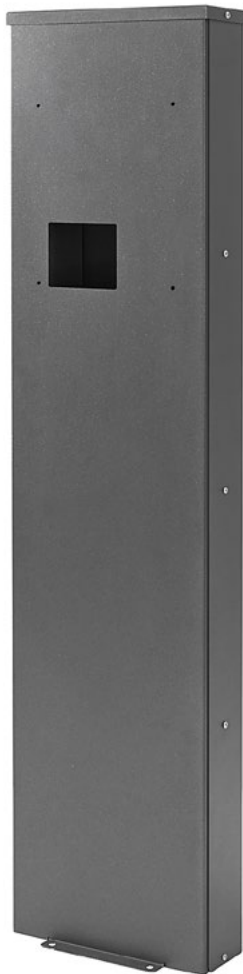
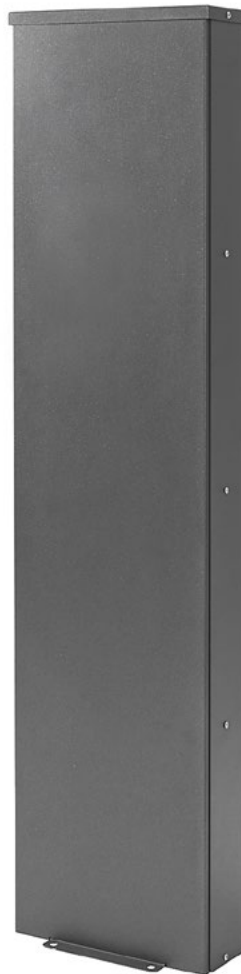
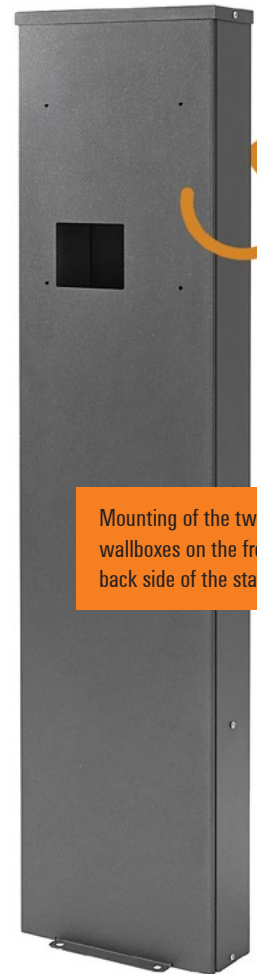
Premium components and materials, certified production in Germany, as well as the durable design with ease of installation, underline the sustainable concept of the charging solution.

Immediately ready for installation

The Weidmüller stand is supplied with all the necessary hole patterns and cable bushings. This means that it can be installed immediately at the intended location in order to be put into operation with the existing AC SMART charging box.



- High-quality construction with robust components and durable materials
- Corrosion resistant due to powder coated, galvanized steel sheets
- Easy assembly - even by one person
- Ready for installation with hole pattern for Weidmüller AC SMART charging solutions
- Optionally available without prefabricated hole pattern

ST-W-S-SINGLE**ST-W-S-BLANK****ST-W-S-DOUBLE**

Mounting of the two wallboxes on the front & back side of the stand

F**Ordering data**

Type	Description	Order No.
ST-W-S-SINGLE	Stand for 1 EV charging station AC SMART (Hole pattern prefabricated ex works)	2904100000

Type	Description	Order No.
ST-W-S-BLANK	Stand for 1 or 2 EV charging boxes (without hole pattern)	2904120000

Type	Description	Order No.
ST-W-S-DOUBLE	Stand for 2 charging boxes (Hole pattern prefabricated ex works)	2915210000

Load management with SMARTcharge

Simple and intelligent: load management system for your charging network

Set up, monitor & manage charging points simply

Depending on your requirements, SMARTcharge enables static or dynamic load management for up to 50 charging boxes from Weidmüller's AC SMART family. This is supported by the easy integration of a PV system.

F



- Simple commissioning without programming knowledge
- Clear monitoring and management options
- Ability to remotely control charging processes and charging power
- Convenient prioritisation of charging processes and charging stations
- Remote monitoring of the status of individual charging points
- Easy PV system integration



Quick installation thanks to the installation wizard

With the user-friendly installation wizard, you can connect and set up SMARTcharge in no time. Implement both static and dynamic load management very easily and without programming knowledge with our SMARTcharge product bundles. The installation wizard is already pre-installed upon delivery.

Convenient remote access

With remote control you'll always have everything under control with SMARTcharge – from a simple status query to the control or prioritisation of charging processes and charging stations. Start or stop charging remotely!



More information on our website:
www.weidmueller.com/smartcharge



Load Management with SMARTcharge

Load Management with SMARTcharge

The SMARTcharge load management tool enables intelligent distribution of the available electricity and ensures that electric vehicles are charged as quickly as possible. The user-friendly interface and installation wizard make it even easier to set up as well as control charging points and integrate a PV system. This means that the system is ready for use in no time at all and the surplus PV power can be used directly.

Technical data

Type of connection
Output voltage
Conductor cross-section, max.
Number of possible charging boxes connectable
Input current, max.
Integrated energy measuring MID conform
PV surplus charging possible
Prioritisation of charging processes possible via webinterface
Supported protocols
Charging boxes remote controllable via webinterface
Monitoring of charging processes possible via webinterface
User authentication
User authentication type
Load management integrated
Load management type
Ethernet ports
Installation
Operating temperature
Humidity
Approvals
Approvals
Note

Ordering data

Note

WM-SC-5



PUSH IN
24 V
2.5
5
Depending on current transformer
Yes
No
Yes
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
Approvals
RoHS, CE

Type	Qty.	Order No.
WM-SC-5	1	2923060000

WM-SC-15



PUSH IN
24 V
2.5
15
Depending on current transformer
Yes
No
Yes
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
Approvals
RoHS, CE

Type	Qty.	Order No.
WM-SC-15	1	2923050000



WM-SC-50



PUSH IN
24 V
2.5
50
Depending on current transformer
Yes
No
Yes
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
RoHS, CE

Type	Qty.	Order No.
WM-SC-50	1	2923070000



Load Management with SMARTcharge

Load Management with SMARTcharge

The SMARTcharge load management tool enables intelligent distribution of the available electricity and ensures that electric vehicles are charged as quickly as possible. The user-friendly interface and installation wizard make it even easier to set up as well as control charging points and integrate a PV system. This means that the system is ready for use in no time at all and the surplus PV power can be used directly.

Technical data

Type of connection
Output voltage
Conductor cross-section, max.
Number of possible charging boxes connectable
Input current, max.
Integrated energy measuring MID conform
PV surplus charging possible
Prioritisation of charging processes possible via webinterface
Radio technology
Supported protocols
Charging boxes remote controllable via webinterface
Monitoring of charging processes possible via webinterface
User authentication
User authentication type
Load management integrated
Load management type
Ethernet ports
Installation
Operating temperature
Humidity

Approvals

Approvals

Note

Ordering data

Note

WM-SC-LTE-5



PUSH IN
24 V
2.5
5
Depending on current transformer
Yes
No
Yes
4G / LTE
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
RoHS, CE

Type	Qty.	Order No.
WM-SC-LTE-5	1	2923080000

WM-SC-LTE-15



PUSH IN
24 V
2.5
15
Depending on current transformer
Yes
No
Yes
4G / LTE
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
RoHS, CE

Type	Qty.	Order No.
WM-SC-LTE-15	1	2923090000

WM-SC-LTE-50



PUSH IN
24 V
2.5
50
Depending on current transformer
Yes
No
Yes
4G / LTE
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
RoHS, CE

Type	Qty.	Order No.
WM-SC-LTE-50	1	2923100000



Load Management with SMARTcharge

Load Management with SMARTcharge

The SMARTcharge load management tool enables intelligent distribution of the available electricity and ensures that electric vehicles are charged as quickly as possible. The user-friendly interface and installation wizard make it even easier to set up as well as control charging points and integrate a PV system. This means that the system is ready for use in no time at all and the surplus PV power can be used directly.

Technical data

Type of connection
Output voltage
Conductor cross-section, max.
Number of possible charging boxes connectable
Input current, max.
Integrated energy measuring MID conform
PV surplus charging possible
Prioritisation of charging processes possible via webinterface
Supported protocols
Charging boxes remote controllable via webinterface
Monitoring of charging processes possible via webinterface
User authentication
User authentication type
Load management integrated
Load management type
Ethernet ports
Installation
Operating temperature
Humidity
Approvals
Approvals
Note

Ordering data

Note

WM-SC-PV-5



PUSH IN
24 V
2.5
5
Depending on current transformer
Yes
Yes
Yes
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
Approvals
RoHS, CE

Type	Qty.	Order No.
WM-SC-PV-5	1	2923120000

WM-SC-PV-15



PUSH IN
24 V
2.5
15
Depending on current transformer
Yes
Yes
Yes
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
Approvals
RoHS, CE

Type	Qty.	Order No.
WM-SC-PV-15	1	2923110000



WM-SC-PV-50



PUSH IN
24 V
2.5
50
Depending on current transformer
Yes
Yes
Yes
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
RoHS, CE

Type	Qty.	Order No.
WM-SC-PV-50	1	2923130000



Load Management with SMARTcharge

Load Management with SMARTcharge

The SMARTcharge load management tool enables intelligent distribution of the available electricity and ensures that electric vehicles are charged as quickly as possible. The user-friendly interface and installation wizard make it even easier to set up as well as control charging points and integrate a PV system. This means that the system is ready for use in no time at all and the surplus PV power can be used directly.

Technical data

Type of connection
Output voltage
Conductor cross-section, max.
Number of possible charging boxes connectable
Input current, max.
Integrated energy measuring MID conform
PV surplus charging possible
Prioritisation of charging processes possible via webinterface
Radio technology
Supported protocols
Charging boxes remote controllable via webinterface
Monitoring of charging processes possible via webinterface
User authentication
User authentication type
Load management integrated
Load management type
Ethernet ports
Installation
Operating temperature
Humidity

Approvals

Approvals

Note

Ordering data

Note

WM-SC-PV-LTE-5



PUSH IN

24 V

2.5

5

Depending on current transformer

Yes

Yes

Yes

4G / LTE

Modbus TCP

Yes

Yes

Yes

RFID/NFC, PLC-MAC

Yes

dynamic

2

DIN rail

-20 °C...55 °C

5 to 95 % (non-condensing)

RoHS, CE

Type	Qty.	Order No.
WM-SC-PV-LTE-5	1	2923140000

Note		
-------------	--	--

WM-SC-PV-LTE-15



PUSH IN

24 V

2.5

15

Depending on current transformer

Yes

Yes

Yes

4G / LTE

Modbus TCP

Yes

Yes

Yes

RFID/NFC, PLC-MAC

Yes

dynamic

2

DIN rail

-20 °C...55 °C

5 to 95 % (non-condensing)

RoHS, CE

Type	Qty.	Order No.
WM-SC-PV-LTE-15	1	2923150000

Note		
-------------	--	--

WM-SC-PV-LTE-50



PUSH IN
24 V
2.5
50
Depending on current transformer
Yes
Yes
Yes
4G / LTE
Modbus TCP
Yes
Yes
Yes
RFID/NFC, PLC-MAC
Yes
dynamic
2
DIN rail
-20 °C...55 °C
5 to 95 % (non-condensing)
RoHS, CE

Type	Qty.	Order No.
WM-SC-PV-LTE-50	1	2923160000



The basic range for individual solutions and concepts

Components for the charging infrastructure

Safe against external influences

The charging cables meet the requirements of protection class IP55. This means they can also be used safely and reliably outdoors to charge an electric car.

F

High diversity of variants

The Weidmüller charging cables are available in different versions in terms of length and charging power. Our AC charging cables are also available in a spiralized version.

Preassembled cable end

All charging cables with open end are completely preassembled, i.e. stripped, bared and crimped as well as marked according to conductor function. This means that the charging cables are immediately ready for connection in the target application.





AC charging cables

The Mode 3 charging cables with ergonomic handle design offer charging comfort of the highest quality. Robust and durable in every respect: the housing is dirt and water repellent, shock and impact resistant as well as cold and heat resistant. Available in different lengths, in straight and spiral form, for 1- or 3-phase charging.

CA-T2T1-5M-7.4/1p-R-BBG



CA-T2T1-7.5M-7.4/1p-R-BBG



Technical data

Short description	
Cable length	5 m
Cable type	regular
Cable colour	black
Connection type - charging point	Type 2
Connection type - vehicle	Type 1
Plug colour	black, dark grey
Charging power, max.	7.4 kW
Rated voltage (AC)	250 V
Rated current	32 A
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Protection degree	IP54
Diameter	13.7 mm
Humidity at storage temperature	5 - 95% rel. humidity
Operating temperature	-30 °C...50 °C
Weight	2310 GRM
Approvals	IEC 62196-1, IEC 62196-2, EN 50620
Note	

AC charging cable, Connection type - charging point: Type 2, Connection type - vehicle: Type 1, Charging power, max.: 7.4 kW, Number of phases: 1, Rated current: 32 A, Cable length: 5 m, Cable type: regular	
5 m	
regular	
black	
Type 2	
Type 1	
black, dark grey	
7.4 kW	
250 V	
32 A	
Control Pilot (CP), Proximity Pilot / Plug Present (PP)	
IP54	
13.7 mm	
5 - 95% rel. humidity	
-30 °C...50 °C	
2310 GRM	
IEC 62196-1, IEC 62196-2, EN 50620	

AC charging cable, Connection type - charging point: Type 2, Connection type - vehicle: Type 1, Charging power, max.: 7.4 kW, Number of phases: 1, Rated current: 32 A, Cable length: 7.5 m, Cable type: regular	
7.5 m	
regular	
black	
Type 2	
Type 1	
black, dark grey	
7.4 kW	
250 V	
32 A	
Control Pilot (CP), Proximity Pilot / Plug Present (PP)	
IP54	
13.7 mm	
5 - 95% rel. humidity	
-30 °C...55 °C	
3060 GRM	
IEC 62196-1, IEC 62196-2, EN 50620	

Ordering data

Type	Qty.	Order No.
CA-T2T1-5M-7.4/1P-R-BBG	1	2724920000
Note		

Type	Qty.	Order No.
CA-T2T1-5M-7.4/1P-R-BBG	1	2724920000

Type	Qty.	Order No.
CA-T2T1-7.5M-7.4/1P-R-BBG	1	2791360000



CA-T2T2-5M-11/3p-R-BBG



AC charging cable, Connection type - charging point: Type 2, Connection type - vehicle: Type 2, Charging power, max.: 11 kW, Number of phases: 3, Rated current: 20 A, Cable length: 5 m, Cable type: regular

5 m
regular
black
Type 2
Type 2
black, dark grey
11 kW
480 V
20 A
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
IP54
13.7 mm
5 - 95% rel. humidity
-30 °C...50 °C
2160 GRM
IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2T2-5M-11/3P-R-BBG	1	2754380000

CA-T2T2-5M-11/3p-S-BBG



AC charging cable, Connection type - charging point: Type 2, Connection type - vehicle: Type 2, Charging power, max.: 11 kW, Number of phases: 3, Rated current: 20 A, Cable length: 5 m, Cable type: spiral

5 m
spiral
black
Type 2
Type 2
black, dark grey
11 kW
480 V
20 A
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
IP54
13.7 mm
5 - 95% rel. humidity
-30 °C...50 °C
2160 GRM
IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2T2-5M-11/3P-S-BBG	1	2713330000

CA-T2T2-7.5M-11/3p-R-BBG



AC charging cable, Connection type - charging point: Type 2, Connection type - vehicle: Type 2, Charging power, max.: 11 kW, Number of phases: 3, Rated current: 20 A, Cable length: 7.5 m, Cable type: regular

7.5 m
regular
black
Type 2
Type 2
black, dark grey
11 kW
480 V
20 A
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
IP54
13.7 mm
5 - 95% rel. humidity
-30 °C...55 °C
2860 GRM
IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2T2-7.5M-11/3P-R-BBG	1	2791320000



AC charging cables

The Mode 3 charging cables with ergonomic handle design offer charging comfort of the highest quality. Robust and durable in every respect: the housing is dirt and water repellent, shock and impact resistant as well as cold and heat resistant. Available in different lengths, in straight and spiral form, for 1- or 3-phase charging.

CA-T2T2-10M-11/3p-R-BBG



CA-T2T2-5M-22/3p-R-BBG



Technical data

Short description	
Cable length	
Cable type	
Cable colour	
Connection type - charging point	
Connection type - vehicle	
Plug colour	
Charging power, max.	
Rated voltage (AC)	
Rated current	
Type of communication to vehicle	
Protection degree	
Diameter	
Humidity at storage temperature	
Operating temperature	
Weight	
Approvals	
Note	

AC charging cable, Connection type - charging point: Type 2, Connection type - vehicle: Type 2, Charging power, max.: 11 kW, Number of phases: 3, Rated current: 20 A, Cable length: 10 m, Cable type: regular
10 m
regular
black
Type 2
Type 2
black, dark grey
11 kW
480 V
20 A
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
IP54
13.7 mm
5 - 95% rel. humidity
-30 °C...55 °C
3560 GRM
IEC 62196-1, IEC 62196-2, EN 50620

AC charging cable, Connection type - charging point: Type 2, Connection type - vehicle: Type 2, Charging power, max.: 22 kW, Number of phases: 3, Rated current: 32 A, Cable length: 5 m, Cable type: regular
5 m
regular
black
Type 2
Type 2
black, dark grey
22 kW
480 V
32 A
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
IP54
16.8 mm
5 - 95% rel. humidity
-30 °C...50 °C
3380 GRM
IEC 62196-1, IEC 62196-2, EN 50620

Ordering data

Note

Type	Qty.	Order No.
CA-T2T2-10M-11/3-R-BBG	1	2791330000

Type	Qty.	Order No.
CA-T2T2-5M-22/3P-R-BBG	1	2754390000

F



CA-T2T2-5M-22/3p-S-BBG



AC charging cable, Connection type - charging point: Type 2,
 Connection type - vehicle: Type 2, Charging power, max.: 22 kW,
 Number of phases: 3, Rated current: 32 A, Cable length: 5 m, Cable
 type: spiral

5 m
 spiral
 black
 Type 2
 Type 2
 black, dark grey
 22 kW
 480 V
 32 A
 Control Pilot (CP), Proximity Pilot / Plug Present (PP)
 IP54
 16.8 mm
 5 - 95% rel. humidity
 -30 °C...50 °C
 3380 GRM
 IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2T2-5M-22/3P-S-BBG	1	2754410000

CA-T2T2-7.5M-22/3p-R-BBG



AC charging cable, Connection type - charging point: Type 2,
 Connection type - vehicle: Type 2, Charging power, max.: 22 kW,
 Number of phases: 3, Rated current: 32 A, Cable length: 7.5 m, Cable
 type: regular

7.5 m
 regular
 black
 Type 2
 Type 2
 black, dark grey
 22 kW
 480 V
 32 A
 Control Pilot (CP), Proximity Pilot / Plug Present (PP)
 IP54
 16.8 mm
 5 - 95% rel. humidity
 -30 °C...55 °C
 4580 GRM
 IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2T2-7.5M-22/3-R-BBG	1	2791300000

CA-T2T2-10M-22/3p-R-BBG



AC charging cable, Connection type - charging point: Type 2,
 Connection type - vehicle: Type 2, Charging power, max.: 22 kW,
 Number of phases: 3, Rated current: 32 A, Cable length: 10 m, Cable
 type: regular

10 m
 regular
 black
 Type 2
 Type 2
 black, dark grey
 22 kW
 480 V
 32 A
 Control Pilot (CP), Proximity Pilot / Plug Present (PP)
 IP54
 16.8 mm
 5 - 95% rel. humidity
 -30 °C...55 °C
 3500 GRM
 IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2T2-10M-22/3-R-BBG	1	2791310000



AC charging cables

Die Mode 3-Ladekabel mit ergonomischer Griffgestaltung bieten einen Ladekomfort höchster Güte. Robust und langlebig in jeder Hinsicht: Das Gehäuse ist schmutz- und wasserabweisend, stoß- und schlagfest sowie kälte- und hitzeresistent. Verfügbar in unterschiedlichen Längen, in gerader und spiralisierter Form, mit Typ 2 Stecker auf der Autoseite und mit offenem Leitungsende (abisoliert und gekrimpt) für den Anschluss in der Ladestation.

CA-T2WB-5.5M-22/3P-R-BBG



CA-T2WB-5.5M-22/3P-S-BBG



Technical data

Short description	
Cable length	5.5 m
Cable type	regular
Cable colour	black
Connection type - charging point	free conductor end
Connection type - vehicle	Type 2
Plug colour	black, dark grey
Charging power, max.	22 kW
Rated voltage (AC)	480 V
Rated current	32 A
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Protection degree	IP54
Diameter	16.8 mm
Humidity at storage temperature	5 - 95% rel. humidity
Operating temperature	-30 °C...55 °C
Weight	3500 GRM
Approvals	IEC 62196-1, IEC 62196-2, EN 50620
Note	

AC charging cable, Connection type - charging point: free conductor end, Connection type - vehicle: Type 2, Charging power, max.: 22 kW, Number of phases: 3, Rated current: 32 A, Cable length: 5.5 m, Cable type: regular		
Cable length	Qty.	Order No.
5.5 m	1	2791340000

AC charging cable, Connection type - charging point: free conductor end, Connection type - vehicle: Type 2, Charging power, max.: 22 kW, Number of phases: 3, Rated current: 32 A, Cable length: 5.5 m, Cable type: spiral		
Cable length	Qty.	Order No.
5.5 m	1	2828260000

Ordering data

Note		

Type	Qty.	Order No.
CA-T2WB-5.5M-22/3P-R-BBG	1	2791340000

Type	Qty.	Order No.
CA-T2WB-5.5M-22/3P-S-BBG	1	2828260000



CA-T2WB-7.5M-22/3p-R-BBG



AC charging cable, Connection type - charging point: free conductor end, Connection type - vehicle: Type 2, Charging power, max.: 22 kW, Number of phases: 3, Rated current: 32 A, Cable length: 7.5 m, Cable type: regular

7.5 m

regular

black

free conductor end

Type 2

black, dark grey

22 kW

480 V

32 A

Control Pilot (CP), Proximity Pilot / Plug Present (PP)

IP55 with protection cap

16.8 mm

5 - 95% rel. humidity

-30 °C...50 °C

6500 GRM

IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2WB-7.5M-22/3P-R-BBG	1	2828220000

CA-T2WB-7.5M-22/3p-S-BBG



AC charging cable, Connection type - charging point: free conductor end, Connection type - vehicle: Type 2, Charging power, max.: 22 kW, Number of phases: 3, Rated current: 32 A, Cable length: 7.5 m, Cable type: spiral

7.5 m

spiral

black

free conductor end

Type 2

black, dark grey

22 kW

480 V

32 A

Control Pilot (CP), Proximity Pilot / Plug Present (PP)

IP55 with protection cap

16.8 mm

5 - 95% rel. humidity

-30 °C...50 °C

2860 GRM

IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2WB-7.5M-22/3P-S-BBG	1	2828280000

CA-T2WB-10M-22/3p-R-BBG



AC charging cable, Connection type - charging point: free conductor end, Connection type - vehicle: Type 2, Charging power, max.: 22 kW, Number of phases: 3, Rated current: 32 A, Cable length: 10 m, Cable type: regular

10 m

regular

black

free conductor end

Type 2

black, dark grey

22 kW

480 V

32 A

Control Pilot (CP), Proximity Pilot / Plug Present (PP)

IP55 with protection cap

16.8 mm

5 - 95% rel. humidity

-30 °C...50 °C

6500 GRM

IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2WB-10M-22/3P-R-BBG	1	2828240000



AC & DC charging cables

AC charging cables

Die Mode 3-Ladekabel mit ergonomischer Griffgestaltung bieten einen Ladekomfort höchster Güte. Robust und langlebig in jeder Hinsicht: Das Gehäuse ist schmutz- und wasserabweisend, stoß- und schlagfest sowie kälte- und hitzeresistent. Verfügbar in unterschiedlichen Längen, in gerader und spiralisierter Form, mit Typ 2 Stecker auf der Autoseite und mit offenem Leitungsende (abisoliert und gekrimpt) für den Anschluss in der Ladestation.

Technical data

Short description	
Cable length	5.5 m
Cable type	spiral
Cable colour	black
Connection type - charging point	free conductor end
Connection type - vehicle	Type 2
Plug colour	black, dark grey
Charging power, max.	7.4 kW
Rated voltage (AC)	400 V
Rated current	32 A
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Protection degree	IP54
Diameter	13.7 mm
Humidity at storage temperature	5 - 95% rel. humidity
Operating temperature	-30 °C...55 °C
Weight	3500 GRM
Approvals	IEC 62196-1, IEC 62196-2, EN 50620
Note	

Ordering data

Type	Qty.	Order No.
CA-T2WB-5.5M-7.4/1P-S-BBG	1	2861560000
Note		

CA-T2WB-5.5M-7.4/1P-S-BBG



Short description	AC charging cable, Connection type - charging point: free conductor end, Connection type - vehicle: Type 2, Charging power, max.: 7.4 kW, Number of phases: 1, Rated current: 32 A, Cable length: 5.5 m, Cable type: spiral
Cable length	5.5 m
Cable type	spiral
Cable colour	black
Connection type - charging point	free conductor end
Connection type - vehicle	Type 2
Plug colour	black, dark grey
Charging power, max.	7.4 kW
Rated voltage (AC)	400 V
Rated current	32 A
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Protection degree	IP54
Diameter	13.7 mm
Humidity at storage temperature	5 - 95% rel. humidity
Operating temperature	-30 °C...55 °C
Weight	3500 GRM
Approvals	IEC 62196-1, IEC 62196-2, EN 50620
Note	

Type	Qty.	Order No.
CA-T2WB-5.5M-7.4/1P-S-BBG	1	2861560000
Note		

CA-T2WB-5.5M-7.4/1P-R-BBG



Short description	AC charging cable, Connection type - charging point: free conductor end, Connection type - vehicle: Type 2, Charging power, max.: 7.4 kW, Number of phases: 1, Rated current: 32 A, Cable length: 5.5 m, Cable type: regular
Cable length	5.5 m
Cable type	regular
Cable colour	black
Connection type - charging point	free conductor end
Connection type - vehicle	Type 2
Plug colour	black, dark grey
Charging power, max.	7.4 kW
Rated voltage (AC)	400 V
Rated current	32 A
Type of communication to vehicle	Control Pilot (CP), Proximity Pilot / Plug Present (PP)
Protection degree	IP54
Diameter	13.7 mm
Humidity at storage temperature	5 - 95% rel. humidity
Operating temperature	-30 °C...55 °C
Weight	3560 GRM
Approvals	IEC 62196-1, IEC 62196-2, EN 50620
Note	

Type	Qty.	Order No.
CA-T2WB-5.5M-7.4/1P-R-BBG	1	2861570000
Note		

CA-T2WB-10M-7.4/1p-R-BBG



AC charging cable, Connection type - charging point: free conductor end, Connection type - vehicle: Type 2, Charging power, max.: 7.4 kW, Number of phases: , Rated current: 32 A, Cable length: ,

regular
black
free conductor end
Type 2
black, dark grey
7.4 kW
400 V
32 A
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
IP54
13.7 mm
5 - 95% rel. humidity
-30 °C...55 °C
3560 GRM
IEC 62196-1, IEC 62196-2, EN 50620

Type	Qty.	Order No.
CA-T2WB-10M-7.4/1P-R-BBG	1	2861580000



DC Charging cables

The CCS2 fast charging cables (combined charging system) are used for direct current charging of electric vehicles. They are fitted with an ergonomically designed CCS2 plug on the vehicle side. The charging station side is already pre-assembled for connection. The charging cables feature temperature monitoring to protect against overheating and damage.

CA-CCS2WB-5/7.5M-80A-DC-R-BB 1



CA-CCS2WB-5/7.5M-125A-DC-R-BB 2



Technical data

Short description	
Charge mode	
Cable type	
Cable length	
Charging power, max.	
Rated current	
Rated voltage (DC)	
Connection type - charging point	
Connection type - vehicle	
Type of communication to vehicle	
Protection degree	
Operating temperature	
Cable colour	
Type of temperature monitoring of the charging cable	
Number of of temperature sensors of the charging cable	
Humidity at storage temperature	
Weight	
Approvals	
Note	

DC charging cable, connection type - charging point: free conductor end, Connection type - vehicle: CCS2, charging power max.: 80 kW, cable length: 5 m / 7.5 m, cable type: straight, protection degree: IP55
Mode 4
regular
5 m / 7.5 m
80 kW
80 A
1000 V
free conductor end
CCS2
Control Pilot (CP), Proximity Pilot / Plug Present (PP)
IP55
-30...50 °C
black
Pt 1000
2
5 - 95% rel. humidity
5500 GRM
IEC 62196-3-2016
TÜV
CE
RoHS / REACH
Note

DC charging cable, connection type - charging point: free conductor end, Connection type - vehicle: CCS2, charging power max.: 125 kW, cable length: 5 m / 7.5 m, cable type: straight, protection degree: IP55
Mode 4
regular
5 m / 7.5 m
125 kW
125 A
1000 V
free conductor end
CCS2
Proximity Pilot / Plug Present (PP), Control Pilot (CP)
IP55
-30...50 °C
black
Pt 1000
2
5 - 95% rel. humidity
8000 GRM
IEC 62196-3-2016
TÜV
CE
RoHS / REACH
Note

Ordering data

Note

Type	Qty.	Order No.
CA-CCS2WB-5M-80A-DC-R-BB	1	2986180000
CA-CCS2WB-7.5M-80A-DC-R-BB	1	3011050000

Type	Qty.	Order No.
CA-CCS2WB-5M-125A-DC-R-BB	1	3011160000
CA-CCS2WB-7.5M-125A-DC-R-BB	1	3011150000



CA-CCS2WB-5/7.5M-150A-DC-R-BB 3



DC charging cable, connection type - charging point: free conductor end, Connection type - vehicle: CCS2, charging power max.: 150 kW, cable length: 5 m / 7.5 m, cable type: straight, protection degree: IP55

Mode 4

regular

5 m / 7.5 m

150 kW

150 A

1000 V

free conductor end

CCS2

Control Pilot (CP), Proximity Pilot / Plug Present (PP)

IP55

-30...50 °C

black

Pt 1000

2

5 - 95% rel. humidity

9500 GRM

IEC 62196-3-2016

TÜV

CE

RoHS / REACH

Type	Qty.	Order No.
CA-CCS2WB-5M-150A-DC-R-BB	1	3011250000
CA-CCS2WB-7.5M-150A-DC-R-BB	1	3011210000

CA-CCS2WB-5/7.5M-200A-DC-R-BB 4



DC charging cable, connection type - charging point: free conductor end, Connection type - vehicle: CCS2, charging power max.: 200 kW, cable length: 5 m / 7.5 m, cable type: straight, protection degree: IP55

Mode 4

regular

5 m / 7.5 m

200 kW

200 A

1000 V

free conductor end

CCS2

Proximity Pilot / Plug Present (PP), Control Pilot (CP)

IP55

-30...50 °C

black

Pt 1000

2

5 - 95% rel. humidity

11000 GRM

IEC 62196-3-2016

TÜV

CE

RoHS / REACH

Type	Qty.	Order No.
CA-CCS2WB-5M-200A-DC-R-BB	1	3011240000
CA-CCS2WB-7.5M-200A-DC-R-BB	1	3011200000



DC Charging cables

The CCS2 fast charging cables (combined charging system) are used for direct current charging of electric vehicles. They are fitted with an ergonomically designed CCS2 plug on the vehicle side. The charging station side is already pre-assembled for connection. The charging cables feature temperature monitoring to protect against overheating and damage.

CA-CCS2WB-5/7.5M-250A-DC-R-BB 5



CA-CCS2WB-5/7.5M-300A-DC-R-BB 6



Technical data

Short description

- Charge mode
- Cable type
- Cable length
- Charging power, max.
- Rated current
- Rated voltage (DC)
- Connection type - charging point
- Connection type - vehicle
- Type of communication to vehicle
- Protection degree
- Operating temperature
- Cable colour
- Type of temperature monitoring of the charging cable
- Number of of temperature sensors of the charging cable
- Humidity at storage temperature
- Weight
- Approvals

DC charging cable, connection type - charging point: free conductor end, Connection type - vehicle: CCS2, charging power max.: 250 kW, cable length: 5 m / 7.5 m, cable type: straight, protection degree: IP55
 Mode 4
 regular
 5 m / 7.5 m
 250 kW
 250 A
 1000 V
 free conductor end
 CCS2
 Proximity Pilot / Plug Present (PP), Control Pilot (CP)
 IP55
 -30...50 °C
 black
 Pt 1000
 2
 5 - 95% rel. humidity
 13300 GRM
 IEC 62196-3-2016
 TÜV
 CE
 RoHS / REACH

DC charging cable, connection type - charging point: free conductor end, Connection type - vehicle: CCS2, charging power max.: 300 kW, cable length: 5 m / 7.5 m, cable type: straight, protection degree: IP55
 Mode 4
 regular
 5 m / 7.5 m
 300 kW
 300 A
 1000 V
 free conductor end
 CCS2
 Proximity Pilot / Plug Present (PP), Control Pilot (CP)
 IP55
 -30...50 °C
 black
 Pt 1000
 2
 5 - 95% rel. humidity
 16200 GRM
 IEC 62196-3-2016
 TÜV
 CE
 RoHS / REACH

Note

Ordering data

Note

Type	Qty.	Order No.
CA-CCS2WB-5M-250A-DC-R-BB	1	3011230000
CA-CCS2WB-7.5M-250A-DC-R-BB	1	3011190000

Type	Qty.	Order No.
CA-CCS2WB-5M-300A-DC-R-BB	1	3011220000
CA-CCS2WB-7.5M-300A-DC-R-BB	1	3011180000



Service for e-mobility

Take advantage of our comprehensive support offer for charging infrastructure from Weidmüller. Whenever you need support with the use or installation of Weidmüller charging solutions, you will find all the information you need here, whether video tutorials, downloads or manuals.



To the service area for electromobility:

www.weidmueller.com/e-mobility-service

Accurate, reliable and cost-effective energy measurement

Universal meters with direct display in a modern design

BasicLine is the measuring device portfolio for the cost-effective acquisition of basic electrical parameters in low-voltage power networks.

The devices will measure and display all the fundamental electrical parameters in a LCD. The portfolio includes devices for one- or three-phase measurement. It is mounted on a DIN rail or in the front panel. Several current measurement versions are available: either for 1A/5A current transformers or for direct current measurement up to 100A. Depending on the version, the measuring devices have an integrated Ethernet or RS485 interface

Your special advantages:

- Simple and reliable measurement of the basic electrical parameters of an AC system
- In addition to measurement via current transformers, direct current measurement up to 100A is also possible
- Bi-directional measurement for kW and kWh
- Complies to the requirement of class 1 active energy measurement and conforms to IEC 62053-21 standards



Type	EM120-RTU-2P	EM122-RTU-2P
Order No.	7760051004	7760051003
Type of mounting	DIN rail	DIN rail
Display	LCD	LCD
Technical Characteristics		
Measuring range, Voltage L-N, AC (without transducer)	138...276 V	138...276 V
Measuring range, Voltage L-L, AC (without transducer)	240...480 V	240...480 V
Overvoltage category	CAT III	CAT III
Power supply voltage	85...275 V AC	138...276 V
Two wire	-	-
Three wire	•	•
Four wire	•	•
Measurement accuracy for active energy (kWh, .../5 A)	Class 0.5	Class 0.5
Measuring accuracy for voltage	0,5 %	0,5 %
Measuring accuracy for current	0,5 %	0,5 %
Number of digital inputs	-	-
Number of digital outputs	-	-
Number of pulse outputs	2	2
Current measurement channel	3	3
Interfaces		
RS485	•	•
Ethernet	-	-
Protocols		
Modbus RTU	•	•
Modbus-Gateway	-	-

Service and support

Service and support	Service connects - worldwide	V.2
	Engineering services and customised products	V.3
	easyConnect - Your Industrial Service Platform	V.4
	Support Center	V.6
	Additional support services	V.7
	Weidmüller Configurator: intuitive, uncomplicated & fast digital engineering	V.8
	Your digital ordering options at Weidmüller	V.10

Our expertise for your requirements

Service connects – worldwide



Automation technology functions are becoming more complex in a globally-oriented world facing ambitious targets in terms of energy efficiency and smart production. We are your equal partners for the best connections in Industrial Connectivity.

Our personal support answers all questions reliably and expertly. During planning, installation or operation our service and support offer is your best companion.

In short: Weidmüller's global service combines our expertise with your requirements.

V



Your way to our service
www.weidmueller.com/service

Engineering services and customised products

Automation engineering and connectivity consulting belongs to our services as well as assembly of engineered products. We also support the process from the idea to the product with our Weidmüller Configurator and the Configure-to-Order process.



Consulting and engineering

The challenge for you is reducing costs and increasing efficiency. This requires intelligent, individual solutions. Whether it is modified products, pre-fitted mounting rails or complete small cabinets – our application centres provide a highly qualified custom-made engineering and production service.



Connectivity Consulting

Increase your competitiveness - supported by our experts. Our drive is to optimise your competitiveness. That's why our team of experts supports you in significantly increasing your efficiency in electrical machine design and control cabinet construction. With proven products and services from the Weidmüller portfolio – and with the experience gained from over 300 projects worldwide.



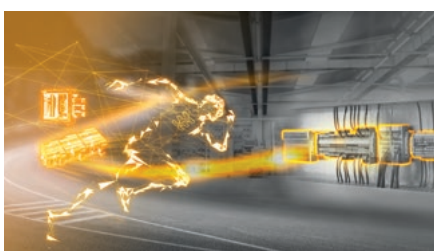
Assembled terminal rails - Flexibly designed to suit your requirements

Your processes in panel building have to be fast, flexible and productive. This is the only way you can cut your costs and increase efficiency. Depending on the application in question, you will have different requirements with respect to the engineering service, delivery speed and flexibility to be provided.



Modified and assembled enclosures - Competitive advantages included

To compete internationally, your plants need to satisfy high standards of safety, quality and performance. The smart combination of consultation, application expertise and industry know-how is our key to finding a custom-fit solution for your application. Reduce costs and increase efficiency.



Fast Delivery Service - Your ideas deserve a quick realisation

Obtain offers 24/7 and within minutes, including directly orderable article numbers with our Fast Delivery Service. The Weidmüller Configurator (WMC) for planning and configuration is key for consistent processes. Dispatch your orders in 5 days. Assemble individual terminal strips and enclosures from batch size 1!

Your ticket to the world of digital service

easyConnect – Your Industrial Service Platform



Our cloud-based platform is your ticket to the world of digital services from Weidmüller, and the intuitive and future-proof tool for your way to the Industrial IoT. Realise your use cases easily, consistently and without any relevant prior knowledge, thanks to the perfect interaction of platform, devices and diverse software services.

As an open, modular and perfectly integrable system, the platform is your enabler for a wide range of use cases. Increase your efficiency and unleash your full innovation potential with easyConnect.

V



Interested in using easyConnect?

Learn how to get started with easyConnect step-by-step.

www.weidmueller.com/easyconnect

Why should you use easyConnect?

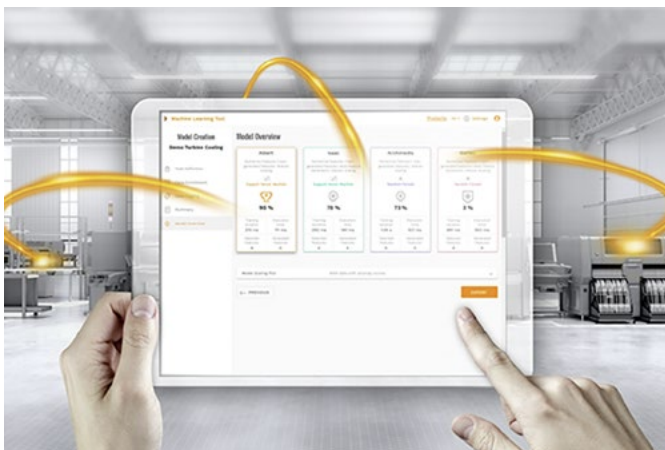
- You want to enter your digital transformation step-by-step?
- You want to make the step into Industrial IOT, but have no or little IT expertise?
- You want to use your digital data for smart & scalable services?
- You want to offer digital services (such as customised dashboard) to your customers?
- You want to improve your service offering and efficiency, e.g. through remote access?
- You feel Weidmüller's digital services are interesting, but you have „your cloud“ already?



Weidmüller comes up with the solution: easyConnect, the new digitalisation platform. It bundles Weidmüller's digital services at one place in the cloud and connects them with various Weidmüller devices.

With easyConnect you start digitalising your application step-by-step without ballast in a secure way.

The following services are initially available on easyConnect:



Device management

Adding and managing cloud-connected devices is typically the first step in any Industrial IoT use case.

Asset management

The asset management service is a modelling tool that allows users to model their assets and processes and link them to relevant time series data.

Remote access (u-link)

u-link guarantees a quick and secure access to machines and plants while also allowing for efficient management.

Data visualisation

easyConnect data visualisation services enable users to view, monitor and display live and historical data.

AutoML

With Weidmüller Industrial AutoML, you can optimize operations, increase product quality and develop new business models by benefiting from advanced analytics.

Expand the possibilities of our products

Our Support Center provides you with comprehensive, clear and personal assistance



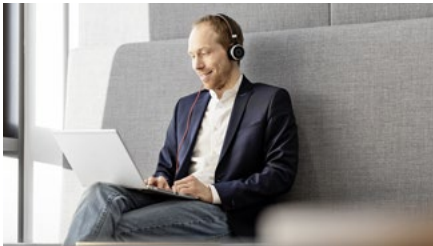
Receive fast and intuitive support to get the most out of our products in your application. In our new Support Center you can search or navigate to the many application notes, product information, video tutorials or software downloads of our products.

- **Everything at a glance** – One central support hub, where all relevant information is available
- **Powerful search** – Provides filter functions for various types of information and products
- **Different views and navigations** – Content provided in views product information, engineering support or software downloads
- **More than 170,000 downloads** – Application notes, video tutorials, templates and examples, user documentation, engineering data, ...
- **Personal contact** – Direct access to your personal technical contact in your country



Explore the world of our new Support Center
support.weidmueller.com

Additional support services



Training and Webinars

Stay tuned in a world that is accelerating. In our entertaining interactive webinars, we offer you the opportunity to learn about new products and technology topics and to interact with our experts.



Repairs and replacement parts

We offer repair and components for our Workplace Solutions as well as assistance for other Weidmüller products. Find out how our experts can help you with your repair request.



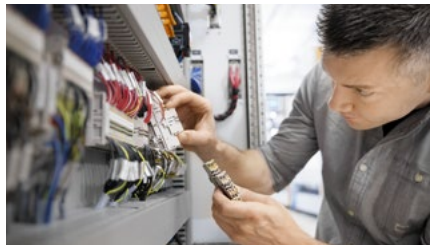
Security advisory board

Our Product Security Incident Response Team (PSIRT) continuously informs you about possible security-related vulnerabilities of our products.



Engineering data

For the quick integration of our products into your design, there are a lot of digital product data for engineering systems like EPLAN, Zuken E3.series, WSCAD and many others available for download.



Product change notifications

Technical modifications of our products always available online.



Technical product catalogues

Technical data for our entire program in Industrial Connectivity for download in PDF-format.

From the idea to the finished solution

Weidmüller Configurator: intuitive, uncomplicated & fast digital engineering

Digital engineering can be so easy – with the Weidmüller Configurator!

It's a **free to use** software application to easily configure industrial solutions. It features more than **12,000 articles** from multiple product families including rail-mounted components, industrial and ex-certified enclosures, Heavy Duty Connectors, remote I/O-systems and PCB connectors.

Unleash the full power of digital engineering:

Our application wizards help you choose the right articles.

Place, mark or modify them to your needs and get your solution **visualized in 3D** – what you see is what you get!

Our promise: Speed up your solution planning process by up to 70%!

Your benefits:

- **Proven configuration designs in real 3D:** The plausibility and collision check with the complete digital documentation ensures that you can rely 100% on your configuration.
- **Seamless E-CAD Roundtrip:** Interfaces enable the simple exchange of product data between the WMC and all common engineering tools, such as Zuken E3 or EPLAN Electric P8.
- **Sample Service & Fast Delivery Service:** to support your design-in process, we offer a **3-day sample service** for many products. Inquire them directly online – for free!
You want your solution right away? Our **Fast Delivery Service** guarantees delivery of individually assembled terminal strips or enclosures within a few days.

Get started online now!

The Weidmüller Configurator makes solution planning easy. Visit our website for more information, tutorials and download it for free:



www.weidmueller.com/wmc

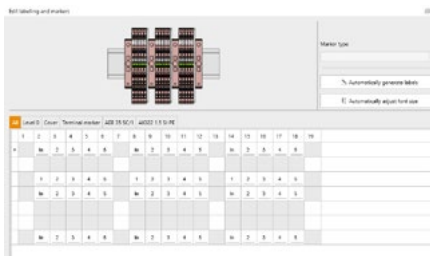


or register on easyconnect.weidmueller.com and use it online.



Wizards:

Design complete applications within few clicks – even without detailed product knowledge – for signal wiring, load monitoring, instrument transformers, enclosures, remote I/O-systems and many more.



Assistants:

Finalize your solutions with supporting assistants to add cross-connectors, markers or colors and verify the faultlessness. Automatic modes save valuable time!



1-click documentation:

Get assembly drawings for production – only 1 click. Bill of material – only 1 click. The complete solution documentation including all component data sheets – you’re right, only 1 click!



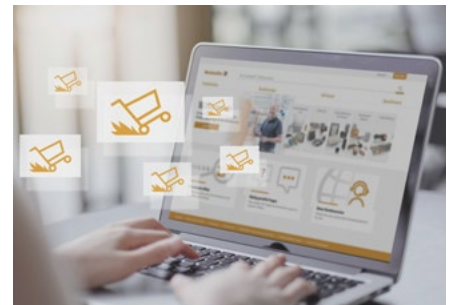
Digital ordering options

Your digital ordering options at Weidmüller

Find and easily select the products you need, with convenient ordering: as your Partner in Industrial Connectivity, we know what counts in purchasing. That is why we offer you a variety of options for ordering products from us and optimising your purchasing processes to meet your individual requirements and your workflow. The choice is yours.

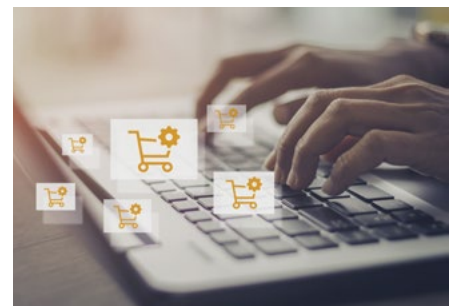
Order via the Weidmüller eShop

Our eShop offers you access to the complete Weidmüller product range around the clock – directly from a PC, tablet, or smartphone. The intuitive user guidance supports you as you select from over 50,000 products. Technical data, prices, and availabilities are available at any time. The shopping basket with check out function lets you place an order in seconds. Convenient additional functions like CSV upload, order history, reports, or custom order templates make your ordering processes even more efficient.



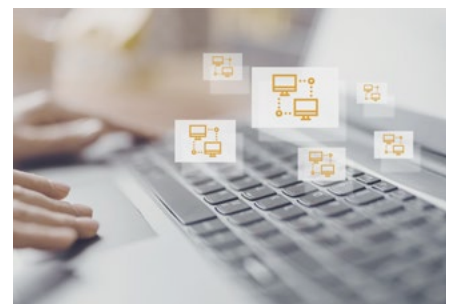
Order via the OCI interface

The Open Catalogue Interface (OCI) facilitates the exchange of data between your enterprise resource planning system and our eShop. This means that our eShop is integrated into your system via an OCI interface, so you have access to our complete product catalogue from your enterprise resource planning system. You can filter and select products, place them in your shopping basket and place direct orders without changing your software application. The open OCI standard is supported worldwide from a variety of software providers.



Order via the EDI interface

Our Electronic Data Interchange (EDI) also offers you the option of ordering our products directly from your enterprise resource planning system. All order data is transmitted automatically to our system and processed immediately. Orders, order confirmations, invoices, and delivery notices are transmitted lightning fast. This helps you make your purchasing processes even more efficient.



We will be glad to advise you on which solutions are suitable for you and how implementation is possible.

Get in touch with us

www.weidmueller.com/digital-order

Index

Index	Index Type	X.2
	Index Order No.	X.6
	Addresses worldwide	X.10

Type	Order No.	Page
------	-----------	------

A

A2C 1.5	1552790000	D.12
A2C 2.5	1521850000	C.32
A2C 2.5	1521850000	D.12
A2C 3.5	2551510000	C.32
A2C 35 BL	2552090000	C.32
A2C 35 PE	2551520000	C.32
A2C 4	2051180000	C.32
A2C 50/70	2663250000	C.32
A2C 50/70 BL	2663260000	C.32
A2C 50/70 PE	2663280000	C.32
A2T 1.5	2469370000	C.32
A2T 2.5	1547610000	C.32
A2T 2.5 3C	2531290000	C.32
A2T 2.5 DT/DT	2744110000	C.32
A3C 1.5	1552740000	D.12
A3C 2.5	1521740000	C.32
A3C 2.5	1521740000	D.12
A3C 4	2051240000	C.32
A3C 4 PE	2051410000	C.32
A4C 1.5	1552690000	D.12
A4C 2.5	1521690000	C.32
A4C 2.5 PE	1521540000	C.32
A4C 4	2051500000	C.32
ACT20P-CI-CC-P-P	2514620000	D.17
ACT20P-CI-VO-P	2489740000	D.17
ACT20P-CI1-CC-DLP-P	7760054353	D.17
ACT20P-CMT-60-AD-RC-P	1510290000	D.17
ACT20P-PRO-FI-AD-QD-P	2447950000	D.17
ACT20P-PRO-RTCH-ACQ-DO-S	2448100000	D.17
ACT20P-TCI-2AO-P	7760054188	D.17
ACT20P-UI-2RCO-DC-S	7940045760	D.17
ACT20P-VIM-AO-P	7760054360	D.17
ACT20P-VMR-1PH-H-P	7760054359	D.17
ACT20X-2HAI-2SAO-P	2456150000	D.17
ACT20X-2HDI-2SDO-P	2456100000	D.17
ACT20X-2HDI-2SDO-RND-P	2456080000	D.17
ACT20X-2HTI-2SAO-P	2456190000	D.17
ACT20X-2SAI-2HAO-P	2456170000	D.17
ACT20X-2SDI-2HDO-P	2456130000	D.17
ACT20X-HUI-SAO-P	2456200000	D.17
ADT 2.5 2C	1989800000	C.32
ADT 2.5 4C	1989860000	C.32
ADT 4 2C	2429850000	C.32
AFS 4 2C 100-250V BK	2434390000	C.32
AFS 4 2C BK	2429860000	C.32
AL2C 2.5	2847200000	D.12
AMG AM CO	2082770000	C.41
AMG AM CO	2082770000	D.21
AMG CM	2081900000	C.41
AMG CM	2081900000	D.21
AMG CM EX	2083360000	D.21
AMG DIS	2123050000	C.41
AMG DIS	2123050000	D.21
AMG DIS EX	2495100000	D.21
AMG ELM-10F	2080650000	A.53
AMG ELM-12	2080410000	A.53
AMG ELM-18	2859800000	C.41
AMG ELM-18	2859800000	D.21
AMG ELM-18 EX	2838520000	D.21
AMG ELM-1F	2080420000	A.53
AMG ELM-2F	2080480000	A.53
AMG ELM-4F	2080490000	A.53
AMG ELM-6	2080360000	A.53
AMG ELM-6F	2080500000	A.53
AMG ELM-8F	2080600000	A.53
AMG EP KIT	2500760000	A.53
AMG FIM-O	2081870000	A.53
AMG FIM-C	2081880000	A.53
AMG MD	2122930000	A.53
AMG MD	2122930000	C.41
AMG MD	2122930000	D.21
AMG OD	2122910000	A.53
AMG PD	2122920000	A.53
AMG PD	2122920000	C.41
AMG PD	2122920000	D.21
AMG PP	2123000000	A.53
AMG XMD	2122940000	A.53
APG 80	2853270000	C.24
APG 80	2853270000	C.26
ATTB 6	2710070000	D.12
ATTB 6 PE	2710080000	D.12

B

BLF 3.50/02/180 SN OR BX	2458950000	C.35
BLF 3.50/03/180 SN OR BX	2459060000	C.35
BLF 3.50/04/180 SN OR BX	2459070000	C.35
BLF 3.50/05/180 SN OR BX	2459080000	C.35
BLF 3.50/06/180 SN OR BX	2459090000	C.35
BLF 3.50/07/180 SN OR BX	2459100000	C.35
BLF 3.50/08/180 SN OR BX	2459110000	C.35

C

CA-CCS2WB-5M-125A-DC-R-BB	3011160000	F.44
CA-CCS2WB-5M-150A-DC-R-BB	3011250000	F.45
CA-CCS2WB-5M-200A-DC-R-BB	3011240000	F.45

Type	Order No.	Page
------	-----------	------

CA-CCS2WB-5M-250A-DC-R-BB	3011230000	F.46
CA-CCS2WB-5M-300A-DC-R-BB	3011220000	F.46
CA-CCS2WB-5M-80A-DC-R-BB	2986180000	F.44
CA-CCS2WB-7.5M-125A-DC-R-BB	3011150000	F.44
CA-CCS2WB-7.5M-150A-DC-R-BB	3011210000	F.45
CA-CCS2WB-7.5M-200A-DC-R-BB	3011200000	F.45
CA-CCS2WB-7.5M-250A-DC-R-BB	3011190000	F.46
CA-CCS2WB-7.5M-300A-DC-R-BB	3011180000	F.46
CA-CCS2WB-7.5M-80A-DC-R-BB	3011050000	F.44
CA-T2T1-5M-7.4/1P-R-BBG	2724920000	F.36
CA-T2T1-7.5M-7.4/1P-R-BBG	2791360000	F.36
CA-T2T2-10M-11/3/R-BBG	2791330000	F.38
CA-T2T2-10M-22/3/R-BBG	2791310000	F.39
CA-T2T2-5M-11/3P-R-BBG	2754380000	F.37
CA-T2T2-5M-11/3P-S-BBG	2713330000	F.37
CA-T2T2-5M-22/3P-R-BBG	2754390000	F.38
CA-T2T2-5M-22/3P-S-BBG	2754410000	F.39
CA-T2T2-7.5M-11/3/R-BBG	2791320000	F.37
CA-T2T2-7.5M-22/3/R-BBG	2791300000	F.39
CA-T2WB-10M-22/3P-R-BBG	2828240000	F.41
CA-T2WB-10M-7.4/1P-R-BBG	2861580000	F.43
CA-T2WB-5.5M-22/3P-R-BBG	2791340000	F.40
CA-T2WB-5.5M-22/3P-S-BBG	2828260000	F.40
CA-T2WB-5.5M-7.4/1P-R-BBG	2861570000	F.42
CA-T2WB-5.5M-7.4/1P-S-BBG	2861560000	F.42
CA-T2WB-7.5M-22/3P-R-BBG	2828220000	F.41
CA-T2WB-7.5M-22/3P-S-BBG	2828280000	F.41
CABTITE BSE LRG GY	2584520000	D.26
CABTITE BSE SML GY	2583350000	D.26
CABTITE FRFT 10/6 SET	2891500000	D.26
CABTITE FRFT 16/8 SET	2891530000	D.26
CABTITE FRFT 24/10 SET	2891560000	D.26
CABTITE FRFT 4/1 SET	2891470000	D.26
CABTITE SE 10-11 SML GY	2584610000	D.26
CABTITE SE 2/5-6 SML GY	2584890000	D.26
CABTITE SE 34-35 LRG GY	2595530000	D.26
CABTITE SE 5-6 SML GY	2583450000	D.26
CABTITE SE 6-7 SML GY	2583460000	D.26
CH-W-S-A11-P-A	2875280000	F.18
CH-W-S-A11-P-E	2863090000	F.14
CH-W-S-A11-P-V	2875240000	F.16
CH-W-S-A11-P10-A	2911290000	F.18
CH-W-S-A11-P10-E	2911210000	F.14
CH-W-S-A11-P10-V	2911250000	F.16
CH-W-S-A11-P7.5-A	2911128000	F.18
CH-W-S-A11-P7.5-E	2911200000	F.14
CH-W-S-A11-P7.5-V	2911240000	F.16
CH-W-S-A11-S-E	2875260000	F.18
CH-W-S-A11-S-E	2863070000	F.14
CH-W-S-A11-S-V	2875220000	F.16
CH-W-S-A22-P-A	2875290000	F.19
CH-W-S-A22-P-E	2863100000	F.15
CH-W-S-A22-P-V	2875250000	F.17
CH-W-S-A22-P7.5-A	2911300000	F.19
CH-W-S-A22-P7.5-E	2911220000	F.15
CH-W-S-A22-P7.5-V	2911260000	F.17
CH-W-S-A22-S-A	2875270000	F.19
CH-W-S-A22-S-E	2863080000	F.15
CH-W-S-A22-S-V	2875230000	F.17
CH-W-S-A7.4-P-E	2875210000	F.12
CH-W-S-A7.4-S-E	2875200000	F.12
CP DC UPS 24V 20A/10A	1370050010	C.41
CP DC UPS 24V 20A/10A	1370050010	D.21

D

DRH276024LT	1220150000	D.18
DRH424024	7760056322	D.18
DRH424024LTD	7760056340	D.18
DRK1TP 24VDC 2CO LD	2576200000*	C.39
DRK1TP 24VDC 2CO LD/PB	2576190000	A.49
DRK1TP 24VDC 2CO LD/PB	2576190000*	C.39
DRM570024LT	7760056097	D.18
DRM570220	7760056082	D.18
DRMK1TP 24VDC 4CO LD	2576130000*	C.39
DRMK1TP 24VDC 4CO LD/PB	2576140000	A.49
DRMK1TP 24VDC 4CO LD/PB	2576140000*	C.39
DURA ECO LA-BAT 24V 12AH	2789920000	C.41
DURA ECO LA-BAT 24V 12AH	2789920000	D.21
DURA ECO LA-BAT 24V 17AH	2789930000	C.41
DURA ECO LA-BAT 24V 17AH	2789930000	D.21
DURA ECO LA-BAT 24V 7AH	2789910000	C.41
DURA ECO LA-BAT 24V 7AH	2789910000	D.21

E

EM110-RTU-2P	7760051002	B.50
EM111-RTU-2P	7760051001	B.50
EM120-RTU-2P	7760051004	B.50
EM120-RTU-2P	7760051004	F.48
EM122-RTU-2P	7760051003	B.50
EM122-RTU-2P	7760051003	D.30
EM122-RTU-2P	7760051003	F.48
EM220-RTU-4DI2DO	7760051005	B.50
EM220-RTU-4DI2DO-GW	7760051006	B.50
EM220-RTU-4DI2DO-GW	7760051006	D.30
ENERGY ANALYSER 550	2425500000	B.54
ENERGY ANALYSER 550-24	2602580000	B.54
ENERGY ANALYSER 750-230	2534130000	B.54

Type	Order No.	Page
------	-----------	------

ENERGY ANALYSER 750-24	2534160000	B.54
ENERGY ANALYSER 750-24	2534160000	D.30
ENERGY ANALYSER 0550	2425510000	B.54
ENERGY ANALYSER 0550-24	2489780000	B.54
ENERGY LOGGER 0550	2425520000	D.30
ENERGY METER 750-230	2540910000	D.30
EPG 45	1500830000	C.16
EPG 45	1500830000	C.18
EPG 45	1500830000	C.20
EPG 45	1500830000	C.22
EQ-W-S-C2-D-BK	2958080000	F.20
EQ-W-S-C2-D-WH	2922820000	F.20
ES APG 80 DIN 70	1502890000	C.24
ES APG 80 DIN 70	1502890000	C.26
ES EPG 45 DIN 25	1501340000	C.16
ES EPG 45 DIN 25	1501340000	C.18
ES EPG 45 DIN 35	1501350000	C.20
ES EPG 45 DIN 35	1501350000	C.22

F

FC10 TN/26A S1 B BX	2827090000*	C.35
FFH9 S1/26V F1 B RL	2747370000	C.35
FFH9 S1/50V F1 B RL	2747400000	C.35
FFP D1/50H S1 B TY	2747580000	C.35
FMH3 S1/26V F1 B RL	2747100000	C.35
FMH3 S1/50V F1 B RL	2747130000	C.35
FP DUO AC RC MF	2856890000	A.16
FP DUO AC RC MF MA	2891740000	A.16
FP DUO DC RC MF MA SP	2815570000	A.16
FP DUO DC RC MF SP	2815580000	A.16
FP MONO AC RC MF	2856870000	A.20
FP MONO AC RC MF MA	2891700000	A.20
FP MONO DC RC MF MA SP	2815480000	A.20
FP MONO DC RC MF SP	2815470000	A.20
FP MONO X AC RC MF MA	2856880000	A.18
FP MONO X AC RC MF MA SP	2891720000	A.18
FP MONO X DC RC MF MA SP	2815550000	A.18
FP MONO X DC RC MF SP	2815540000	A.18
FRS TWC M30 EC 10	2881700000	A.39
FRS TWC M30 EC 15	2881700000	A.41
FRS TWC M30 MC 25	2861190000	A.39
FRS TWC M30 MC 25	2861190000	A.40
FRS TWC M30 SC 10	2881690000	A.39
FRS TWC M30 SC 10	2881690000	A.40
FSKIT 24VDC 2NO2NC FG LD AGSNO AU	2759080000	D.19
FSKIT 24VDC 3NO1NC FG LD AGSNO AU	2759070000	D.19
FSKIT 24VDC 3NO3NC FG LD AGSNO AU	2759100000	D.19
FSKIT 24VDC 4NO2NC FG LD AGSNO AU	2759090000	D.19
FSKIT 24VDC 5NO1NC FG LD AGSNO AU	2860020000	D.19

H

HDC 04A ALU	1497600000	C.37
HDC 04A ALU	1497600000	D.16
HDC 04A AWLU	1497700000*	C.37
HDC 04A AWLU	1497700000	D.16
HDC 04A TOLL 1M20G	1788820000	C.37
HDC 04A TOLL 1M20G	1788820000	D.16
HDC 06B ALU EXI	3001300000	D.14
HDC 06B TOLL 1M20G EXI	3001360000	D.14
HDC 06B TOLL 1M20G EXI	3001350000	D.14
HDC 10B ABU EXI	3001310000	D.14
HDC 10B TOLL 1M25G EXI	3001390000	D.14
HDC 10B TOLL 1M25G EXI	3001370000	D.14
HDC 16B ABU EXI	3001320000	D.14
HDC 16B TOLL 1M25G EXI	3001440000	D.14
HDC 16B TOLL 1M25G EXI	3001400000	D.14
HDC 24B ABU EXI	3001330000	D.14
HDC 24B ADLU	1214300000	C.36
HDC 24B ADLU	1214300000	C.37
HDC 24B ADLU	1214300000	D.15
HDC 24B ADLU	1214300000	D.16
HDC 24B HP50 MPL2 TYP1	1103710000*	C.36
HDC 24B HP50 MPL2 TYP1	1103710000	D.15
HDC 24B HP50 MPL2 TYP2	1103770000*	C.36
HDC 24B HP50 MPL2 TYP2	1103770000	D.15
HDC 24B TOLL 1M25G EXI	3001520000	D.14
HDC 24B TSBU 1M25G EXI	3001460000	D.14
HDC 24B TSLU 1M32G	1787790000	C.37
HDC 24B TSLU 1M32G	1787790000	D.16
HDC 64D SDLU 1M32G	1904440000	C.36
HDC 64D SDLU 1M32G	1904440000	C.37
HDC 64D SDLU 1M32G	1904440000	D.15
HDC 64D SDLU 1M32G	19	

Type	Order No.	Page
IE-SR-4TX	2751270000	A.65
IE-SR-4TX-LTE/4G-EU	2751280000	A.65
IE-SR-4TX-LTE/4G-EUSEMEA	2739630000	A.65
IE-SW-AL05M-5TX	2682250000	A.65
IE-SW-AL06LM-4TX-2SC	2682260000	A.65
IE-SW-AL06LM-4TX-2SCS	2682270000	A.65
IE-SW-AL08M-8GT	2682350000	A.65
IE-SW-AL08M-8TX	2682280000	A.65
IE-SW-AL10M-8TX-2GC	2740420000	A.66
IE-SW-AL12M-8GT-4GESFP	2682340000	C.42
IE-SW-AL12M-8GT-4GESFP	2682340000	D.27
IE-SW-AL14M-12GT-2GESFP	2682360000	A.65
IE-SW-AL18M-16TX-2GC	2682330000	A.65
IE-SW-AL24M-16GT-8GESFP	2682370000	A.66
IE-SW-AL24M-24TX	2682320000	A.65
IE-SW-EL05-5GT	2682210000	A.65
IE-SW-EL05-5TX	2682130000	A.65
IE-SW-EL05-5TX	2682130000	C.42
IE-SW-EL05-5TX	2682130000	D.27
IE-SW-EL06-4POE-2SC	2682390000	A.65
IE-SW-EL08-8GT-MINI	2705000000	A.66
IE-SW-EL08-8POE	2682380000	C.42
IE-SW-EL08-8POE	2682380000	D.27
IE-SW-EL08-8TX	2682140000	A.65
IE-SW-EL10-8GT-2GESFP	2682240000	A.65
IE-SW-EL10-8GT-2GESFP	2682240000	C.42
IE-SW-EL10-8GT-2GESFP	2682240000	D.27
IE-SW-EL10-8GTPOE-2GESFP	2682410000	A.65
IE-SW-EL16-16TX	2682150000	A.65
IE-SW-EL16-16TX-2GC	2682200000	A.65
IE-SW-SL26M-24TX-2GC-VL	2779000000*	C.42
IE-SW-SL26M-24TX-2GC-VL	2779000000	D.27
IE-TD-RJ45-C	8946920000*	C.42
IE-TD-RJ45-C	8946920000	D.27
IE-WLT-BL-AP-CL-EU	2536650000	A.65
IE-WLT-BL-AP-CL-US	2536670000	A.65
IE-WLT-VL-AP-BR-CL-EU	2536690000*	C.42
IE-WLT-VL-AP-BR-CL-EU	2536690000	D.27
IoT-GW30	2682620000	D.28
IoT-GW30-4G-EU	2682630000	D.28

K

KLIPPON CS POK 122209-4	1537180000	D.25
KLIPPON CS STB 1-1	1537200000	D.25
KLIPPON CS STB 2-1-2	1537300000	D.25
KLIPPON CS STB 2-1-7	1537370000	D.25
KTb MH 403015 S4E0	1194900000	D.24
KTb MH 403015 S4E1	1194910000	D.24
KTb MH 403015 S4E2	1194920000	D.24
KTb MH 403015 S4E3	1194930000	D.24
KTb MH 403015 S4E4	1194940000	D.24
KTb MH 403020 S4E0	1194950000	D.24
KTb MH 403020 S4E1	1194960000	D.24
KTb MH 403020 S4E2	1194970000	D.24
KTb MH 403020 S4E3	1194980000	D.24
KTb MH 403020 S4E4	1194990000	D.24
KTb MH 453815 S4E0	1195000000	D.24
KTb MH 453815 S4E1	1195010000	D.24
KTb MH 453815 S4E2	1195020000	D.24
KTb MH 453815 S4E3	1195030000	D.24
KTb MH 453815 S4E4	1195040000	D.24
KTb MH 453820 S4E0	1195050000	D.24
KTb MH 453820 S4E1	1195060000	D.24
KTb MH 453820 S4E2	1195070000	D.24
KTb MH 453820 S4E3	1195080000	D.24
KTb MH 453820 S4E4	1195090000	D.24
KTb QL 403015 S4E0	1200220000	D.24
KTb QL 403015 S4E1	1200230000	D.24
KTb QL 403015 S4E2	1200240000	D.24
KTb QL 403015 S4E3	1200250000	D.24
KTb QL 403015 S4E4	1200260000	D.24
KTb QL 403020 S4E0	1200270000	D.24
KTb QL 403020 S4E1	1200280000	D.24
KTb QL 403020 S4E2	1200290000	D.24
KTb QL 403020 S4E3	1200310000	D.24
KTb QL 403020 S4E4	1200320000	D.24
KTb QL 453815 S4E0	1200330000	D.24
KTb QL 453815 S4E1	1200340000	D.24
KTb QL 453815 S4E2	1200350000	D.24
KTb QL 453815 S4E3	1200360000	D.24
KTb QL 453815 S4E4	1200370000	D.24
KTb QL 453820 S4E0	1200380000	D.24
KTb QL 453820 S4E1	1200390000	D.24
KTb QL 453820 S4E2	1200410000	D.24
KTb QL 453820 S4E3	1200420000	D.24
KTb QL 453820 S4E4	1200430000	D.24

L

LMF APL 5.00/03/90 3.5SN BX	2873480000	C.42
LMF APL 5.00/03/90 3.5SN BX	2873480000	D.27
LSF-SMT 3.50/02/90 3.5SN BK TU	1824420000	C.35
LSF-SMT 3.50/03/90 3.5SN BK TU	1824430000	C.35
LSF-SMT 3.50/04/90 3.5SN BK TU	1824440000	C.35
LSF-SMT 3.50/05/90 3.5SN BK TU	1824450000	C.35
LSF-SMT 3.50/06/90 3.5SN BK TU	1824460000	C.35
LSF-SMT 3.50/07/90 3.5SN BK TU	1824470000	C.35
LSF-SMT 3.50/08/90 3.5SN BK TU	1824480000	C.35

Type	Order No.	Page
LUF 10.00/01/90 5.0SN BK BX	1988590000	C.35
LUF 10.00/02/90 5.0SN BK BX	1988600000	C.35
LUF 10.00/03/90 5.0SN BK BX	1988610000	C.35
LUF 10.00/04/90 5.0SN BK BX	1988620000	C.35
LUF 10.00/05/90 5.0SN BK BX	1988630000	C.35

M

MCZ R 48...110VDC 1CO AU TRAK	8790500000	A.49
MCZ R 48...110VDC 1CO TRAK	8713910000	A.49
MHS 5/02 H T3 B T	2741400000	C.34
MHS 5/03 H T3 B T	2741420000	C.34
MHS 5/04 H T3 B T	2741430000	C.34
MHS 5/05 H T3 B T	2741440000	C.34
MHS 5/06 H T3 B T	2741450000	C.34
MHS 5/07 H T3 B T	2741460000	C.34
MHS 5/08 H T3 B T	2741470000	C.34
MPS 5/02 STN B B	2741560000	C.34
MPS 5/03 STN B B	2741570000	C.34
MPS 5/04 STN B B	2741580000	C.34
MPS 5/05 STN B B	2741590000	C.34
MPS 5/06 STN B B	2741600000	C.34
MPS 5/07 STN B B	2741610000	C.34
MPS 5/08 STN B B	2741620000	C.34

P

PC RCF	2833850000	A.29
PC RCM	2820090000	A.29
PRO BAS 120W 12V 10A	2838450000	A.53
PRO BAS 120W 24V 5A	2838440000	A.53
PRO BAS 240W 24V 10A	2838460000	A.53
PRO BAS 240W 48V 5A	2838470000	A.53
PRO BAS 30W 12V 2.6A	2838510000	A.53
PRO BAS 30W 24V 1.3A	2838500000	A.53
PRO BAS 30W 5V 6A	2838400000	A.53
PRO BAS 480W 24V 20A	2838480000	A.53
PRO BAS 480W 48V 10A	2838490000	A.53
PRO BAS 60W 12V 5A	2838420000	A.53
PRO BAS 60W 24V 2.5A	2838410000	A.53
PRO BAS 90W 24V 3.8A	2838430000	A.53
PRO COM CAN OPEN	2467320000	A.53
PRO COM CAN OPEN	2467320000	C.41
PRO COM CAN OPEN	2467320000	D.20
PRO COM DISPLAY 7S	2466960000	C.42
PRO COM DISPLAY 7S	2466960000	D.20
PRO COM IO-LINK	2587360000	A.53
PRO COM IO-LINK	2587360000	C.41
PRO COM IO-LINK	2587360000	D.20
PRO MAX 120W 24V 5A	1478110000	A.53
PRO MAX 240W 24V 10A	1478130000	A.53
PRO MAX 240W 48V 5A	1478130000	C.40
PRO MAX 240W 24V 10A	1478130000	D.21
PRO MAX 240W 48V 5A	1478240000	C.40
PRO MAX 480W 24V 20A	1478140000	A.53
PRO MAX 480W 24V 20A	1478140000	C.40
PRO MAX 480W 48V 10A	1478250000	C.40
PRO MAX 70W 5V 14A	1478210000	C.40
PRO MAX 70W 5V 14A	1478210000	D.21
PRO MAX 72W 24V 3A	1478100000	C.40
PRO MAX 72W 24V 3A	1478100000	D.21
PRO MAX 960W 24V 40A	1478150000	C.40
PRO MAX 960W 48V 20A	1478270000	C.40
PRO MAX 960W 48V 20A	1478270000	D.21
PRO MAX3 120W 24V 5A	1478170000	A.53
PRO MAX3 120W 24V 5A	1478170000	C.40
PRO MAX3 240W 24V 10A	1478180000	A.53
PRO MAX3 240W 24V 10A	1478180000	C.40
PRO MAX3 240W 48V 5A	1478180000	D.21
PRO MAX3 480W 24V 20A	1478190000	A.53
PRO MAX3 480W 24V 20A	1478190000	C.40
PRO MAX3 480W 48V 20A	1478190000	D.21
PRO MAX3 960W 24V 40A	1478200000	C.40
PRO MAX3 960W 24V 40A	1478200000	D.21
PRO TOP1 120W 24V 5A	2466870000	A.53
PRO TOP1 120W 24V 5A	2466870000	C.40
PRO TOP1 120W 24V 5A EX	2466980000	A.53
PRO TOP1 240W 24V 10A	2466880000	D.20
PRO TOP1 240W 24V 10A	2466880000	C.40
PRO TOP1 240W 24V 10A	2466880000	D.20
PRO TOP1 240W 24V 10A EX	2466990000	C.40
PRO TOP1 480W 24V 20A	2466890000	A.53
PRO TOP1 480W 24V 20A	2466890000	C.40
PRO TOP1 480W 24V 20A	2466890000	D.20
PRO TOP1 480W 24V 20A EX	2467000000	C.40
PRO TOP1 480W 48V 10A	2467030000	C.40
PRO TOP1 960W 24V 40A	2466900000	C.40
PRO TOP1 960W 24V 40A	2466900000	D.20
PRO TOP1 960W 24V 40A EX	2467010000	C.40
PRO TOP1 960W 48V 20A	2466920000	C.40
PRO TOP3 120W 24V 5A	2467060000	A.53
PRO TOP3 120W 24V 5A CO	2467070000	C.40
PRO TOP3 120W 24V 5A CO	2467070000	D.20
PRO TOP3 240W 24V 10A	2467080000	A.53
PRO TOP3 240W 24V 10A	2467090000	C.40
PRO TOP3 240W 24V 10A CO	2467090000	D.20
PRO TOP3 480W 24V 20A	2467100000	A.53

Type	Order No.	Page
PRO TOP3 480W 24V 20A CO	2467110000	C.40
PRO TOP3 480W 24V 20A CO	2467110000	D.20
PRO TOP3 480W 48V 10A	2467150000	C.40
PRO TOP3 960W 24V 40A CO	2467130000	C.40
PRO TOP3 960W 24V 40A CO	2467130000	D.20
PRO TOP3 960W 48V 20A	2467170000	C.40
PRO TOPDC 24V/24V 10A	2627640000*	C.41
PRO TOPDC 24V/24V 10A	2627640000	D.20
PRO TOPDC 24V/24V 20A	2627630000*	C.41
PRO TOPDC 24V/24V 20A	2627630000	D.20
PRO TOPDC 24V/24V 5A	2627650000*	C.41
PRO TOPDC 24V/24V 5A	2627650000	D.20
PRO TOPDC 24V/48V 10A	2627660000*	C.41
PWR173024L	1219480000	D.18

R

RC D 4/4P	2819550000	A.28
RC F P2 M20 SP	2860640000	A.26
RC F P2 SP	2903200000	A.26
RC F P3 C SP	2992970000	A.27
RC F P3 M20 C SP	2992990000	A.27
RC F P5 C	2934520000	A.27
RC M P2 M20 SP	2860650000	A.26
RC M P2 SP	2903190000	A.26
RC M P3 C SP	2992960000	A.27
RC M P3 M20 C SP	2992980000	A.27
RC M P5 C	2934530000	A.27
RCIKITZ 24VDC 2CO LD/FG	1218390000	A.49
RJ45C5 RIU 2.8M4G/Y/RL	2562950000*	C.35
RJ45C5 RIU 3.2M4G/Y/TY	2516380000*	C.35
RJ45C5 S1D 2.7MAN RL	1433890000*	C.35
RJ45C5 S1V 2.7MAN RL	1433900000*	C.35
RJ45C5 T1V 3.2MAN TY	1433810000*	C.35
RJ45C6 RIU 3.2MAN TY	2634590000*	C.35
RJ45M R1V 1.9N4Y6/YG TY	2562140000	C.35

S

S2C 2.5	2674530000	C.32
S2C 2.5	2674530000	D.12
S2C 4	2674820000	C.32
S2C 4	2674820000	D.12
S2T 2.5	2902380000	C.32
S2T 2.5	2902380000	D.12
S2T 2.5 PE	2902460000	C.32
S3C 2.5	2674540000	C.32
S3C 2.5	2674540000	D.12
S3C 4	2674840000	C.32
S3C 4	2674840000	D.12
S4C 2.5	2674550000	C.32
S4C 2.5	2674550000	D.12
S4C 2.5 PE	2674580000	C.32
S4C 4	2674860000	C.32
S4C 4	2674860000	D.12
S4C 4 PE	2674900000	C.32
SAI-04D-VPH2-M120-NAM-EX	2921100000	D.13
SAI-04D-VPH-5A-M120-DL2-EX	2943800000	D.13
SAI-04D-VPPP-2A-M120-NAM-EX	1868350000	D.13
SAI-04D-VPPP-5A-M120-DL2-EX	2943810000	D.13
SAI-08D-VPH2-M120-NAM-EX	2921120000	D.13
SAI-08D-VPH-5A-M120-DL2-EX	2921130000	D.13
SAI-08D-VPPP-2A-M120-NAM-EX	1894380000	D.13
SAI-08D-VPPP-5A-M120-DL2-EX	2902930000	D.13
SAI-4-M 5P M12 1:1	1806010000	D.13
SAI-4-M-MVVM12 1:1	2009620000	D.13
SAI-8-M 4P M12 EX IA	1896080000	D.13
SAI-8-M 5P M12 DL2	1816610000	D.13
SAIBP-M-5A-4/8-M12	2681620000	A.39
SAIL-M12B6-4S10T	1283321000	A.39
SAISP-M-5A-4/8-M12	2681600000	A.39
SCM 2CO P	7760056362	D.18
SCM 4CO P	7760056363	D.18
SCS 24VDC P1SIL3DS M	1303760000	D.19

Type	Order No.	Page
UV20-B-IPC-3000.01	2676390000	D.28
V		
VDATA CAT6	1348590000	A.45
VDATA CAT6	1348590000	C.31
VDATA CAT6	1348590000	D.23
VG M20 EXI 7-13 CR7J G4	2722250000	D.14
VG M25 EXI 12-17 CR7J G4	2722270000	D.14
VGM40-MS88 20-32 BG	1193620000*	C.36
VGM40-MS88 20-32 BG	1193620000	D.15
VPU AC I 1+1 R 300/12.5	2591490000	D.22
VPU AC I 3 R 275/25 LCF S	2726750000	D.22
VPU AC I 3 R 300/12.5	2591450000	D.22
VPU AC I 3 R 440/25 LCF	2619170000	D.22
VPU AC I 3+1 R 275/25 LCF S 2PE	2726770000*	C.31
VPU AC I 3+1 R 275/25 LCF S 2PE	2726770000	D.22
VPU AC I 3+1 R 300/12.5	2591470000	D.22
VPU AC I 3+1 R 440/25 LCF	2619260000	A.45
VPU AC I 3+1 R 440/25 LCF	2619260000	D.22
VPU AC I F 1 R 275/25	2859340000	D.22
VPU AC II 1+1 300/50	2591060000	C.31
VPU AC II 1+1 R 300/50	2591070000	A.45
VPU AC II 1+1 R 300/50	2591070000	D.22
VPU AC II 1+1 R 300/50 Y	2639340000	A.45
VPU AC II 2 300/50	2591040000	D.22
VPU AC II 2 R 480/50	2591240000	D.22
VPU AC II 2 R 75/50	2591630000	D.22
VPU AC II 3 R 300/50 Y	2639330000	A.45
VPU AC II 3 R 350/50	2591110000	A.45
VPU AC II 3 R 750/35	2591320000	A.45
VPU AC II 3+1 R 300/50	2591090000	C.31
VPU AC II 3+1 R 300/50	2591090000	D.22
VPU AC II 4 480/50	2591270000	D.22
VPU II 1 1000V/40KA AC	1473440000	A.45
VPU II 1 R 1000V/40KA AC	2811930000	A.45
VPU III R 230V/6KV AC	1351650000	D.22
VPU III R 24V/4KV AC/DC	1351580000	D.22
VPU PV I+II 3 R 1500	2530590000	C.31
VPU PV II 3 R 1500	2530650000	C.31
VSPC 2CL 24VDC EX	8953720000	D.23
VSPC 2CL HF 24VDC R	8951700000	D.23
VSPC 2SL 24VAC R	8951640000	A.45
VSPC 4SL 24VAC R	8951600000	A.45
VSPC 4SL 24VDC EX	1161190000	D.23
VSPC BASE 2CL FG R	8951720000	D.23
VSPC BASE 2CL FG EX	8951820000	D.23
VSPC BASE 2SL FG R	8951780000	A.45
VSPC BASE 4SL FG EX	8951840000	D.23
VSPC BASE 4SL FG R	8951760000	A.45
VSPC CONTROL UNIT 24VDC	8972270000	D.23
VSPC RS485 2CH R	8951670000	D.23
VSSC4 CL FG 24VAC/DC EX	1063810000	D.23
VSSC6 RS485	1064980000	D.23
VSSC6 RS485 PA EX	1065020000	D.23
VSSC6 CL 24VAC/DC 0.5A	1064170000	D.23
VSSC6 TR SL FG 24VAC/DC EX	1421440000	D.23
VSSC6 TRSL 24VAC/DC 0.5A	1354790000	D.23
VT DIGI PRO	9918870000	E.12

W

WA26 TTA EX	8964320000	D.17
WBC-CH-60R-BK-25-0023	2938270000	C.28
WBC-P-10BK-70	2991900000	C.24
WBC-P-10BK-95	2991940000	C.24
WBC-P-10RE-70	2991910000	C.26
WBC-P-10RE-95	2991950000	C.26
WBC-P-6BK-16	2905270000	C.16
WBC-P-6BK-25	2905290000	C.16
WBC-P-60R-16	2905280000	C.18
WBC-P-60R-25	2905300000	C.18
WBC-P-8BK-35	2905350000	C.20
WBC-P-8BK-50	2905370000	C.20
WBC-P-80R-35	2905360000	C.22
WBC-P-80R-50	2905380000	C.22
WBC-S-10BK-M8	2991920000	C.25
WBC-S-10RE-M8	2991930000	C.27
WBC-S-6BK-B	2905330000	C.17
WBC-S-60R-B	2905340000	C.19
WBC-S-8BK-B	2905310000	C.21
WBC-S-80R-B	2905320000	C.23
WDK 2.5N	1041600000	C.33
WDK 2.5N V	1041610000	C.33
WDK 2.5PE	1036300000	C.33
WDK 4N V	1041910000	C.33
WDU 1.5/ZZ	1031400000	C.33
WDU 10	1020300000	D.12
WDU 16 BL	1020480000	C.33
WDU 16N	1036100000	C.33
WDU 2.5	1020000000	C.33
WDU 2.5	1020000000	D.12
WDU 2.5N	1023700000	C.33
WDU 4	1020100000	C.33
WDU 4	1020100000	D.12
WDU 6	1020200000	D.12
WIPL 20W AC RC M	2856860000	A.23
WIPL 20W AC RC M MA	2891800000	A.23
WIPL 20W AC RC MF	2891790000	A.23

Type	Order No.	Page
WIPL 20W AC RC MF MA	2891810000	A.23
WIPL 20W DC RC M	2820600000	A.22
WIPL 20W DC RC M MA	2820610000	A.22
WIPL 20W DC RC MF	2856730000	A.22
WIPL 20W DC RC MF MA	2856740000	A.22
WM-SC-15	2923050000	F.26
WM-SC-5	2923060000	F.26
WM-SC-50	2923070000	F.27
WM-SC-LTE-15	2923090000	F.28
WM-SC-LTE-5	2923080000	F.28
WM-SC-LTE-50	2923100000	F.29
WM-SC-PV-15	2923110000	F.30
WM-SC-PV-5	2923120000	F.30
WM-SC-PV-50	2923130000	F.31
WM-SC-PV-LTE-15	2923150000	F.32
WM-SC-PV-LTE-5	2923140000	F.32
WM-SC-PV-LTE-50	2923160000	F.33
WPD 130 1X50/1X50 GY	2502530000	D.12
WPD 131 1X95/1X95 GY	2503090000	D.12
WPD 132 1X185/1X185 GY	2502750000	D.12
WPD 133 1X300/1X300 GY	2502850000	D.12
WPE 2.5N	1016200000	C.33
WPE 4	1010100000	C.33
WSI 25/1 10X38 1KV	1137790000	C.33
WSI 25/1 10X38/LED 1KV	1137780000	C.33
WSI 4	1886580000	C.33
WTR 2.5	1856610000	C.33
WTR 4	7910180000	C.33
WTTB 6	2710090000	D.12
WTTB 6 PE	2710100000	D.12

Order No.	Type	Page
-----------	------	------

1010000000

1010100000	WPE 4	C.33
1016200000	WPE 2.5N	C.33
1018790000	IE-FCM-RJ45-C	C.42
1018790000	IE-FCM-RJ45-C	D.27

1020000000

1020000000	WDU 2.5	C.33
1020000000	WDU 2.5	D.12
1020100000	WDU 4	C.33
1020100000	WDU 4	D.12
1020200000	WDU 6	D.12
1020300000	WDU 10	D.12
1020480000	WDU 16 BL	C.33
1023700000	WDU 2.5N	C.33

1030000000

1031400000	WDU 1.5/ZZ	C.33
1036100000	WDU 16N	C.33
1036300000	WDK 2.5PE	C.33

1040000000

1041600000	WDK 2.5N	C.33
1041610000	WDK 2.5N V	C.33
1041910000	WDK 4N V	C.33

1060000000

1063810000	VSSC4 CL FG 24VAC/DC EX	D.23
1064170000	VSSC6 CL 24VAC/DC 0.5A	D.23
1064980000	VSSC6 RS485	D.23
1065020000	VSSC6 RS485 PA EX	D.23

1070000000

1079920000	HDC IP68 HP 24B AS S	D.15
1079920000*	HDC IP68 HP 24B AS S	C.36
1079930000	HDC IP68 HP 24B TO	D.15
1079930000*	HDC IP68 HP 24B TO	C.36

1100000000

1103710000	HDC 24B HP550 MPL2 TYP1	D.15
1103710000*	HDC 24B HP550 MPL2 TYP1	C.36
1103770000	HDC 24B HP550 MPL2 TYP2	D.15
1103770000*	HDC 24B HP550 MPL2 TYP2	C.36

1110000000

1119990000	HDC IP68 24B MD 2M40	D.15
1119990000*	HDC IP68 24B MD 2M40	C.36

1120000000

1120040000	HDC IP68 HP 24B A	D.15
1120040000*	HDC IP68 HP 24B A	C.36
1120590000	HDC HP 550 M 240	D.15
1120590000*	HDC HP 550 M 240	C.36
1120600000	HDC HP 550 F 240	D.15
1120600000*	HDC HP 550 F 240	C.36

1130000000

1137780000	WSI 25/1 10X38/LED 1KV	C.33
1137790000	WSI 25/1 10X38 1KV	C.33

1160000000

1161190000	VSPC 4SL 24VDC EX	D.23
1165940002	IE-C6FP8LD0002M40M40-D	C.42
1165940002	IE-C6FP8LD0002M40M40-D	D.27

1190000000

1193620000	VGM40-MS68 20-32 BG	D.15
1193620000*	VGM40-MS68 20-32 BG	C.36
1194900000	KTB MH 403015 S4E0	D.24
1194910000	KTB MH 403015 S4E1	D.24
1194920000	KTB MH 403015 S4E2	D.24
1194930000	KTB MH 403015 S4E3	D.24
1194940000	KTB MH 403015 S4E4	D.24
1194950000	KTB MH 403020 S4E0	D.24
1194960000	KTB MH 403020 S4E1	D.24
1194970000	KTB MH 403020 S4E2	D.24
1194980000	KTB MH 403020 S4E3	D.24
1194990000	KTB MH 403020 S4E4	D.24
1195000000	KTB MH 453815 S4E0	D.24
1195010000	KTB MH 453815 S4E1	D.24
1195020000	KTB MH 453815 S4E2	D.24
1195030000	KTB MH 453815 S4E3	D.24
1195040000	KTB MH 453815 S4E4	D.24
1195050000	KTB MH 453820 S4E0	D.24
1195060000	KTB MH 453820 S4E1	D.24
1195070000	KTB MH 453820 S4E2	D.24
1195080000	KTB MH 453820 S4E3	D.24

Order No.	Type	Page
-----------	------	------

1195090000 KTB MH 453820 S4E4 D.24

1200000000

1200220000	KTB QL 403015 S4E0	D.24
1200230000	KTB QL 403015 S4E1	D.24
1200240000	KTB QL 403015 S4E2	D.24
1200250000	KTB QL 403015 S4E3	D.24
1200260000	KTB QL 403015 S4E4	D.24
1200270000	KTB QL 403020 S4E0	D.24
1200280000	KTB QL 403020 S4E1	D.24
1200290000	KTB QL 403020 S4E2	D.24
1200310000	KTB QL 403020 S4E3	D.24
1200320000	KTB QL 403020 S4E4	D.24
1200330000	KTB QL 453815 S4E0	D.24
1200340000	KTB QL 453815 S4E1	D.24
1200350000	KTB QL 453815 S4E2	D.24
1200360000	KTB QL 453815 S4E3	D.24
1200370000	KTB QL 453815 S4E4	D.24
1200380000	KTB QL 453820 S4E0	D.24
1200390000	KTB QL 453820 S4E1	D.24
1200410000	KTB QL 453820 S4E2	D.24
1200420000	KTB QL 453820 S4E3	D.24
1200430000	KTB QL 453820 S4E4	D.24

1210000000

1211100000	HDC HE 24 MS	C.37
1211100000	HDC HE 24 MS	D.16
1211300000	HDC HE 24 FS	C.37
1211300000	HDC HE 24 FS	D.16
1214300000	HDC 24B ADLU	C.36
1214300000	HDC 24B ADLU	C.37
1214300000	HDC 24B ADLU	D.15
1214300000	HDC 24B ADLU	D.16
1218390000	RCIKITZ 24VDC 2CO LLD/FG	A.49
1219480000	PWR173024L	D.18

1220000000

1220150000	DRH276024LT	D.18
------------	-------------	------

1280000000

1283321000	SAIL-M12B6-4S10T	A.39
1285830000	IE-CST-2TX-IRS232/485	A.65
1285840000	IE-CST-2TX-2RS232/485	A.65
1286900000	IE-MC-VLT-1TX-1SCS	C.42
1286900000	IE-MC-VLT-1TX-1SCS	D.27

1300000000

1303760000	SCS 24VDC P2S1L3DS M	D.19
------------	----------------------	------

1310000000

1315170000	UR20-4DI-P	C.43
1315170000	UR20-4DI-P	D.29
1315180000	UR20-8DI-P-2W	C.43
1315180000	UR20-8DI-P-2W	D.29
1315200000	UR20-16DI-P	C.43
1315200000	UR20-16DI-P	D.29
1315220000	UR20-4DO-P	C.43
1315220000	UR20-4DO-P	D.29
1315230000	UR20-4DO-P-2A	C.43
1315230000	UR20-4DO-P-2A	D.29
1315240000	UR20-8DO-P	C.43
1315240000	UR20-8DO-P	D.29
1315250000	UR20-16DO-P	C.43
1315250000	UR20-16DO-P	D.29
1315620000	UR20-4AI-UI-16	C.43
1315620000	UR20-4AI-UI-16	D.29
1315680000	UR20-4AO-UI-16	C.43
1315680000	UR20-4AO-UI-16	D.29
1315700000	UR20-4AI-RTD-DIAG	C.43
1315700000	UR20-4AI-RTD-DIAG	D.29
1315710000	UR20-4AI-TC-DIAG	C.43
1315710000	UR20-4AI-TC-DIAG	D.29
1319270000	SCS 24VDC P2S1L3DSSES	D.19
1319280000	SCS 24VDC P2S1L3SES	D.19

1330000000

1334710000	UR20-PF-I	C.43
1334710000	UR20-PF-I	D.29
1334740000	UR20-PF-O	C.43
1334740000	UR20-PF-O	D.29
1334890000	UR20-FBC-CAN	C.43
1334890000	UR20-FBC-CAN	D.29
1334900000	UR20-FBC-DN	C.43
1334900000	UR20-FBC-DN	D.29
1334910000	UR20-FBC-EC	C.43
1334910000	UR20-FBC-EC	D.29
1334920000	UR20-FBC-EIP	C.43
1334920000	UR20-FBC-EIP	D.29
1334940000	UR20-FBC-PL	C.43
1334940000	UR20-FBC-PL	D.29
1334950000	UC20-WL2000-AC	C.44
1334950000	UC20-WL2000-AC	D.28

Order No.	Type	Page
-----------	------	------

1340000000

1348590000	VDATA CAT6	A.45
1348590000	VDATA CAT6	C.31
1348590000	VDATA CAT6	D.23

1350000000

1351580000	VPU III R 24V/4KV AC/DC	D.22
1351650000	VPU III R 230V/6KV AC	D.22
1354790000	VSSC6TRSL24VAC/DC0.5A	D.23

1370000000

1370050010	CP DC UPS 24V 20A/10A	C.41
1370050010	CP DC UPS 24V 20A/10A	D.21

1390000000

1394400000	UR20-8DI-F-3W	C.43
1394400000	UR20-8DI-F-3W	D.29

1420000000

1421440000	VSSC6 TR SL FG 24VAC/DC EX	D.23
1429040000	HDC MDU	D.16
1429040000*	HDC MDU	C.37
1429050000	HDC MF 24B AF	C.36
1429050000	HDC MF 24B AF	D.15
1429070000	HDC MF 24B FA	C.36
1429070000	HDC MF 24B FA	D.15

1430000000

1433810000*	RJ45C5 T1V 3.2N4N TY	C.35
1433890000*	RJ45C5 S1D 2.7N4N RL	C.35
1433900000*	RJ45C5 S1V 2.7N4N RL	C.35

1470000000

1473440000	VPU II 1 1000V/40KA AC	A.45
1478100000	PRO MAX 72W 24V 3A	C.40
1478100000	PRO MAX 72W 24V 3A	D.21
1478110000	PRO MAX 120W 24V 5A	A.53
1478130000	PRO MAX 240W 24V 10A	A.53
1478130000	PRO MAX 240W 24V 10A	C.40
1478130000	PRO MAX 240W 24V 10A	D.21
1478140000	PRO MAX 480W 24V 20A	A.53
1478140000	PRO MAX 480W 24V 20A	C.40
1478150000	PRO MAX 960W 24V 40A	C.40
1478170000	PRO MAX3 120W 24V 5A	A.53
1478170000	PRO MAX3 120W 24V 5A	C.40
1478170000	PRO MAX3 120W 24V 5A	D.21
1478180000	PRO MAX3 240W 24V 10A	A.53
1478180000	PRO MAX3 240W 24V 10A	C.40
1478180000	PRO MAX3 240W 24V 10A	D.21
1478190000	PRO MAX3 480W 24V 20A	A.53
1478190000	PRO MAX3 480W 24V 20A	C.40
1478200000	PRO MAX3 960W 24V 40A	C.40
1478200000	PRO MAX3 960W 24V 40A	D.21
1478210000	PRO MAX 70W 5V 14A	C.40
1478210000	PRO MAX 70W 5V 14A	D.21
1478240000	PRO MAX 480W 48V 5A	C.40
1478250000	PRO MAX 480W 48V 10A	C.40
1478270000	PRO MAX 960W 48V 20A	C.40
1478270000	PRO MAX 960W 48V 20A	D.21

1490000000

1497600000	HDC 04A ALU	C.37
1497600000	HDC 04A ALU	D.16
1497700000	HDC 04A AWLU	D.16
1497700000*	HDC 04A AWLU	C.37
1498300000	HDC HA 4 MS	C.37

Order No.	Type	Page
1988600000	LUF 10.00/02/90 5.0SN BK BX	C.35
1988610000	LUF 10.00/03/90 5.0SN BK BX	C.35
1988620000	LUF 10.00/04/90 5.0SN BK BX	C.35
1988630000	LUF 10.00/05/90 5.0SN BK BX	C.35
1989800000	ADT 2.5 2C	C.32
1989860000	ADT 2.5 4C	C.32

2000000000

2009620000	SAI-4-M-MVV-M12 1:1	D.13
------------	---------------------	------

2050000000

2051180000	A2C 4	C.32
2051240000	A3C 4	C.32
2051410000	A3C 4 PE	C.32
2051500000	A4C 4	C.32

2080000000

2080360000	AMG ELM-6	A.53
2080410000	AMG ELM-12	A.53
2080420000	AMG ELM-1F	A.53
2080480000	AMG ELM-2F	A.53
2080490000	AMG ELM-4F	A.53
2080500000	AMG ELM-6F	A.53
2080600000	AMG ELM-8F	A.53
2080650000	AMG ELM-10F	A.53
2081870000	AMG FIM-O	A.53
2081880000	AMG FIM-C	A.53
2081900000	AMG CM	C.41
2081900000	AMG CM	D.21
2082770000	AMG AM CO	C.41
2082770000	AMG AM CO	D.21
2083360000	AMG CM EX	D.21

2120000000

2122910000	AMG OD	A.53
2122920000	AMG PD	A.53
2122920000	AMG PD	C.41
2122920000	AMG PD	D.21
2122930000	AMG MD	A.53
2122930000	AMG MD	C.41
2122930000	AMG MD	D.21
2122940000	AMG XMD	A.53
2123000000	AMG PP	A.53
2123050000	AMG DIS	C.41
2123050000	AMG DIS	D.21

2420000000

2425500000	ENERGY ANALYSER 550	B.54
2425510000	ENERGY ANALYSER D550	B.54
2425520000	ENERGY LOGGER D550	D.30
2429850000	ADT 4 2C	C.32
2429860000	AFS 4 2C BK	C.32

2430000000

2434390000	AFS 4 2C 100-250V BK	C.32
------------	----------------------	------

2440000000

2447950000	ACT20P-PRO-FI-AO-DD-P	D.17
2448100000	ACT20P-PRO-RTCI-AO-DD-S	D.17

2450000000

2456080000	ACT20X-2HDI-2SD0-RND-P	D.17
2456100000	ACT20X-2HDI-2SD0-P	D.17
2456130000	ACT20X-2SDI-2HDP-P	D.17
2456150000	ACT20X-2HAI-2SAO-P	D.17
2456170000	ACT20X-2SAI-2HAO-P	D.17
2456190000	ACT20X-2HTI-2SAO-P	D.17
2456200000	ACT20X-HUI-2SAO-P	D.17
2458950000	BLF 3.50/02/180 SN OR BX	C.35
2459096000	BLF 3.50/03/180 SN OR BX	C.35
2459070000	BLF 3.50/04/180 SN OR BX	C.35
2459080000	BLF 3.50/05/180 SN OR BX	C.35
2459090000	BLF 3.50/06/180 SN OR BX	C.35
2459100000	BLF 3.50/07/180 SN OR BX	C.35
2459110000	BLF 3.50/08/180 SN OR BX	C.35

2460000000

2460640000	IE-FC-SET-IPDED003-KY-M	D.27
2460640000*	IE-FC-SET-IPDED003-KY-M	C.42
2464570000	UR20-4DI-4DO-PN-FSPS-V2	C.43
2464570000	UR20-4DI-4DO-PN-FSPS-V2	D.29
2464590000	UR20-8DI-PN-FSPS-V2	C.43
2464590000	UR20-8DI-PN-FSPS-V2	D.29
2466870000	PRO TOP1 120W 24V 5A	A.53
2466870000	PRO TOP1 120W 24V 5A	C.40
2466870000	PRO TOP1 120W 24V 5A	D.20
2466880000	PRO TOP1 240W 24V 10A	A.53
2466880000	PRO TOP1 240W 24V 10A	C.40
2466880000	PRO TOP1 240W 24V 10A	D.20
2466890000	PRO TOP1 480W 24V 20A	A.53

Order No.	Type	Page
2466890000	PRO TOP1 480W 24V 20A	C.40
2466890000	PRO TOP1 480W 24V 20A	D.20
2466900000	PRO TOP1 960W 24V 40A	C.40
2466900000	PRO TOP1 960W 24V 40A	D.20
2466920000	PRO TOP1 960W 48V 20A	C.40
2466960000	PRO COM DISPLAY 7S	C.41
2466960000	PRO COM DISPLAY 7S	D.20
2466980000	PRO TOP1 120W 24V 5A EX	D.20
2466990000	PRO TOP1 240W 24V 10A EX	D.20
2467000000	PRO TOP1 480W 24V 20A EX	D.20
2467010000	PRO TOP1 960W 24V 40A EX	D.20
2467030000	PRO TOP1 480W 48V 10A	C.40
2467060000	PRO TOP3 120W 24V 5A	A.53
2467070000	PRO TOP3 120W 24V 5A CO	C.40
2467070000	PRO TOP3 120W 24V 5A CO	D.20
2467080000	PRO TOP3 240W 24V 10A	A.53
2467090000	PRO TOP3 240W 24V 10A CO	C.40
2467090000	PRO TOP3 240W 24V 10A CO	D.20
2467100000	PRO TOP3 480W 24V 20A	A.53
2467110000	PRO TOP3 480W 24V 20A CO	C.40
2467110000	PRO TOP3 480W 24V 20A CO	D.20
2467130000	PRO TOP3 960W 24V 40A CO	C.40
2467130000	PRO TOP3 960W 24V 40A CO	D.20
2467150000	PRO TOP3 480W 48V 10A	C.40
2467170000	PRO TOP3 960W 48V 20A	C.40
2467320000	PRO COM CAN OPEN	A.53
2467320000	PRO COM CAN OPEN	C.41
2467320000	PRO COM CAN OPEN	D.20
2469370000	A2T 1.5	C.32

2470000000

2476450000	UR20-FBC-MOD-TPC-V2	C.43
2476450000	UR20-FBC-MOD-TPC-V2	D.29

2480000000

2489740000	ACT20P-CI-VQ-P	D.17
2489780000	ENERGY ANALYSER D550-24	B.54

2490000000

2495100000	AMG DIS EX	D.21
------------	------------	------

2500000000

2500760000	AMG EP KIT	A.53
2502530000	WPD 130 1X50/1X50 GY	D.12
2502750000	WPD 132 1X185/1X185 GY	D.12
2502850000	WPD 133 1X300/1X300 GY	D.12
2503090000	WPD 131 1X95/1X95 GY	D.12

2510000000

2514620000	ACT20P-CI-CO-P-P	D.17
2516380000*	RJ45C5 RIV 3.2N4G/YTY	C.35

2530000000

2530590000	VPU PVI-II 3 R 1500	C.31
2530650000	VPU PVI-II 3 R 1500	C.31
2531290000	A2T 2.5 3C	C.32
2534130000	ENERGY ANALYSER 750-230	B.54
2534160000	ENERGY ANALYSER 750-24	B.54
2534160000	ENERGY ANALYSER 750-24	D.30
2536650000	IE-WLT-BL-AP-CL-UE	A.65
2536670000	IE-WLT-BL-AP-CL-US	A.65
2536690000	IE-WLT-VL-AP-BR-CL-UE	D.27
2536690000*	IE-WLT-VL-AP-BR-CL-UE	C.42

2540000000

2540910000	ENERGY METER 750-230	D.30
------------	----------------------	------

2550000000

2551510000	A2C 35	C.32
2551520000	A2C 35 PE	C.32
2552090000	A2C 35 BL	C.32

2560000000

2562140000	RJ45M RIV 1.9N4YG/YG TY	C.35
2562950000*	RJ45C5 RIV 2.8N4G/Y RL	C.35
2563810002	IE-C6FP8L00002M40M40-0	C.35
2563810005	IE-C6FP8L00005M40M40-0	C.35
2563810010	IE-C6FP8L00010M40M40-0	C.35
2563810020	IE-C6FP8L00020M40M40-0	C.35
2566380000	UR20-FBC-PN-IRT-V2	C.43
2566380000	UR20-FBC-PN-IRT-V2	D.29

2570000000

2576130000*	DRMKITP 24VDC 4CO LD	C.39
2576140000	DRMKITP 24VDC 4CO LD/PB	A.49
2576140000*	DRMKITP 24VDC 4CO LD/PB	C.39
2576190000	DRIKITP 24VDC 2CO LD	A.49
2576190000*	DRIKITP 24VDC 2CO LD/PB	C.39
2576200000*	DRIKITP 24VDC 2CO LD	C.39

Order No.	Type	Page
-----------	------	------

2580000000

2583350000	CABTITE BSE SML GY	D.26
2583450000	CABTITE SE 5-8 SML GY	D.26
2583460000	CABTITE SE 6-7 SML GY	D.26
2584520000	CABTITE BSE LRG GY	D.26
2584610000	CABTITE SE 10-11 SML GY	D.26
2584890000	CABTITE SE 2/5-6 SML GY	D.26
2587360000	PRO COM IO-LINK	A.53
2587360000	PRO COM IO-LINK	C.41
2587360000	PRO COM IO-LINK	D.20

2590000000

2591040000	VPU AC II 2 300/50	D.22
2591060000	VPU AC II 1+1 R 300/50	C.31
2591070000	VPU AC II 1+1 R 300/50	A.45
2591070000	VPU AC II 1+1 R 300/50	D.22
2591090000	VPU AC II 3+1 R 300/50	C.31
2591090000	VPU AC II 3+1 R 300/50	D.22
2591110000	VPU AC II 3 R 350/50	A.45
2591240000	VPU AC II 2 R 480/50	D.22
2591270000	VPU AC II 2 480/50	D.22
2591320000	VPU AC II 3 R 750/35	A.45
2591450000	VPU AC II 3 R 300/12.5	D.22
2591470000	VPU AC II 3+1 R 300/12.5	D.22
2591490000	VPU AC II 1+1 R 300/12.5	D.22
2591630000	VPU AC II 2 R 75/50	D.22
2592030000	HDC MRJ45 GC F	C.37
2592030000	HDC MRJ45 GC F	D.15
2592210000	HDC MRJ45 ABP MI	C.37
2592210000	HDC MRJ45 ABP MI	D.15
2595530000	CABTITE SE 34-35 LRG GY	D.26

2600000000

2602580000	ENERGY ANALYSER 550-24	B.54
------------	------------------------	------

2610000000

2614380000	UR20-FBC-PB-DP-V2	C.43
2614380000	UR20-FBC-PB-DP-V2	D.29
2617520000	UR20-4AI-HART-16-DIAG	D.29
2617520000*	UR20-4AI-HART-16-DIAG	C.43
2617930000	TRP 24VDC 1NO HCP	A.49
2617930000	TRP 24VDC 1NO HCP	C.38
2618000000	TRP 24VDC 1CO	A.49
2618000000	TRP 24VDC 1CO	D.18
2618090000	TRP 24VDC 1NO HC	A.49
2618090000	TRP 24VDC 1NO HC	C.38
2618100000	TRP 24VDC 1CO 16A	A.49
2618100000	TRP 24VDC 1CO 16A	D.18
2618110000	TRP 24VDC 1CO AUJ	A.49
2618400000	TRP 24VDC 2CO	A.49
2618400000	TRP 24VDC 2CO	C.38
2618420000	TOP 24VDC 230VAC1A	A.49
2618720000	TOP 24VDC 24VDC2A	A.49
2619170000	VPU AC I 3 R 440/25 LCF	D.22
2619260000	VPU AC I 3+1 R 440/25 LCF	A.45
2619260000	VPU AC I 3+1 R 440/25 LCF	D.22

2620000000

2625000000	TGD FIM-C	C.41
2625000000	TGD FIM-C	D.21
2625010000	UR20-FBC-CC	C.43
2625010000	UR20-FBC-CC	D.29
2627630000	PRO TOPDC 24V/24V 20A	D.20
2627630000*	PRO TOPDC 24V/24V 20A	C.41
2627640000	PRO TOPDC 24V/24V 10A	D.20
2627640000*	PRO TOPDC 24V/24V 10A	C.41
2627650000	PRO TOPDC 24V/24V 5A	D.20
2627650000*	PRO TOPDC 24V/24V 5A	C.41
2627660000*	PRO TOPDC 24V/48V 10A	C.41

2630000000

2633940000	SCS 24VDC P15L3ES LL	D.19
2634010000	SCS 24VDC P15L3ES LLT	D.19
2634590000*	RJ45C6 RIV 3.2N4NTY	C.35
2636180000	HDC MHE 5 MP	C.37
2636180000	HDC MHE 5 MP	D.16
2636190000	HDC MHE 5 FP	C.37
2636190000	HDC MHE 5 FP	D.16
2638330000	VPU AC II 3 R 300/50 Y	A.45
2639340000	VPU AC II 1+1 R 300/50 Y	A.45

2660000000

2661310000	UR20-FBC-IEC61162-450	C.43
2661310000	UR20-FBC-IEC61162-450	D.29
2663010000	TRP 24-230VUC 1CO ED2	A.49
2663040000		

Order No.	Type	Page
2741470000	MHS 5/08 H T3 B T	C.34
2741560000	MPS 5/02 S TN B B	C.34
2741570000	MPS 5/03 S TN B B	C.34
2741580000	MPS 5/04 S TN B B	C.34
2741590000	MPS 5/05 S TN B B	C.34
2741600000	MPS 5/06 S TN B B	C.34
2741610000	MPS 5/07 S TN B B	C.34
2741620000	MPS 5/08 S TN B B	C.34
2744110000	A2T 2.5 DT/DT	C.32
2747100000	FMH3 S1/26V F1 B RL	C.35
2747130000	FMH3 S1/50V F1 B RL	C.35
2747370000	FFH9 S1/26V F1 B RL	C.35
2747400000	FFH9 S1/50V F1 B RL	C.35
2747580000	FFP D1/50H S1 B TY	C.35
2748240000	HDC MHP 200 MAS	C.37
2748240000	HDC MHP 200 MAS	D.15
2748250000	HDC MHP 200 FAS	C.37
2748250000	HDC MHP 200 FAS	D.15
2748280000	HDC MHP 100 MAS	C.37
2748280000	HDC MHP 100 MAS	D.15
2748290000	HDC MHP 100 FAS	C.37
2748290000	HDC MHP 100 FAS	D.15
2748300000	HDC MHP 70 MAS	C.37
2748300000	HDC MHP 70 MAS	D.15
2748310000	HDC MHP 70 FAS	C.37
2748310000	HDC MHP 70 FAS	D.15
2748420000	HDC MHE 6 MP	D.16
2748420000*	HDC MHE 6 MP	C.37
2748430000	HDC MHE 8 MP	D.16
2748430000*	HDC MHE 8 MP	C.37
2748440000	HDC MHE 8 MP	D.16
2748440000*	HDC MHE 8 MP	C.37
2748450000	HDC MHE 8 FP	D.16
2748450000*	HDC MHE 8 FP	C.37
2748460000	HDC MHD 12 MP	C.37
2748460000	HDC MHD 12 MP	D.16
2748470000	HDC MHD 12 FP	C.37
2748470000	HDC MHD 12 FP	D.16

2750000000

2751260000	US67-VIT-BLE	D.30
2751270000	IE-SR-4TX	A.65
2751280000	IE-SR-4TX-LTE/4G-EU	A.65
2754380000	CA-T2T2-5M-11/3P-R-BBG	F.37
2754390000	CA-T2T2-5M-22/3P-R-BBG	F.38
2754410000	CA-T2T2-5M-22/3P-S-BBG	F.39
2759070000	FSKIT 24VDC 3NO1NC FG LD AGSNO AU	D.19
2759080000	FSKIT 24VDC 2NO2NC FG LD AGSNO AU	D.19
2759090000	FSKIT 24VDC 4NO2NC FG LD AGSNO AU	D.19
2759100000	FSKIT 24VDC 3NO3NC FG LD AGSNO AU	D.19

2770000000

2772880000	HDC MHX 4 MP	D.15
2772890000*	HDC MHX 4 MP	C.37
2772810000	HDC MHX 4 FP	D.15
2772810000*	HDC MHX 4 FP	C.37
2773770000*	TRPL 12-60VUC 1CO	C.38
2773860000*	TRPL 24-230VUC 1CO	C.38
2773890000	TRPL 24VDC 1CO	C.38
2779000000	IE-SW-SL26M-24TX-26C-LV	D.27
2779000000*	IE-SW-SL26M-24TX-26C-LV	C.42

2780000000

2789910000	DURA ECO LA-BAT 24V 7AH	C.41
2789910000	DURA ECO LA-BAT 24V 7AH	D.21
2789920000	DURA ECO LA-BAT 24V 12AH	C.41
2789920000	DURA ECO LA-BAT 24V 12AH	D.21
2789930000	DURA ECO LA-BAT 24V 17AH	C.41
2789930000	DURA ECO LA-BAT 24V 17AH	D.21

2790000000

2791300000	CA-T2T2-7.5M-22/3-R-BBG	F.39
2791310000	CA-T2T2-10M-22/3-R-BBG	F.39
2791320000	CA-T2T2-7.5M-11/3-R-BBG	F.37
2791330000	CA-T2T2-10M-11/3-R-BBG	F.38
2791340000	CA-T2WB-5.5M-22/3P-R-BBG	F.40
2791360000	CA-T2T1-7.5M-7.4/1P-R-BBG	F.36
2795120000	IE-PCB-SPE-P-90V2-1-THR-YG/RL	C.34
2795170000	IE-PCB-SPE-P-180V2-1-THR-RL	C.34

2810000000

2811930000	VPU II 1 R 1000V/40KA AC	A.45
2815470000	FP MONO DC RC MF SP	A.20
2815480000	FP MONO DC RC MF MA SP	A.20
2815540000	FP MONO K DC RC MF SP	A.18
2815550000	FP MONO K DC RC MF MA SP	A.18
2815570000	FP DUO DC RC MF MA SP	A.16
2815580000	FP DUO DC RC MF SP	A.16
2819550000	RC D 4/4P	A.28

2820000000

2820090000	PC RC M	A.29
2820680000	WIPL 20W DC RC M	A.22

Order No.	Type	Page
2820610000	WIPL 20W DC RC M MA	A.22
2826800000	UR20-1COM-232-485-422-V2	D.29

2800000000

2826800000*	UR20-1COM-232-485-422-V2	C.43
-------------	--------------------------	------

2820000000

2827090000*	FC10 TN/26A S1 B BX	C.35
2828220000	CA-T2WB-7.5M-22/3P-R-BBG	F.41
2828240000	CA-T2WB-10M-22/3P-R-BBG	F.41
2828260000	CA-T2WB-5.5M-22/3P-S-BBG	F.40
2828280000	CA-T2WB-7.5M-22/3P-S-BBG	F.41

2830000000

2833850000	PC RCF	A.29
2838400000	PRO BAS 30W 5V 6A	A.53
2838410000	PRO BAS 60W 24V 2.5A	A.53
2838420000	PRO BAS 60W 12V 5A	A.53
2838430000	PRO BAS 90W 24V 3.8A	A.53
2838440000	PRO BAS 120W 24V 5A	A.53
2838450000	PRO BAS 120W 12V 10A	A.53
2838460000	PRO BAS 240W 24V 10A	A.53
2838470000	PRO BAS 240W 48V 5A	A.53
2838480000	PRO BAS 480W 24V 20A	A.53
2838490000	PRO BAS 480W 48V 10A	A.53
2838500000	PRO BAS 30W 24V 1.3A	A.53
2838510000	PRO BAS 30W 12V 2.6A	A.53
2838520000	AMG ELM-18 EX	D.21
2839150000	UC20-M3000	D.28
2839150000*	UC20-M3000	C.44
2839160000	UC20-M4000	D.28
2839160000*	UC20-M4000	C.44

2840000000

2847200000	AL2C 2.5	D.12
------------	----------	------

2850000000

2853270000	APG 80	C.24
2853270000	APG 80	C.26
2855800000	TRP 24VDC 1CO AGSNO PB	C.38
2855830000	TRP 24VDC 1CO AGSNO AU PB	C.38
2855860000	TRS 24VDC 1CO AGSNO AU PB	C.38
2855870000	TRS 24VDC 1CO AGSNO PB	C.38
2855910000	TRP 24-230VUC 1CO AGSNO ED2 PB	C.38
2856730000	WIPL 20W DC RC MF	A.22
2856740000	WIPL 20W DC RC MF MA	A.22
2856860000	WIPL 20W AC RC M	A.23
2856870000	FP MONO AC RC MF	A.20
2856880000	FP MONO K AC RC MF	A.18
2856890000	FP DUO AC RC MF	A.16
2859340000	VPU ACF I 1 R 275/25	D.22
2859800000	AMG ELM-18	C.41
2859800000	AMG ELM-18	D.21

2860000000

2860020000	FSKIT 24VDC 5NO1NC FG LD AGSNO AU	D.19
2860640000	RC F P2 M20 SP	A.26
2860650000	RC M P2 M20 SP	F.26
2861190000	FRS TWC M30 MC 25	A.39
2861190000	FRS TWC M30 MC 25	A.40
2861560000	CA-T2WB-5.5M-7.4/1P-S-BBG	F.42
2861570000	CA-T2WB-5.5M-7.4/1P-R-BBG	F.42
2861580000	CA-T2WB-10M-7.4/1P-R-BBG	F.43
2863070000	CH-W-S-A11-S-E	F.14
2863080000	CH-W-S-A22-S-E	F.15
2863090000	CH-W-S-A11-P-E	F.14
2863100000	CH-W-S-A22-P-E	F.15

2870000000

2870090000	U-LINK-50-DEVICES-1Y	D.27
2870090000*	U-LINK-50-DEVICES-1Y	C.42
2873480000	LMF APL 5.00/03/90 3.5SN BX	C.42
2873480000	LMF APL 5.00/03/90 3.5SN BX	D.27
2873930000	IE-SR-4GT-LTE/4G-USEMEA	D.27
2873930000*	IE-SR-4GT-LTE/4G-USEMEA	C.42
2874820000	S2C 4	C.32
2874820000	S2C 4	D.12
2874840000	S3C 4	C.32
2874840000	S3C 4	D.12
2874860000	S4C 4	C.32
2874860000	S4C 4	D.12
2874900000	S4C 4 PE	C.32
2875200000	CH-W-S-A7.4-S-E	F.12
2875210000	CH-W-S-A7.4-P-E	F.12
2875220000	CH-W-S-A11-S-V	F.16
2875230000	CH-W-S-A22-S-V	F.17
2875240000	CH-W-S-A11-P-V	F.16
2875250000	CH-W-S-A22-P-V	F.17
2875260000	CH-W-S-A11-S-A	F.18
2875270000	CH-W-S-A22-S-A	F.19
2875280000	CH-W-S-A11-P-A	F.18
2875290000	CH-W-S-A22-P-A	F.19

Order No.	Type	Page
2881690000	FRS TWC M30 SC 10	A.39
2881690000	FRS TWC M30 SC 10	A.40
2881700000	FRS TWC M30 EC 10	A.39
2881700000	FRS TWC M30 EC 10	A.41

2890000000

2891470000	CABTITE FRFT 4-1 SET	D.26
2891500000	CABTITE FRFT 10/6 SET	D.26
2891530000	CABTITE FRFT 16/8 SET	D.26
2891560000	CABTITE FRFT 24/10 SET	D.26
2891700000	FP MONO AC RC MF MA	A.20
2891720000	FP MONO K AC RC MF MA	A.18
2891740000	FP DUO AC RC MF MA	A.16
2891790000	WIPL 20W AC RC MF	A.23
2891800000	WIPL 20W AC RC M MA	A.23
2891810000	WIPL 20W AC RC MF MA	A.23

2900000000

2902380000	S2T 2.5	C.32
2902380000	S2T 2.5	D.12
2902460000	S2T 2.5 PE	C.32
2902930000	SAI-08D-VPPP-5A-M120-0L2-EX	D.13
2903190000	RC M P2 SP	A.26
2903200000	RC F P2 SP	A.26
2904100000	ST-W-S-SINGLE	F.23
2904120000	ST-W-S-BLANK	F.23
2905270000	WBC-P-6BK-16	C.16
2905280000	WBC-P-60R-16	C.18
2905290000	WBC-P-6BK-25	C.16
2905300000	WBC-P-60R-25	C.18
2905310000	WBC-S-8BK-B	C.21
2905320000	WBC-S-80R-B	C.23
2905330000	WBC-S-6BK-B	C.17
2905340000	WBC-S-60R-B	C.19
2905350000	WBC-P-8BK-35	C.20
2905360000	WBC-P-80R-35	C.22
2905370000	WBC-P-8BK-50	C.20
2905380000	WBC-P-80R-50	C.22

2910000000

2911200000	CH-W-S-A11-P7.5-E	F.14
2911210000	CH-W-S-A11-P10-E	F.14
2911220000	CH-W-S-A22-P7.5-E	F.15
2911240000	CH-W-S-A11-P7.5-E	F.16
2911250000	CH-W-S-A11-P10-V	F.16
2911260000	CH-W-S-A22-P7.5-V	F.17
2911280000	CH-W-S-A11-P7.5-A	F.18
2911290000	CH-W-S-A11-P10-A	F.18
2911300000	CH-W-S-A22-P7.5-A	F.19
2915210000	ST-W-S-DOUBLE	F.23

2920000000

2921100000	SAI-04D-VPHP-2A-M120-NAM-EX	D.13
2921120000	SAI-08D-VPHP-2A-M120-NAM-EX	D.13
2921130000	SAI-08D-VPHP-5A-M120-0L2-EX	D.13
2922620000	EQ-W-S-C2-D-WH	F.20
2923050000	WM-SC-15	F.26
2923060000	WM-SC-5	F.26
2923070000	WM-SC-50	F.27
2923080000	WM-SC-LTE-5	F.28
2923090000	WM-SC-LTE-15	F.28
2923100000	WM-SC-LTE-50	F.29
2923110000	WM-SC-PV-15	F.30
2923120000	WM-SC-PV-5	F.30
2923130000	WM-SC-PV-50	F.31
2923140000	WM-SC-PV-LTE-5	F.32
2923150000	WM-SC-PV-LTE-15	F.32
2923160000	WM-SC-PV-LTE-50	F.33
2928020000	UC20-WL2000-AC-CAN	D.28
2928020000*	UC20-WL2000-AC-CAN	C.44

2930000000

2934520000	RC F P5 C	A.27
2934530000	RC M P5 C	A.27
2938270000	WBC-CH-60R-BK-25-0023	C.28

2940000000

2943800000	SAI-04D-VPHP-5A-M120-0L2-EX	D.13
2943810000	SAI-04D-VPPP-5A-M120-0L2-EX	D.13

2950000000

2958080000	EQ-W-S-C2-D-BK	F.20
------------	----------------	------

2980000000

2986180000	CA-CCS2WB-5M-80A-DC-R-BB	F.44
------------	--------------------------	------

2990000000

Order No.	Type	Page
8951720000	VSPC BASE 2CL FG R	D.23
8951760000	VSPC BASE 4SL FG R	A.45
8951780000	VSPC BASE 2SL FG R	A.45
8951820000	VSPC BASE 2CL FG EX	D.23
8951840000	VSPC BASE 4SL FG EX	D.23
8953720000	VSPC 2CL 24VDC EX	D.23

8960000000

8964320000	WAZ6 TTA EX	D.17
------------	-------------	------

8970000000

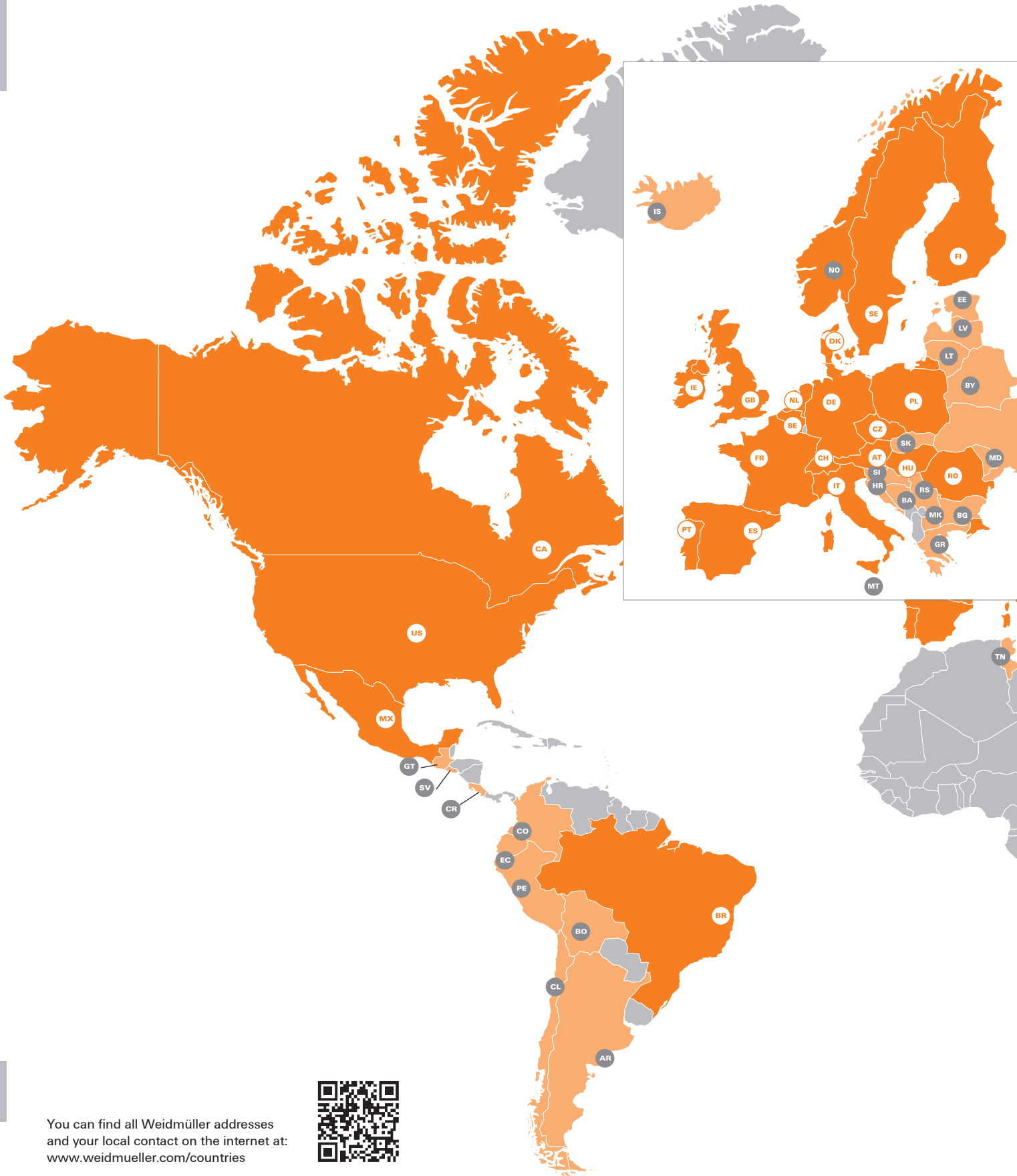
8972270000	VSPC CONTROL UNIT 24VDC	D.23
------------	-------------------------	------

9910000000

9918870000	VT DIGI PRO	E.12
------------	-------------	------



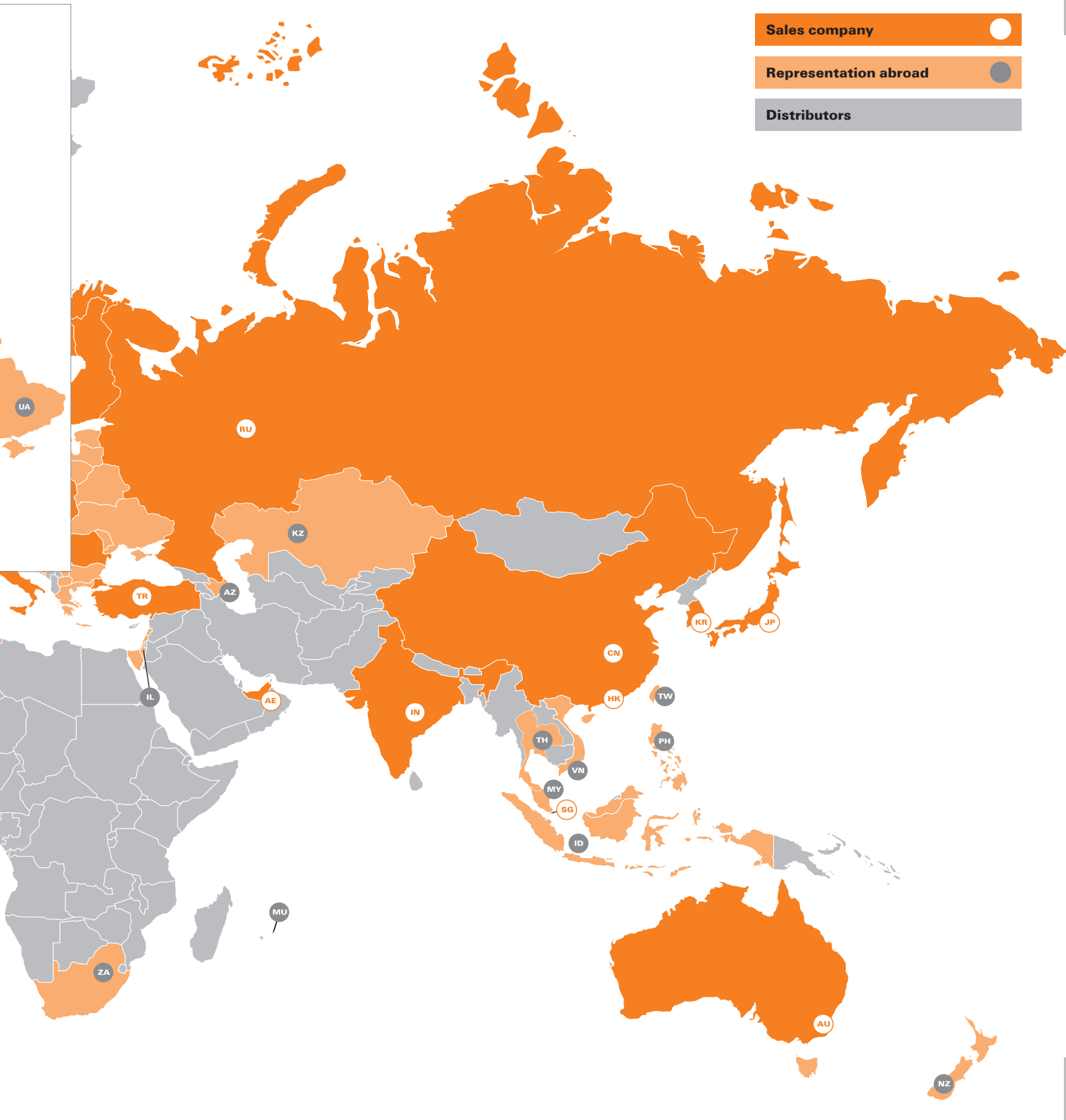
Addresses worldwide



X

You can find all Weidmüller addresses and your local contact on the internet at: www.weidmueller.com/countries





We cannot guarantee that there are no mistakes in the publications or software provided by us to the customer for the purpose of making orders. We try our best to quickly correct errors in our printed media.

X

All orders are based on our general terms of delivery, which can be reviewed on the websites of our group companies where you place your order. On demand we can also send the general terms of delivery to you.

Weidmüller – Your partner in Smart Industrial Connectivity

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
32758 Detmold, Germany
T +49 5231 14-0
F +49 5231 14-292083
www.weidmueller.com

Personal support can
be found on our website:
www.weidmueller.com/contact

Made in Germany



Order number: 2936230000/04/2024/SMD