You're striving towards new solutions We're presenting the best connections of 2016 Let's connect.





# Practical connectivity for your industry

**Our Industrial Connectivity innovations** 

»When creating our innovations, we never lose sight of your future requirements. This is how we shape the industrial connectivity market over the long term.«

Industrial Connectivity means more to us than just connectivity, technology and electronics. The profound knowledge we have of our focus industries and our customer's specific applications translates into practical advisory skills and gives rise to solution-oriented product concepts. We have compiled current evidence of this for you in this catalogue – in the shape of our product innovations.

Experience, among other things, how simple, efficient and safe it is to maintain your machines remotely using u-link. New automation prospects are also opened up with FreeCon Contactless, our maintenance-free solution for contactless power transmission, which can even be used to reliably supply powerful motors via an air gap. Total Energy Monitoring is key for energy measurement and analysis from the grid interconnection point of a factory to deep inside the individual machines or machine modules. Our new portfolio in the field of energy management increases transparency and process stability to effectively maximise energy efficiency and machine availability. The new MultiMark marking system offers marking solutions for the entire cabinet.

Find out about these innovations and more besides on the following pages. Let's connect.





# Energy

# Transportation

# **Device Manufacturers**

As an industrial connectivity partner, we support you in all your connectivity requirements, from the cabinet to the field. To create valuable innovations, we require deep insights into the needs of people who have to master industrial connectivity tasks in machinery, energy generation, process production, transportation and even device manufacturing on a daily basis. What would bring them a significant benefit? What specific challenges do their industries face? We ask ourselves these questions and respond with strong product solutions, tailored to each industry.

We connect people and markets, technologies and products around the globe - that's what we mean when we say "Let's connect.".

# At home in your industries We establish the best connections

Growing technological requirements, such as energy efficiency or cutting lifecycle costs, are industrial challenges - and decisive success factors at the same time. We combine sound industrial know-how with many years of development-related expertise, and thus create flexible, forward-looking connection solutions that grow with the needs of our dynamic markets.

Be it automobile manufacturing, electricity production or water management - hardly any of today's industries can do without electronics and electrical connectivity. In this internationalised, technologically changing world, the complexity of requirements is rapidly increasing due to the emergence of new markets. New, more varied challenges have to be overcome, and the solutions to them will not be found in high-tech products alone. Connectivity is the key, whether it involves power, signals and data, demands and solutions or theory and practice. Industrial Connectivity needs connections. And that's precisely what we stand for.

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Our expertise for your requirements Service connects - worldwide

**Experience the best connections of 2016** online on our innovations platform:

# www.weidmueller.com/best-connections

Here, you will find all the technical information and ordering data - also available for download. If you prefer an overview in printed form, you can also order the catalogue here under the following order no.: 2441780000 Let's connect.

We constantly offer up-to-date ordering data and technical details on our full range of products at: catalog.weidmueller.com

# Quicker remote maintenance for increased machine availability

Simplified service solution to raise plant productivity

Manufacturing companies need to be able to adapt increasingly quickly to changing customer demands. The flexibility needed in order to do this can be achieved by having an increased level of automation with a growing number of software components. This also leads to increasingly complex systems.

Next to that expectations of machinery fleet productivity are also constantly on the rise. Unplanned downtimes inevitably become annoying and cost a lot of money. To prevent your customer from that make sure, that on-site maintenance personnel are supported by your specialists in the event of a fault. They know your applications right down to the very last screw, and are able to quickly identify the possible causes of a fault.

With the customised remote maintenance solutions from Weidmüller, you can offer your customers tailor-made services that cover the entire life cycle of a machine. These services include rapid assistance in troubleshooting, and a support team to provide quick answers to questions relating to operation, process optimisation and the servicing of machines and production lines.

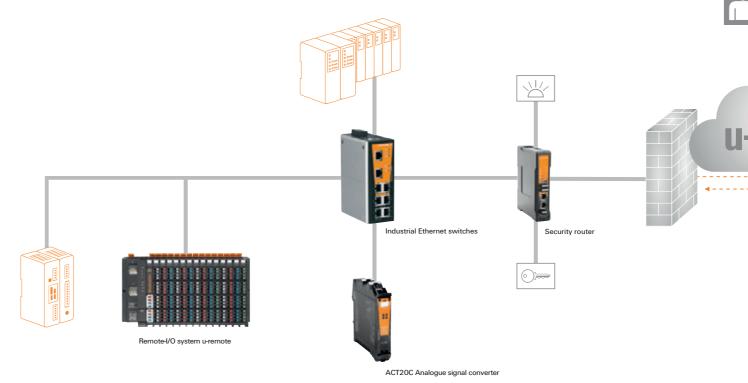
For this, Weidmüller offers a flexible remote maintenance solution to you, which provides the ability to communicate from remote into field level:

- The web-based remote access service u-link,
- · Network components such as security routers and switches,
- The u-remote I/O system with integrated web server, and
- · Additional communication-capable automation components.



- · Reduction of machine downtime · Accellerated and cost-optimised
- start-up and maintenance · Worldwide accessibility via web portal
- Simplified use without complicated IT integration
- · Intuitive and flexible display of remote maintenance topologies











# **Efficient systems administration**

- · Centralised web portal management · Intuitive user interfaces with clear user
- guidance • User, group and rights management based
- on individual requirements



- · Direct connection to all TCP/IP-based devices in the remote network
- · Deeper analysis using integrated diagnostic tools (i.e. u-remote web server)

#### **Consequently safeguarded**

- Remote Access Service with integrated VPN rendezvous server in Germany
- · Router with SPI firewall Certificate-based encryption
- of VPN connections
- Optional manual access approval at the machine
- · Redundant server architecture meeting highest security requirements
- · Secure client separation by independent database and portal assets





Machinery









• 24/7 access regardless of your location

#### Improved service operations

- Adaptation of configurations and programs
- Execution of software updates
- · Functional simulations from as early as the machine commissioning

#### **Customised system management**

u-link can be used to manage users, groups and their access rights based on individual requirements, such as a group assignment or access rights for production plants.

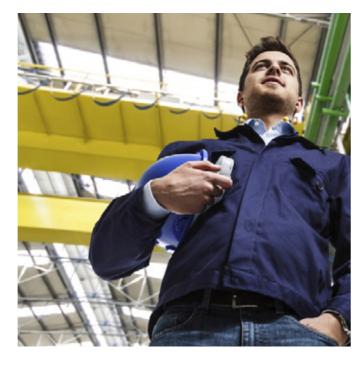
# **Efficient and secure machine maintenance**

# u-link makes remote maintenance easier and accelerates service processes

The remote maintenance of machines and plants is often designed such that it is very complex and time-consuming, and there is also the demand for a targeted and safeguarded functional connection to the associated IT systems. For many users, these two issues make the connection of plants around the world a major obstacle.

u-link guarantees guick and secure access to machines and plants, which makes remote maintenance easier while also allowing for the efficient management of production plants and user clients. The intuitive u-link interfaces are quick and easy both to configure and to adapt to specific processes. The innovative service on safeguarded servers in Germany also provides an online platform that ensures conformity between different IT systems when carrying out remote maintenance.

Thanks to its special properties, u-link is a great basis for the secure and affordable assembly even of comprehensive remote-maintenance topologies. The clear structure means that multiple production plants and users are easy to manage, and the option of expansion to include limitless numbers of additional routers and users means that u-link can be optimally adapted to meet a company's specific requirements.



In order to keep production losses to a minimum, every minute counts in the event of machine downtime, which is why it makes sense to fit your machines with our high-performance remotemaintenance technology. u-link helps the on-site technical team carry out maintenance work at a noticeably quicker rate.





#### Secure remote mainte diagnostics

Machines and plants can be accessed remotely via a secure VPN connection, regardless of where they are in the world. The high level of availability of the servers based in Germany means that you have secure access to your production facilities at all times.

# Your special advantages:

# **Easier plant access with security**

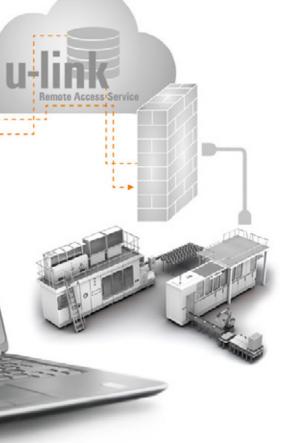
u-link is the perfect remote-maintenance solution for machine construction companies and plant operators. You can maintain a very productive system, even without having any in-depth IT expertise. Quick, secure and simple.



#### **Reduced configuration effort**

Thanks to the intuitive interfaces, routers and clients can easily be connected without the need for any in-depth IT expertise, which allows for the quick linking of multiple machines to the cloud service.





Machinery Ò









# **Configure machine automation quickly and conveniently**

The u-remote web server speeds up start-up and maintenance work

Quick and error-free start-up is becoming increasingly important in the area of modern machine construction. Process sequences need to be simulated before the final machine commissioning, and decentralised I/O solutions need to be tested for correct functioning. Inputs and outputs need to be checked to ensure that they perform correctly, and configurations need to be implemented and parameters set. These tasks are usually performed using special software tools, which are used to test the performance of the application and to check that the remote I/O station has been installed correctly. These tools are also used to diagnose and locate process errors during subsequent operation, in order to ensure that repairs are carried out as quickly as possible and without any long downtimes.

With u-remote, powerful software for start-up, status monitoring and error diagnosis is already integrated in the I/O system. The software is accessed via the web server installed on the fieldbus coupler, making it accessible via any standard Internet browser. The I/O station can be parameterised before a control unit is even connected, and status information and diagnostic and process data can easily be accessed on the station. Settings can also be directly changed, tested and stored for subsequent series installations.

u-remote makes it really easy to start up, parameterise and carry out diagnostics on the remote I/O station via an Internet browser. It is a particularly time and cost-efficient system, and there is no need for any special hardware or software.



u-remote with web server 2.0 allows for particularly quick, simple and money-saving system parameterisation before the machine has even been started up

#### Intuitive thought

The new web server design stands out thanks to its extremely user-friendly operation. The clear structure makes it easy to access all of the system functions, and the swype functionality makes for simple navigation on mobile touchoperated devices.





#### Quick series configuration

The parameterisation of your u-remote station can be stored as a file and then uploaded in order to be transferred to other u-remote stations. This significantly reduces the configuration time required for series production, while also preventing input errors. Useful tool tips help you work out what information to enter.



# Easier automation, quicker start-up

A comprehensive range of system tests can be carried out before a machine has even been commissioned, which helps prevent installation errors. The start-up process is supported by a wide range of simulation and forcing functions. Reasons for malfunction can be identified and rectified quickly thanks to the integrated diagnostic functions.



#### **Simpler installation tests**

The option to force inputs and outputs means that processes and procedures can be simulated even if a PLC is not connected, thus allowing for multiple work steps to be performed in parallel. This significantly reduces the amount of time required prior to machine start-up, while also allowing for installation errors to be identified at an early stage.

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Transportation

#### Status monitoring and diagnostics

Whether on site via USB or via remote access with a fieldbus interface – the u-remote web server means that you can access system status information or diagnostics results at any time. The information can be easily viewed via web browser without the need for any special hardware or software, which helps to create transparency and to make error diagnostics and rectification easier.

# Weidmüller E Owwer Solder Ada Diagnostic data Image: Solder Ada Image: Solde

# Decentralised collection and forwarding of signals on the panel

u-remote Module in IP67: robust, versatile and flexible

The progressive decentralisation causes that more and more automation systems are being brought out from the control cabinet into the field. This opens up a wide range of opportunities but also conceals complex challenges.

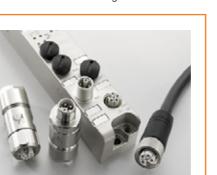
u-remote IP67 modules bring more power to the system, as 16 A can be supplied through their L-coded plugs. The most compact design in the market and multi-protocol modules with PROFINET and Ethernet/IP are among the other outstanding features of the new member of the u-remote family.

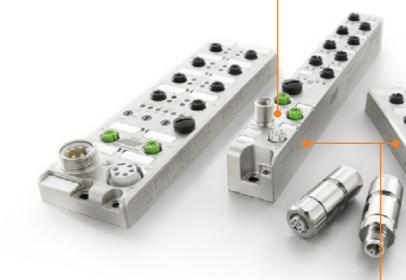
The new IP67 Remote I/O modules increase the performance and efficiency of your plants and make optimum use of the available space thanks to the two designs available. The technical properties are impressive even at the system planning and assembly stage.



IP67 remote I/O modules are used wherever there are increased requirements in terms of particle and humidity protection. With u-remote, you can increase efficiency and open up new potential solutions - discover the variety! One module for two protocols

#### Maximum power in the system The L-coded plug makes a 16 A power supply possible. It allows a greater number of consumers which can be wired in a line and thus reduces the level of cabling.





## IO-link type A and B on one module

The benefits of IO-link lie in the improved parameter and diagnostic properties for the connected sensors and actuators. On the type B ports actuators with up to 2 A can be connected. Additionally every port can be configured as an input or an output.

Your special advantages:

# More efficient and flexible system design

The increasing power-supply energy opens up more efficient design options: up to 17 x 16 DI modules can be wired in a line, which considerably reduces expense. Thanks to the L-coded plug, only one module and a cable set needs to be stocked each for PROFINET and EtherNet/IP.





Whether PROFINET or Ethernet/IP: thanks to the multi-protocol module of u-remote, you only need one remote I/O module on stock.



Extension of the remote I/O system The IP67 remote I/O modules are an extension of the innovative u-remote system. To allow the simple completion of your overall solution, power supplies and switches, cables and plugs also come from Weidmüller.



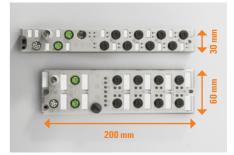








The 30 mm wide design is particularly suited to confined spaces. Even the short length of the modules and their low weight are to be highlighted as they offer advantages for many applications.



# Customised system adaptation, straightforward commissioning

u-remote for maximum fieldbus compatibility and broad diagnostics

Increasingly specific customer requirements need solutions for a flexible fieldbus architecture that's not only adapted to suit demands, but also fast and straightforward to implement.

The new u-remote fieldbus couplers now support DeviceNet and CANopen too, which means they can be used with even greater flexibility. Since the I/O modules are designed to be fieldbus-independent, the system simply migrates from one fieldbus to another when the coupler is exchanged. An integrated web server allows the system functionality to be tested and diagnosed before a control is connected.

u-remote makes it easier for you to respond to individual customer requirements and allows you to benefit from the simple process of implementing needs-based fieldbus architectures. Convenient handling makes installation a breeze. Extensive diagnostic functions help to optimise and speed up processes.



When it comes to incorporating machines in complex production lines, u-remote's high migration and diagnostic capabilities are what truly give it the edge.

#### Solutions for a wide range of applications

Effortlessly coordinate your solution to your customers' specific requirements. u-remote is independent of any fieldbuses and can easily be adapted and migrated to a multitude of systems. What's more, u-remote boasts an extremely robust design, is temperature-stable and, of course, also meets the common standards and requirements.





u-remote enables start-up in sections even before machinery is commissioned. Using the high-performance web server, you can parameterise and simulate the functionality of inputs and outputs prior to connect a control. You can easily conduct plain text error analyses using a standard browser – whether you're working on-site or remotely.

Your special advantages:

# The ideal way of implementing customised solutions

With u-remote, your automation solutions and processes become even more customised and flexible, in addition to becoming productive more quickly and easier to analyse.



# Fewer calculation constraints give you more freedom in design

Minimal yet structured by function – that's what your new I/O system looks like. With far fewer calculations to do, you can have more freedom and flexibility in your planning activities than ever before. After all, only with u-remote is the supply for the inputs and outputs separated by two distinct 10 A current paths. So you can flexibly distribute the I/O modules according to the logical structure of your sensor and actuator architecture while saving power-feed modules at the same time.



Machinery

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ModbusTCP

EtherNet/IP

Device/\et



# Automation of production systems with multiple protection classes

u-remote allows for an integrated signal connection in IP20 and IP67

The growing decentralisation in automation requires more and more flexible solutions. The signal connection is established close to the sensors and actuators, meaning that fewer lines are required and less wiring work needs to be carried out. However, as it is not usually possible to establish pure IP67 connections, IP20 systems are still needed to be integrated.

With u-remote, you can now establish both IP20 and IP67 signal connections within a single I/O system. The innovative gateway module that allows for the direct connection of up to 15 I/O modules in the field means that separate and expensive IP67 fieldbus components become redundant. This tangibly increases the flexibility of your automation solutions whilst simultaneously reducing the associated costs.

This innovative solution with u-remote simplifies your system configuration, guarantees complete data integrity and provides a simple solution to the problem of signal connection in applications with different protection classes. And not only that, but you will also benefit from the extended diagnostic functions provided by u-remote.



Make the most of u-remote in applications with different protection classes, and benefit from the unlimited flexibility of a continuous IP20-IP67 solution.



The direct connection of the IP67 I/Os to the IP20 system means that your automation solution can be used with an extremely wide range of different fieldbuses. When you change the IP20 coupler, the IP67 connection is automatically migrated to the new fieldbus.





#### **Reduced system costs**

The option of using IP20 gateway modules means that there is no longer any need for expensive IP67 fieldbus gateways.



Your special advantages:

# Direct connection of IP67 I/O modules to the IP20 I/O system

Money-saving solution with simple project planning, increased versatility and additional diagnostic tools. Up to 120 signals from the field can be connected using just 11.5 mm of space in the control cabinet, which helps to free up plenty of space.

#### Just switch on and go!

Automatic addressing ensures that the subbus modules are immediately detected after switchon. Modular device master files make for simple project planning.





#### Faster plant start-up

The more consistent web server display for IP20 and IP67 modules makes it easier to carry out parameteristion, input and output simulation and system diagnostics.





Process









Device Manufacturers

# Decentralisation of automation solutions with unrivalled flexibility

Powerful remote I/O components in protection class IP67

The growing trend for the decentralisation of industrial production facilities means that signals increasingly need to be retrieved and transmitted directly at the sensors and actuators.

The remote I/O modules from Weidmüller in protection class IP67 provide the perfect solution to this problem. Due to their small size and unrivalled variety of functions, the modules save valuable space, meaning that control cabinets can be merged or even eliminated. This is an important benefit for modular machinery and production lines in particular.

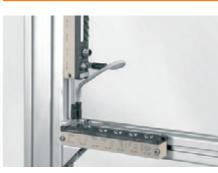
The remote I/O subbus sytem in protection class IP67 is characterised by its high levels of resistance to environmental influences, and is also extremely powerful. Up to 15 modules can be positioned on 50-metre sections, which significantly increases flexibility in terms of the system design. Another benefit is the unique wide variety of functions offered by the I/O modules, which allows for a clear shift of functions directly into the field.



One particular benefit lies in the direct connection of the IP20 system with the IP67-subbus modules. Thanks to the innovative IP20 gateway module, the fieldbus-independent IP67 subbus system can be combined with all available u-remote fieldbus couplers. This means that only a single IP67 system is required, and the entire system can be migrated to a different fieldbus simply by changing the coupler.

#### Free alignment

The space-saving modules that make up our IP67 system allow for installation in even the smallest of spaces, and are unique in that they can be mounted in two different directions. This makes it easier to ensure optimal cable routing in the vicinity of moving parts of your application.



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#### Extremely flexible

Signal connection in modular production facilities is now a lot more flexible: up to 15 IP67 I/O modules can be positioned along a section with a total length of 50 metres.



#### **Enhanced productivity**

Whenever the I/O system is started up, the subbus modules automatically sign in to the u-remote gateway module. As the modules are compatible with the u-remote web server, you can also carry out simulations and system diagnostics or force inputs and outputs without being connected to a control unit. The start-up time is significantly reduced.



# Your special advantages:

# Small control cabinets due to superior functionality in the field

The IP67 I/O modules from Weidmüller offer a unique, extensive range of digital and analogue inputs and outputs as well as counter modules, RTD modules and even TC modules. This makes it possible for a large number of functions to be shifted to the field, and lead to a noticeable reduction in the amount of installation space required in the control cabinet.

#### Electronics and automation | Remote I/O subbus system

#### **Good visibility**

Illuminated markers ensure that channel statuses can be clearly identified, even in the dark.





#### Simple handling

Weidmüller subbus modules are exceedingly robust yet extremely light, making them ideally suited for use on moving objects, such as a robotic arm.















Device Manufacture

# Simple integration of devices with a serial interface

u-remote keeps your automation solutions flexible

In the field of industrial automation, there are still a large number of peripheral devices being used that communicate via serial point-to-point connections. Examples of these kinds of devices include handheld scanners or printers.

Connecting these devices to a fieldbus-based or Ethernetbased automation architecture requires the use of interfaces that transfer serial signals to bus protocols and vice versa. u-remote makes it really simple to integrate serially communicating devices into your automation architecture.

The universal communication module allows for the use of either an RS232, an RS485 or an RS422 interface, which helps simplify your system configuration. A 5-V power supply and a 24-V power supply are part of the module and do not need to get considered as a seperate function.

## **Option of retroactive adaptation**

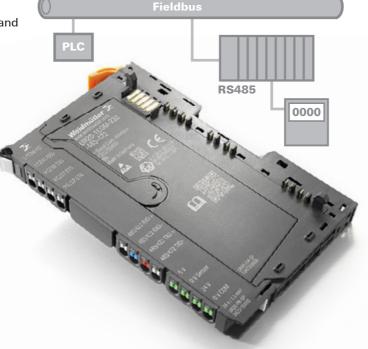
The integration of three standard interfaces with a parametrisable transfer rate allows you to respond to sudden changes in the device fleet. This is a useful feature if, for example, you are still unsure during the planning stage as to whether you are actually going to use any peripheral devices.

#### Simple diagnostics without the need for expensive software

LEDs on each channel and status indicators on the modules show whether the data transfer is working correctly or whether an error is present. This feature is a guarantee for reliable system start-up and rapid plant maintenance.

The new communication module from the u-remote range allows for the flexible integration of devices with serial interfaces into a modern industrial automation architecture





# Your special advantages:

# More flexibility, less complexity

The u-remote serial communication module combines three different interface types over a width of just 11.5 mm: RS232, RS485 and RS422. This enables different devices to be connected to the fieldbus or to the Ethernet network via just one module type. This makes planning work easier, reduces the amount of required space and also cuts costs.

Your special advantages:

Perfect-fit remote I/O configuration in IP54 All functions available via u-remote can be arranged protected from dust and water in the new FieldPower® IP54 enclosure and installed decentrally in the field.

# Position special remote I/O functions decentrally within the field FieldPower<sup>®</sup> enclosures bring the benefits of u-remote into the field

Reduction of project throughput times, minimisation of downtimes and promotion of ever more flexible production systems: all this leads to increased modularisation of machines and systems today.

The new FieldPower® IP54 enclosures for u-remote reliably bring the varied functionality of u-remote into the field. This gives you access to another module to increase the flexibility of your automation architecture.

In modern mechatronics, machine functions are becoming increasingly modular and developed beyond the boundaries of different trades. Combining the modular FieldPower® and u-remote system solutions allows even more individual solutions to be achieved.

#### Supports quick and error-free installation in the field

The folding cable seal in combination with slit cable-seal inserts allows the use of pre-assembled M8 and M12 conductors in combination with u-remote connectors or complete connecting lines for whole modules



In order to implement conveyor systems in intralogistics and production logistics in line with quality, deadline and cost specifications, pre-assemble field boxes are required for the individual machine functions, which are type tested and easy to combine and handle



Same components - reduced stock The same IP20 I/O modules can be used which are already in use in other parts of the plant

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# Effectively maximise energy efficiency and machine availability

Total Energy Monitoring increases transparency and process stability

Climate change and dwindling resources are global megatrends that are increasingly influencing corporate action. In addition, high plant availability is playing an increasingly prominent role for efficient production processes. Both factors require a specific package of measures for each individual company.

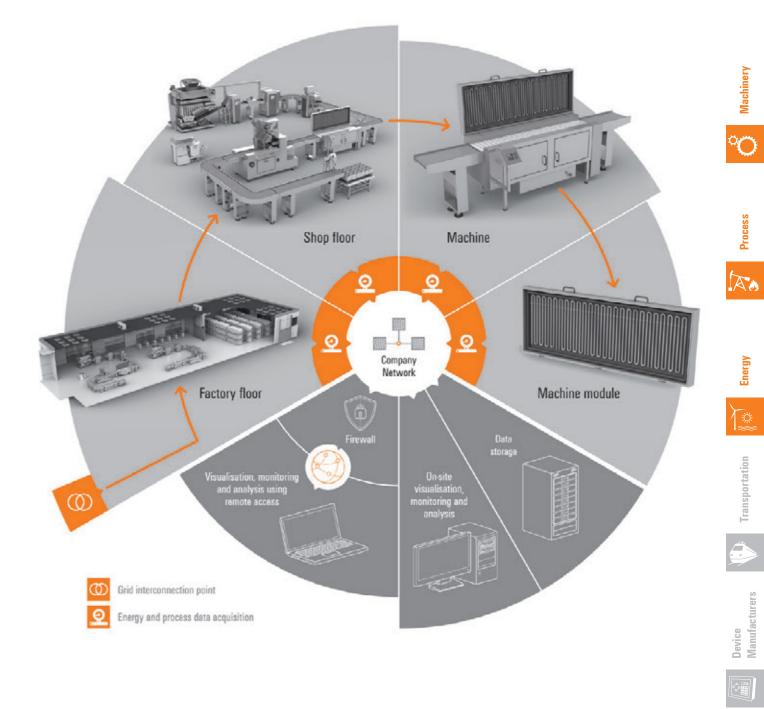
To meet individual customer needs in relation to energy monitoring and process stabilisation, Weidmüller has developed an extensive range of solutions in the form of Total Energy Monitoring.

This involves measuring and analysing energy and process data from the grid interconnection point at plant level, over production lines and machines, to individual machine modules. We offer the ideal meters and analysers for every level. And data can be clearly presented, analysed and optimised with our tailored software systems.

Most production sites are vast and complex. With Total Energy Monitoring's hardware and software components, there is now a solution that can be individually customised to any conditions.



To increase energy efficiency and plant availability, measurement data must be collected at different points of a production site. Total Energy Monitoring from Weidmüller enables the assembly of an individual energy monitoring solution with modules combined in an application-specific way.





# Energy monitoring at all levels

For the first time, production facilities' energy networks can be monitored and analysed from the grid interconnection point, through the sub-distribution boards, to individual machine modules. Software packages for visualisation and analysis purposes as well as for remote access round off the range on offer.

#### Optimum coordination All of the components are coordination

All of the components are coordinated to one another to ensure an optimum benefit in terms of energy efficiency, quality, security and availability. High level of scalability Solutions of all sizes can be implemented – from the individual measuring point, to the extensive measuring point system including remote access.

#### **Flexible composition**

The wide modular system always offers the right option, even for very specific intended uses.

# **Conveniently record and clearly display measurement data**

ecoExplorer go simplifies parameterisation and visualisation

Many of our energy measurement devices have a very simple user interface for reasons of clarity to allow the display and parameterisation of the measured data directly on the device.

ecoExplorer go is PC-based software which allows you to access your devices guicker and more simply and conveniently than before.

Thanks to the intuitive user interface, users can configure the measurement devices quickly and easily and display the measured data clearly.

#### Quick insight

The visualisation of energy

principle to make production

consumers is a central

sites more efficient

For energy management, the further processing and evaluation of energy and measurement data for the electrical voltage guality is of key importance. ecoExplorer go enables initial analysis of the energy network.

# Your special advantages:

Quick commissioning

the measurement devices.

The user-friendly interface of ecoExplorer go allows guick connection and configuration of

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# **Coordinated and optimised**

ecoExplorer go has been exactly tailored to the use of measurement equipment in the energy sector. This guarantees that it provides optimum performance in practice.

# Visualise, analyse and optimise energy flows on an individual basis Energy controlling plus efficiency analysis with ecoExplorer

Energy-efficient infrastructure and production systems reduce operating costs and increase productivity. In order to increase energy efficiency, the energy consumption must be known.

ecoExplorer allows continuous recording and monitoring of energy flows in industrial environments. The new energy management software can record various media, operating and process data and enables energy controlling and efficiency analysis based on a single software.

ecoExplorer provides energy transparency and enables efficiency to be analysed in just a few clicks. Operating statuses down to the process level can be individually recorded and displayed accurately to the second. Standard compliant with ISO 50001.

#### **Smart analyses**

More transparency across your energy media and consumption: assign the actual energy costs to the relevant company departments and determine efficiency levels.



# Your special advantages:

# Individual usage possibilities

With ecoExplorer, you can record and analyse various energy media. You can optimise your individual process environment from the network transfer point to the detailed machine processes. To do this, you can produce automated reports and evaluations to inform different company levels about the relevant indices and trends.

Energy efficiency in production processes can only be achieved if the use of energy is transparent. ecoExplorer helps creating this transparency.







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#### Automated evaluation

The report generator allows you to produce documentation and reports to inform all company departments about the day's relevant indices and trends. The cockpit function allows you to produce automated status reports and process-related evaluations

Device Manufa

# **Record electrical data of single consumers in real time**

Energy consumption measurement and monitoring with u-remote

#### Rising energy costs require sustainable energy management. The aim is to tailor the operation of individual machines and processes or even whole plants to optimum energy usage. This means recording and analysing the consumption data for all components.

The new u-remote energy measurement module is used to record and process data from single- or three-phase AC consumers up to a rated voltage of 300 Veff AC (L-N). Reactive, apparent and active power, energy consumption, phase angle and many more electrical characteristics can be measured or calculated directly with the module and transferred to higher-level controllers or control systems via the process data.

The power measurement module can easily be integrated into existing automation solutions using u-remote. Even without any process interruption using split-core current tranformers or Rogowski Coils which are placed around the existing conductors or current bars.

#### Integrated pre-processing of measurement data

A wide range of parameters allow a applicationspecific configuration for the measurement, analysis and further processing of the raw data. With this a lot of consumer-specific characteristics can be transferred directly to the process data image.

**Direct measurement – direct saving** Currents of up to 1 A or 5 A can be measured directly without additional components such as

pluggable or retrofit current transformers

# Gain transparency about the consumption data for vour machines and systems. u-remote integrates individual data recording into your plant automation system





# Measure energy consumption of production systems in detail Weidmüller energy measuring devices make energy efficiency transparent

Many companies want to protect energy sources, use energy more efficiently and improve the availability of energy networks. This not only demonstrates responsibility, but is also recommended for economical reasons.

Weidmüller energy measuring devices can do much more than measure consumption of electrical energy. They can, for example, also determine basic parameters on energy guality or analyse the current from all conductors individually or on a differential basis - such as our Energy Meter 750, for example.

This gives you a quick overview of what is going on with the electrical energy in your production facility. This applies both to efficient use and to quality, stability and availability.

# **Excellent scalability**

The comprehensive range of energy measuring devices means you can break down the energy networks for your production sites as accurately as you wish and measure them in detail.



# Your special advantages:

# Fully integrated enroy consumption measurement in just 11.5 mm

The u-remote energy measurement module can be positioned anywhere within a u-remote station. With a width of just 11.5 mm, an individual consumer can be connected to record measured values for voltages and currents - with a free choice of communication protocol.

# Your special advantages:

# The right measurement device for all plant sections of devices.

Energy networks for industria systems are complex. Our energy measurement devices make it possible to break them down into manageable areas in order to easily analyse consumption and other energy parameters.





Not all measuring devices are suitable for all applications. You can select the perfect measuring device for each of your system components from our comprehensive, modular portfolio

# Holistic analysis of the quality of electrical supply networks

Energy analysis devices for transparency and improved plant availability

More and more nonlinear consumers and system components are being used in production sites. They have an impact on, for example, network frequency, phase shift and amplitude of phases. This influences the quality of electrical energy and thus plant availability.

The new Energy Analyser 550 measures all the quality parameters in the electrical supply network, from the key symmetry indices to the transients, and many other parameters besides.

With the Energy Analyser 550, you can carry out comprehensive checks on the quality of the electrical energy in your production site and derive optimisation steps to maximise the effectiveness and availability of your plant.

The quality of the electrical network is an important narameter for the effectiveness and availability of industrial plants and production sites. The use of the Energy Analyser 550 is the first step towards increased productivity.



# Provide measurement data efficiently and conveniently Our energy logger collects consumption and process data

Measuring devices with a simple S0 interface are widespread. But they cannot transfer measured values direct into the internal network. Therefore, a gateway is required for each measuring device.

The Energy Logger D550 can collect and save impulse signals from up to 15 measurement devices and forwards them via a LAN interface.

This particularly compact Energy Logger D550 is the costeffective solution to simplify and accelerate the collecting and forwarding of consumption and process data.

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 maximises operating times.



Top-hat rail devices for simple requirements For less comprehensive measurements, we offer the Energy Analyser D 550, a very small device for installation on

standard top-hat rails.



Integrated temperature measurement The Energy Logger D550 has an input for temperature measurement. This saves costs in setting up an infrastructure for the measurement of process parameters.

> Integrated ModBus interface As well as the consumption data of simple measuring devices, measurement values from devices with a ModBus interface can also be forwarded over a network.

Large, clear display The large QVGA colour display on the device

clearly visualises all measurement parameters and allows convenient adjustment of the system parameters

# Your special advantages:

# Determine quality-related factors using a single device

With just one device, consumption measurements and quality analyses can be executed and clearly displayed within the electrical network, among other things. Important events can be recorded as required.

Your special advantages:

# **Compact collector**

Even in confined spaces, the Energy Logger D550 offers the option of recording impulses from up to 15 consumers, save the data, measure temperatures and forward the consumption data via a LAN interface.

As well as the consumptio of electrical energy, the consumption of for example compressed air, water and gas can also be optimised. Energy Logger D550 enables the provision of cross-plant measurement data in the network



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**Integrated data memory** Data can be saved long-term in the device's built-in 32 MB memory

# **Precisely measure and monitor AC and DC currents**

ACT20P-CMT and CML current measuring transducers

Monitoring is effective when a connected load's real current consumption is determined in as precise a manner as possible.

Thanks to the real effective value measurement (True RMS), our ACT20P-CMT and ACT20P-CML universal current measuring transducers record sine and distorted direct and alternating currents with excellent precision. An intelligent monitoring function means our ACT20P devices are able to accurately detect current overloads or shortfalls. This means you can counteract overloading consumers in good time. There is also the option of exact monitoring of total current. This means the failure of individual consumers or whole electric circuits can be reliably detected.

In combination with passive current transformers, the new ACT20P-CML current measuring transducers can also be used to measure very high AC currents. This way, the measurement range can be extended according to application needs.

For both current measuring transducers, exceeding of the measurement range is indicated according to NAMUR NE 43 and NE 44.

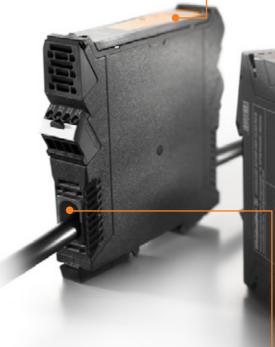


ACT20P current measuring transducers allow you to simultaneously measure and monitor the currents of connected loads. This can reduce overloads, for example on motors or lifting or conveyor gear. Damage as a result of reduced performance. for cooling fans, light and heating circuits or photovoltaic trains, for example, occurs less often

Simple and quick configuration

DIP switches and potentiometers are located on the front, which means they're quickly accessible even when installed.





## **Easy to install**

The asymmetrical cable bushing of ACT20P-CMT current measuring transducers makes it easier to feed through the power cable and permits precise measurement on an extremely small space.



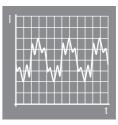
# Your special advantages:

# High level of accuracy – reliable protection

ACT20P current measuring transducers are characterised by their high level of accuracy, amounting to at least 0.5 % of the measurement range, and indicate measurement range exceedance pursuant to NE43 and NE44. This translates into precise total load measurements, so you can reliably detect the failure of individual consumers too - even in faulty electricity grids.

#### **Precise measured values**

The real-value effective procedure allows you to record the connected load's real power consumption, so you can reliably identify when levels exceed or fall below the nominal current.



#### Wide field of application

In combination with passive current transformers, the new ACT20P CML current measuring transducers can also be used for measuring very high AC currents.

Machinery

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#### **Condition monitoring**

Predicitve maintenance strategies using automation-independent information about operating conditions and process data for connected devices.



# Targeted monitoring and optimisation of plants and processes ACT20C station with current-measuring transducers

If you are to operate your plants as efficiently as possible, then you need constant information about the current status of devices and functions. In wind power installations, for example, this includes the effective current consumption of motors for pitch adjustment, device heaters or brakes, as well as information concerning their utilisation and operating behaviour.

Using the RMS method, our ACT20C-CMT and ACT20C-CML universal current measuring transducers measure the real power consumption of a connected load for direct and alternating currents - even with distorted curves.

In combination with passive current transformers, the new ACT20C-CML current measuring transducers can also be used for measuring very high AC currents. This way, the measurement range can be extended according to application needs. The data transmitted by the ACT20C current measuring transducers allows you to continuously monitor connected units in terms of whether levels are exceeding or falling below defined load points, as well as allowing you to maintain an overview of the units' use and service life. This makes it far easier to optimise plants and processes on a targeted basis.



Wind power plants make up one typical area of application for our ACT20C station with current measuring transducers. Here, it is vital that motor or brake overloads or anomalies are identified at an early stage and that operators respond to poor performance in cooling fans or rotor blade de-icing systems in a timely fashion.

**Smart software configuration** The software configuration based on the FDT and EDT2 standards makes parameterisation documentation and data backup easier.



High process reliability withstand voltage of 6.4 kV pursuant to

# Your special advantages:

# More transparency in your automation Identify errors and analyse faults in detail. ACT20C current measuring transducers allow for precise current measurements and supply extensive status information over the Ethernet.





#### Electronics and automation | ACT20C analogue signal converters with current measuring transducers

Multiple limit value monitoring The main alarm and auxiliary alarm permit precise identification of all alarm situations.

















More transparency in your automation

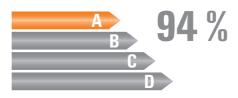
Identify errors and analyse faults in detail. ACT20C current-measuring transducers allow precise current measurements and supply extensive status information over the Ethernet

A galvanic four-way isolation and an impulse IEC 61010-2-201 guarantee optimum fusing.

**Extremely compact and energy-efficient** The compact design saves up to 30 % space in the control cabinet. The high degree of efficiency of up to 94 % ensures low energy costs.

# Stabilise control voltages in 24 V DC systems

Compact and powerful DC/DC converters for an everlasting supply



Maximum supply reliability and minimum downtimes indicate a good power supply system. However, the increasing complexity of supply solutions and the increased use of battery back-up systems can have a negative impact on the stability of the DC control voltage. Supply disruptions, e. g. voltage fluctuations as a result of different potentials or voltage drops as a result of long cables may occur as a result. These issues can often lead to cost-intensive production disruptions.

The DC/DC converter balances out voltage fluctuations, such as those arising as a result of unregulated voltage supplies. Voltage drops at the end of long cables are also balanced out. With protection class III for floating systems and galvanic isolation, the DC/DC converters are particularly well-suited for use with independent supply systems.

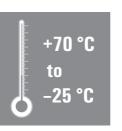
As well as having above-average performance characteristics, the DC/DC converter also stands out thanks to its slim design, ease of servicing and high degree of efficiency of up to 94 %. It also has a wide range of safety functions and can be combined with PROeco or PROmax power supplies. It is also possible to combine UPS components and diode modules with the DC/DC converter in order to establish a redundant power supply. All of these features make the DC converter a real all-rounder when it comes to 24 V DC supply voltages.



In floating voltage systems, e. g. with emergency power battery systems in marine engineering, the control voltage needs to be galvanically isolated from the battery voltage

#### **Robust and reliable**

Weidmüller DC/DC converters function reliably over a large temperature range of between -25 °C and +70 °C (start-up: -40 °C), and with a high MTBF value of over 1,000,000 hours.





#### **Power supply solution**

By combining the device with PROeco or PROmax switched-mode power supply units, the interruption-free DC-UPS or the diode modules, it is possible to create highly customisable power supply solutions.



Your special advantages:

# **Reliable and powerful**

The long-lasting Power Boost of up to 120 % and high peak currents of up to 600 % of the rated current for 16 ms guarantee reliable starting and safe operation even within limit ranges.

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#### Quick status diagnostics and maintenance

The preventative function monitoring via LED display, the status relay and transistor outputs make it easier to carry out status and error analyses during commissioning and operation.





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# For high process reliability with easy installation work

ACT20P-WavePak: the easy-to-configure signal converter

Whether machine construction, process automation, or process and energy technology: in many industrial fields, the safe isolation and precise conversion of analogue signals play an important role. This applies in particular to filling plants in the food and pharmaceutical industries, where high measurement accuracy and simple configuration are basic requirements in ensuring smooth operation.

The new ACT20P-WavePak isolates and converts analogue current and voltage signals extremely reliably, and also stands out thanks to its above-average measurement accuracy of 0.05 %. DIP switches and buttons mean that the measurement ranges can be configured easily.

The ACT20P-WavePak meets all of today's requirements for an especially precise, easy-to-maintain and easy-to-integrate signal converter for an extremely wide range of applications.



The safe isolation and precise conversion of analogue signals with high levels of reliability, measurement accuracy and simple configuration is a prerequisite in many industrial applications. This is the case for filling plants in the food and pharmaceutical industries, for example, or in the field of water management. Simple operation

The intuitive connection system with release levers makes it easier to maintain the device and to detach lines.





High process reliability The high level of galvanic isolation of 4 kV at 300 V rated voltage guarantees safe operation.



Your special advantages:

**Simple configuration** The DIP switches and the three buttons located on the front make module configuration quick and intuitive.



#### Versatile application options

The ACT20P-WavePak functions over a large temperature range and can be used reliably in an extremely wide range of application areas.



















#### Secure status identification

The highly visible status LED with large-scale illumination ensures clear status recognition.



In an industrial environment, service work needs to be carried out quickly, simply and reliably. Increasingly compact cabinets and miniaturised components in confined spaces are becoming a challenge. If components need to be replaced, the bended relay pins often cause errors which are difficult to locate.

Accelerate installation and service in confined spaces

Compact DRI relays with robust, industry-compliant plug-in pins

As the handling of components in practice plays an increasingly important role, DRI relays have particularly robust plug-in pins for quick and safe mounting. The test button with final locking to detect manipulation can be actuated without tools. Easily visible LED illumination of the status indicator also allows clear determination of status.

Both during installation of the cabinets and during subsequent servicing in mechanical and plant construction, DRI relays are the optimum coupling element for confined installation conditions.



In quarrying operations or wind power plants: where the application gets the relays moving, a stable and reliable connection is required. In service cases, secure replacement with robust plug-in pins, simple handling using the test button and quick status identification by means of LED illumination.



Bases with different screw connection systems are available for different regional requirements and conditions.



**D-SERIES** 

The D-SERIES offers a range of industrial relays for loads of up to 400 V / 30 A with coils from 5 V DC to 380 V AC.



# Your special advantages:

Robust plug-in pins Compact 1 and 2 CO contact relay with industry-compliant plug-in pins for reliable contacting, even in ambitious applications.



#### Electronics and automation | Relay modules and DRI relay modules

Support for installation and service The user-friendly test button slots into the end position. This means any manipulation can be seen directly.





Clearly legible product recognition and colour coding of the test button reduce errors in installation and service.







# Secure protection of power supplies in the American market VARITECTOR PU II with new UL approval

Energy supply systems need safe and efficient protection against surge damage. This applies to the energy generation and distribution, to industrial production and also in the process industry.

The new VARITECTOR PU II UL surge protection devices enable the VARITECTOR PU product concept, which has been established for many years across a range of applications, to be transferred to systems for the American market.

High levels of application flexibility, reliable safety technology and approval to the latest certification standards in line with UL 1449 Edition 4 make it perfectly equipped for the future.



The approval standards for American energy networks specify particular requirements in terms of surge protection, for example with respect to dielectric strength. The different network topologies also require the use of surge protection components which are specially tailored to the specific application. VARITECTOR PU II UL addresses Class II protection of the main network topologies in power supply.

**Planning reliability** Compliance with the new UL 1449 Edition 4.





**Quick status reports** The remote signalling contact, with a PUSH IN connector is quick to connect and reliably signals the status of the protection.



Your special advantages:

Future-proof surge protection for American energy networks Compliance with the latest UL standards in UL 1449 Edition 4.

#### **Reliable operation**

Reliable locking of the arrestor for secure operation under demanding mechanical conditions









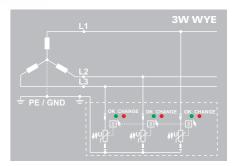








**Clear application orientation** Designed for American voltage levels and network topologies.



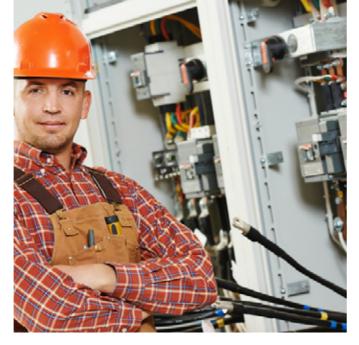


# **Protect energy networks cost-effectively against overvoltage** VARITECTOR PU I Surge Protection in post-meter applications

Whether in the process industry, in industrial production or in energy generation and distribution: energy supply systems must be safely and efficiently protected from overvoltage damage in order to avoid unnecessary repair and downtime costs.

The product concept of the VARITECTOR PU, which has been established for years in a wide variety of applications, now protects your system even more economically.

Flexibility in application, reliable protection technology and certification in accordance with latest standards ensure maximum investment protection and future viability.



No leakage current-free protection components are required for surge protection in the post-meter sector. VARITECTOR PU I 280 V addresses Class 1 protection for the main network topologies in energy supply and is specially tailored for use in the post-meter sector. Quick status reports

The remote signalling contact, with a PUSH IN connector is quick to connect and reliably signals the status of the protection.



**Quick installation** The special mounting rail clip can be fitted without tools. Flexible positioning in the control cabinet.



Your special advantages:

**Safe surge protection in post-meter applications for energy networks** High future viability with standard compliance in accordance with current standard IEC 61643-11:2011. Expansion of the VARITECTOR PU I product family The introduction of the VPU I 280 V for the post-meter sector represents an expansion of the VARITECTOR PU I product range.



**Reliable operation** 

Reliable locking of the arrestor for secure operation under demanding mechanical conditions.





Transportation



# **Reliable monitoring of plant efficiency**

Simple and secure performance monitoring with Transclinic 16i+

The fields of application for photovoltaics are becoming increasingly varied. Photovoltaic systems must therefore be able to withstand increasingly harsh environmental conditions. This puts high demands on control and monitoring technology, and requires powerful monitoring systems that have high levels of efficiency but that at the same time do not take up much space in the combiner boxes.

Transclinic 16i+ can be used in an extremely wide range of environments and over large temperature ranges, while simultaneously resolving the space-related problems of the past. The system's 16 connections halves the amount of required space, while still ensuring consistently reliable monitoring.

The simple operation means that the Transclinic 16i+ can be installed and maintained quickly even by untrained personnel. Integrated protection prevents component damage even in the event of incorrect installation. The simple fault analysis reduces the amount of effort required for maintenance and repair work.



Growing requirements for performance and efficiency, as well as a wider application spectrum under extreme environmental conditions, mean that there is a need for increasingly sophisticated monitoring solutions. Transclinic 16i+ works reliably even in harsh conditions, makes maintenance and repair work easier and takes up less space in the combiner box.

#### Open data protocol

The open Modbus RTU-RS485 protocol makes it easier to integrate Transclinic 16i+ into SCADA systems.





Transclinic 16i+ functions reliably over a temperature range of between -25 °C and +70 °C, and at heights of up to 3,000 m, making the system suitable even when faced with strict requirements.



Protection against incorrect installation An integrated switch provides reliable protection against cases of damage resulting from the incorrect cabling of the communication interface.



Your special advantages:

# Tried-and-tested system – sustainably extended

Tried-and-tested components guarantee that Transclinic 16i+ functions reliably even in extreme conditions. The system is robust, safe, space-saving and very cost-efficient.

#### Quick error analysis

Status LEDs allow for the rapid checking of the system status. Time-consuming error analyses are things of the past.



















# **Decentrally generate and distribute 24 V control voltages**

FieldPower<sup>®</sup> 10 A power supply for cabinet-free installation concepts

The requirements for shorter project lead times, fewer failures and increasingly flexible production facilities are leading to ever greater machine and facility modularisation.

The new FieldPower<sup>®</sup> 10 A power supply with IP65 protection complements the proven FieldPower<sup>®</sup> system solution for modular machine and facility concepts. The decentralised generation of 24 V control voltages, combined with the FieldPower® installation benefits, make up the decisive added value.

In modern mechatronics machine functions are becoming increasingly modular and developed beyond the boundaries of different trades. With the modular FieldPower® system individual solutions - now including the power supply - can be implemented in a customised manner.



In order to implement materials handling facilities in intra-logistics and production logistics in line with deadline and cost specifications, pre-assembled field boxes are required for the individual machine functions, which are type-tested and easy to combine and handle. These requirements are optimally satisfied by the FieldPower<sup>®</sup> 10 A power supply.

**Reliable at high temperatures** 

The type-tested cooling without fans permits use in ambient temperatures up to 50 °C without derating.

Tailored to your application As part of the modular FieldPower® system the FieldPower® 10 A power supply can be equipped with the exact interfaces and functions required



Your special advantages:

# The ideal power supply for modular power distribution systems

Ideally suitable for modular installations in the field that are to make do without a cabinet - individually tailored to the application in question. The uncut power bus enables simple installation and safe operation.

#### A particularly reliable supply The three-phase IP65 power supply is assembled near the 24 V loads. This minimises the voltage drop and increases operational reliability.



The proven FieldPower® connection system enables swift and safe installation. Thanks to the uncut power bus line the loop impedance remains constantly low while the level of protection remains high





# **Contactless power transmission – maintenance-free and up to 240 W**

FreeCon Contactless: high power density, maximum efficiency

Burnt, bent or dirty contacts are often the cause of timeconsuming and costly production failures. This is all the more true of applications requiring frequent plugging cycles. To name but one example, these include industrial robots performing frequent tool changes. Here, the level of wear is especially high.

FreeCon Contactless allows power to be transmitted via an air gap by means of an inductive resonance coupling – it's a solution that's completely wear-free and especially efficient. Double the power density and a far higher degree of efficiency is achieved compared with comparable solutions that are available on the market.

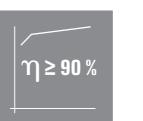
Thanks to FreeCon Contactless, you can avoid contactrelated failures and cut your maintenance costs considerably. It even opens up completely new areas of application, since for the first time ever an automated process can be used to establish a connection which previously would have to be plugged manually. The process of charging driverless transport systems, for instance, can be automated. Highmaintenance slip ring transmitters can be replaced too, since FreeCon Contactless securely transmits power even in the case of rotational movements.



Industrial robots often perform several hundred tool changes per day. In this regard, conventional contacts are subjected to high levels of wear. With FreeCon Contactless, you benefit from a reliable and maintenance-free connection.

High power density with maximum efficiency

For the first time ever, 240 W of power can be transmitted contactlessly via two especially small modules. Extremely low transmission losses translate into an efficiency level of up to  $\geq$  90 %.





#### Fast commissioning with PROFINET PushPull Power connection Our proven standard plug-in connector for 24 V DC applications enables fast installation and ensures that the modules are provided with a secure and reliable supply.



# Your special advantages:

**Wear-free electrical connection that can be switched as part of a controlled process** FreeCon Contactless enables reliable and contactless transmission of up to 240 W of power with compact dimensions and maximum efficiency. The transmission can even be controlled via PLC. It is therefore possible to switch 10 A directly via the PLC without the need for an additional contactor.

# High flexibility thanks to unlimited approach options

The secondary side can be approached by the primary side from any direction. The connection is established as soon as both modules are positioned opposite one another. The connection remains stable even in the event of rotational movements.











Transportation



Unlike conventional plug-in connections, which only provide IP20 protection when unplugged and are therefore unprotected, FreeCon Contactless offers IP65 – permanently. So, with FreeCon Contactless, contacting problems caused by dirt are a thing of the past.





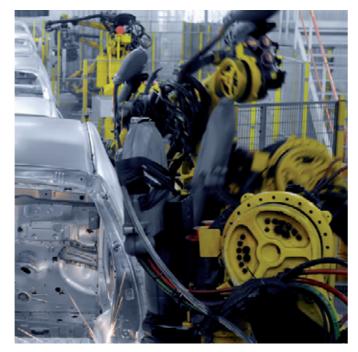
# Shorter assembly times in robotics and field cabling

Efficient solutions for power, PROFINET and signal cables

Previously in cable assembly production, the cable was pulled through the sleeve without a plug, and the connectors fitted afterwards. If a packaging error was found in the hose package during a test, the entire assembly had to be rejected and redone. Thanks to the new FreeCon cable couplings, this is no longer necessary, as the compact couplings fit through the hose package, which means that only tested, pre-assembled lines are pulled through.

Separation into a compact design has made the assembly of the hose package siginificantly easier for the automotive industry. Thanks to their slim dimensions, the pre-assembled and tested lines can now be simply pulled through the hose package. The cable couplings can also be used together with the connectors as flying cable couplings in the field.

The pioneering design of the FreeCon cable couplings allows for particularly quick and convenient robotics cabling.

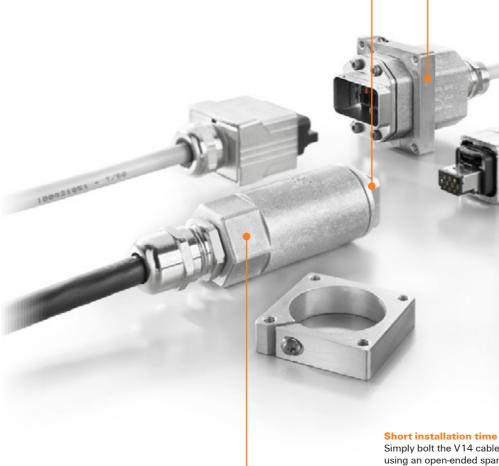


The automotive construction industry is facing increasing cost pressure, combined with demands for shorter installation times. Designed with the aim of meeting these requirements, the FreeCon cable couplings feature a sophisticated product design that was developed in close collaboration with the automotive industry.

#### **Robust interfaces**

The cable coupling is characterised by its strong structure (metal housing) and IP65 protection dearee.





Your special advantages:

# Quicker replacement of cable assemblies

New connection technology for reduced installation time in robotics cabling and IP65 field cabling

Simplified assembly of cable assemblies The slim dimensions allow the pre-assembled and tested lines to be pulled into the hose package.

Particularly robust mounting frame Extra sturdy thanks to 10-mm-thick mounting frame.











Transportation

Simply bolt the V14 cable coupling together using an open-ended spanner (SW27 hexagonal head on the housing)



# Reliably connect devices via Industrial Ethernet

IP67-protected V4 interfaces in accordance with IEC 61076-3-106

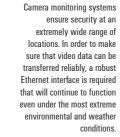
## For some time now, camera systems have been increasingly being used for quality-assurance and property-surveillance purposes. This has caused significant increases in the amount of data in many industrial networks, which in turn has lead to a need for components that are suitable for the rapid transfer of large data quantities.

We are responding to this trend with our new connectors, which can transfer up to 10 GBit/s and are in the highest protection degree. One of these products is our compact V4 device flange for the Gigabit range, which fulfils the requirements according to Cat.  $6_{A}$  and IP67.

Our V4 programme has excellent electrical and mechanical properties. It offers high signal reserves and ensures secure and fault-free data transmission at all times – even in the event of wet conditions, dust or dirt.

**High protection degree** When plugged in, the V4 device flange and plug meet all of the criteria of protection class IP65 / IP67, which means that they are completely resistant to dust and water.









# **Efficient access to systems and processes** FrontCom<sup>®</sup> Vario – even more flexible thanks to new inserts

Protected service interfaces on switch cabinets allow for a range of different service work to be performed during ongoing operation. They effectively increase the availability and productivity of your plant. Technicians are guaranteed fast and safe access to the controller in the switch cabinet at all times, without having to wait for specially authorised technical personnel. At the same time, the risk of misuse or accidents is also dramatically reduced.

The FrontCom<sup>®</sup> Vario system is compact, simple to install and can be assembled flexibly. You can choose between a range of different data, signal and power inserts and between a number of attractive housing designs to create a solution that meets your specific requirements. The existing product range has been expanded to include various new inputs such as VGA, HDMI and additional sockets, and there is now also the option of ordering pre-defined sets.

A number of unique product features make FrontCom® Vario a particularly safe, fast and future-oriented solution. Maintenance and optimisation processes on your systems can be performed much more efficiently and therefore more cost-effectively.

# Your special advantages:

## High level of imperviousness

Our V4 device flange meets uniquely high requirements in terms of its imperviousness, meaning that it ensures high transmission reliability even under extreme environmental conditions. Your special advantages:

# New service interface size

Compared to conventional service interfaces, FrontCom® Vario combines several functions in just one single frame, so it only takes up half the space.

A number of unique product features make FrontCom® Vario a particularly safe, fast and future-oriented solution. Maintenance and optimisation processes on your systems can be performed much more efficiently and therefore more cost-effectively.







**D**evice Manufa

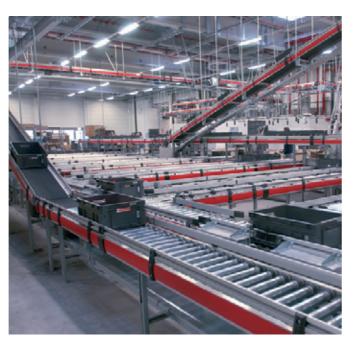


# **Individual and space-efficient motor supply in the field** Pluggable SAI MVV 1:1 motor distributor

With machine construction applications, it is often necessary to assemble multiple three-phase motors in close proximity to one another. This is the case in conveyor systems, for example, where the motors need to be supplied with power in a space-saving and flexible manner – and all while being kept completely independent from one another.

With the SAI MVV 1:1 module, up to 4 motors can be supplied with 400 V AC on an individual basis, meaning that the control unit and the motor protection switch can remain in the switch cabinet. With its particularly compact dimensions, the distributor allows for high levels of flexibility in field wiring, and can be installed in an efficient manner. The S-coded M12 plug-in connectors allow for the rapid exchange of motor lines when being serviced.

The SAI MVV 1:1 meets the highest requirements of a pluggable motor distributor. It is the most compact and smartest solution currently on the market for separate motor distribution.



Particularly compact and efficient: in conveyor systems in particular, the new SAI MVV 1:1 is the perfect field wiring solution for the separate supply of motors. There is no longer any need for heavy-duty connectors.

#### Easy to plug in

The fact that the modules can be plugged in makes installation and maintenance work much quicker.



#### Efficient alternatives

The easy-maintenance distributor system is the perfect replacement for large, expensive and heavy-duty connectors.



# A unique solution

The new SAI MVV 1:1 combines uniquely compact dimensions with a high supply performance and simple assembly. It is therefore the most efficient solution for in-field motor supply currently on the market.



Your

special

advantages:

#### **Compact and flexible**

The M12 plug's compact design and innovative S-coding make the SAI MVV 1:1 extremely flexible.

















# **Reliable component connection in photovoltaic systems**

WM4 C - crimp-connection technology in accordance with DIN EN 50521

A photovoltaic system is only as good as its smallest components. Starting with its connectors. The connectors need to be able to withstand the effects of wind and weather, as well as any temperature fluctuations. And they need to do this for up to 25 years. They also need to be economical and easy to use.

The WM4 C is a classic plug-in connector for crimp connections that meets the high requirements of the DIN EN 50521 standard. In addition to its high load-bearing capacity, it also stands out thanks to its compatibility with the entire range of plugs.

Suitable for use either as a housing or a field plug-in connector: the WM4 C is very versatile and is perfectly suited for use in automated production. Its innovative anti-twisting protection makes it even more convenient for assembly in housings.



In addition to meeting the highest standards, a plug-in connector should also be easy to handle. Thanks to its high level of quality and good installation properties, the WM4 C successfully meets all of the latest practical requirements.

# Standard-conformant quality

WM4 C plug-in connectors are TÜV-approved (German Technical Inspectorate) and meet the requirements of the DIN EN 50521 standard.





#### Versatile connection options

Lines with cross-sections of 4 mm<sup>2</sup> and 6 mm<sup>2</sup> are combined in a crimp contact, providing high connection versatility.



# **Tailored to meet your requirements**

The WM4 C is compatible with the entire plug range and boasts a wide selection of accessories and high-quality tools designed to ensure quick, safe and reliable wiring including with pre-assembled lines if required.



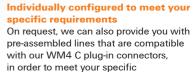
#### Secure positioning

The new anti-twist protection feature of the WM4 C housing plug-in connector stops the connector from twisting when being assembled in the housing.





High current-carrying capacity The WM4 C withstands loads with a rated current of up to 35 A.



specifications and requirements.



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# Use compact, functional connection solutions

BLF 2.5/SL 2.5 PUSH IN device connectors

Especially for controls, I/O systems and signal interfaces in drive technology, it is now a question of ensuring components are as compact as possible while offering excellent functionality and simple handling.

The new BLF 2.5 OMNIMATE signal plug-in connector and the associated SL 2.5 male connectors combine these requirements. This is thanks to the space-saving design and the particularly quick PUSH IN connection system – optimised for wire cross-sections of up to 0.5 mm<sup>2</sup> and a pitch dimension of 2.5 mm.

The BLF 2.5 connector has an integrated pusher to make opening the contact point easier. There is also an additional test point for user-friendly service measurements on the device. The SL 2.5 male header has two available outlet directions in various device designs and ensures excellent accessibility to the connector even in confined spaces.

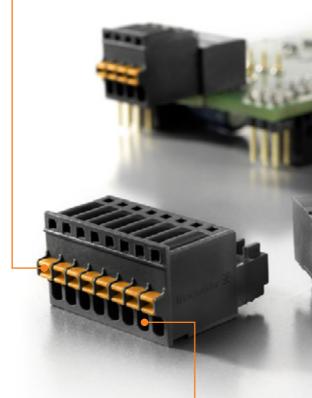


Quick and safe wiring with high connection density: the PCB connectors in a 2.5 mm pitch enable space-saving signal interfaces for a variety of devices, for example, industrial controls.

Pusher gives operational safety The contact point can be opened easily and the conductor removed by pressing the "pusher".

This allows particularly fast and uniform wiring.





PUSH IN connector up to 0.5 mm<sup>2</sup> Wires with wire-end ferrules and single-stranded wires can be inserted directly thanks to the PUSH IN connection technology which saves time and ensures reliable contacting.



Your special advantages:

Optimum handling with minimum space requirements

All in one: the BLF 2.5 means you can benefit from a compact, pluggable connection solution for devices which is also simple.

#### **Flexible application**

The SL 2.5 male header has two available outlet directions and can be used in many device designs. This means good connector availability can be guaranteed, even in confined spaces.



#### High component density

The compact design with PUSH IN connections and very small 2.5 mm pitch size is perfectly suited for wire cross-sections of up to 0.5 mm<sup>2</sup>.

















# The simple way to connect wires with cross-sections up to 1.5 mm<sup>2</sup>

LS2HF with PUSH IN connection system on two connection levels

Ensuring compact dimensions through miniaturisation, while maintaining excellent functionality: these are the specific challenges faced when designing monitoring and I/O systems and devices in the field of building automation.

The new double-row OMNIMATE Signal PCB terminal LS2HF meets both of these requirements at once thanks to the space-saving design and especially through the use of the time saving PUSH IN connection system. Optimised for wire cross-sections up to 1.5 mm<sup>2</sup> in a pitch dimension of 3.5 mm.

The LS2HF includes an integrated pusher for opening the contact in easiest way. An additional test point has also been integrated, making it easy to do necessary service measurements. The wire entry direction of 90° and the compact, double-row design of the LS2HF allows the simple integration into the front panel of a device.



Quick and safe wiring with excellent performance: the spacesaving LS2HF PCB terminal allows a perfect integration into the front panel of a device, e.g. with industrial control units and frequency converters

#### **PUSH IN connection**

Solid wires or wires with ferrules can plugged directly thanks to the PUSH IN connection technology, which saves time and ensures an reliable connection.



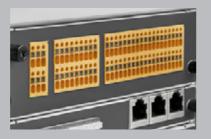


Necessary maintenance and measurements can be carried out in a safe, reliable and convenient manner.



# Your special advantages:

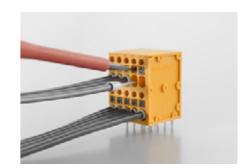
PCB connection within the smallest space For those looking for a compact and simple connection solution for optional installation in a front panel, the double-level LS2HF will not disappoint.



#### Device Connectivity | OMNIMATE Signal LS2HF PCB terminals

#### **Reliable functionality**

The PUSH IN contact can be opened easily by pressing the push button in a particularly fast and unmistakable way.





#### **High component density**

The compact design with PUSH IN connection system over two levels is perfectly suited for wire cross-sections up to 1.5 mm<sup>2</sup> in a pitch dimension of 3.5 mm

















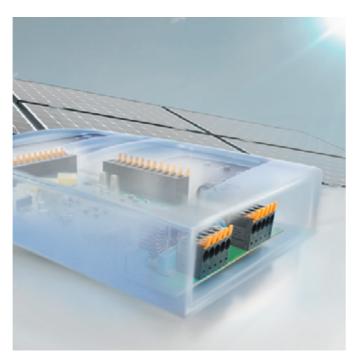
# Safe and efficient connection of power electronics devices

Using our LUF 10.00 PCB terminal with PUSH IN connection system

Maximum performance with increased economic efficiency - these are the current trends in the field of power electronics. In order to achieve this goal, devices must combine excellent functionality with simple operation. This will have impact on the device connectivity systems, which needs to be fault-free, safe and quick in his usage.

The OMNIMATE Power PCB terminals LUF use the established PUSH IN connection system. We have realized a tool-free wiring system with an cross section up to 16 mm<sup>2</sup>.

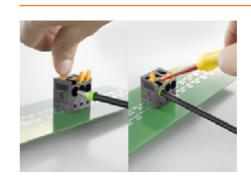
In addition to the particularly simple handling of the actuator lever, the LUF also provides high levels of contact reliability that is based on the "Connection Safety Concept" from Weidmüller. The quick and safe wire connection with PUSH IN connection system as well as the simple and safety operation of the actuator lever for opening the contact allows a quick, convenient and therefore economical wiring.

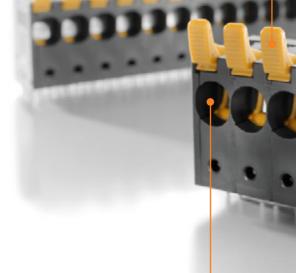


The LUF is not only impressing concerning performance and easy operability; Due to the particularly high level of contact reliability "Connection Safety Concept" this PCB terminal meets all the challenges of power-electronics applications

#### **Easy actuation**

The contact point can be opened without any physical exertion and without the need of any special tools. It can be done by hand or using a simple screwdriver.





#### PUSH IN connector up to 16 mm<sup>2</sup> The PUSH IN connection system allows a tool-

free wire connection to the PCB board. Solid wires or wires with ferrules can be directly plugged. Done!



# Your special advantages:

Perfect connection thanks to high levels of contact reliability This contact system is getting automatically been closed after it was opened. This intelligent "Connection Safety Concept" helps ensure that the wire is always safely connected.



#### Available for testing at any time

Easily accessible diagnostic testing points for necessary maintenance and measurements in direction of cable entry or on the actuating lever side allows the using of tester or connector PS2.

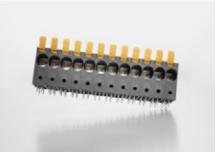






#### High levels of stability

The LUF has 2 x 2 solder pins per pole, which guarantees its current-carrying capacity and ensures that the contact is securely soldered on the PCB, without the need of additional fastening elements.









# Implement complex supply solutions in the smallest of spaces

**OMNIMATE** Power – the compact, two-row connection solution

The demand for ever-smaller drive regulators with increasingly high performance ratings requires complex solutions in terms of the connection systems. The major challenge here is ensuring compliance with the existing standards.

The new double-level OMNIMATE Power SVD 7.62HP male header minimises the amount of space required on the PCB, thereby creating space for other components. This extra space can be used for the integration of additional functions on the front of the device.

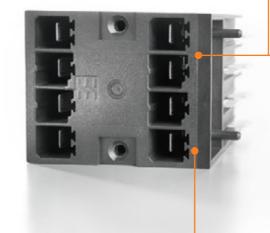
The two connection levels mean that the SVD 7.62HP can be used to implement complex solutions in extremely small spaces. Device widths of just 50 mm are sufficient to supply 2 motors, while still meeting the approval criteria in accordance with UL 600 V.



With servo regulators in particular, the SVD 7.62HP allows for more complexity than ever before, thanks to the two connection levels for female plugs with conventional screw connection or PUSH IN connection technology. With additional flange fastening on request, and with the option of connecting the cable shielding to the device housing.

#### The OMNIMATE Power series for versatile combination options The new SVD 7.62HP can be combined with all BVZ 7.62HP and BVF 7.62HP female plugs in the OMNIMATE Power series.





# **Optional cable shielding**

The combination with the BVF 7.62HP ensures a reliable connection between the cable shielding and the device housing, thereby guaranteeing high EMC safety. The screw mount is easy to operate, and meets all requirements in the field.



## More design flexibility for the front of the device and the PCB

The superior solution for when multiple axes need to be plugged into the device in a very small space. Despite the very compact dimensions, the cable shielding can be connected to the front of the device.



#### **Solutions with PUSH IN connection** Can be implemented in combination with female plug BVF (BVFL) 7.62HP. For especially quick and easy installation without the need for tools. Available with or without flange fastening - optional with screw flange.



**Solutions with screw connections** Can be implemented in combination with female plug BVZ 7.62HP. Available without extra fastening or, optionally, as a flange design - e. g. for applications in medium-voltage systems



Machinery 0¢





Energy





Weidmüller 🕉 69

# Convenient design and assembly of reliable device solutions

Innovative M8 and M12 PCB connectors

In many areas of machine construction, M8 or M12 PCB connectors are the standard connectors used today. Not only have they been tried and tested in our SAI distributors, they are also used anywhere where harsh environmental conditions require a device design with especially reliable connections.

In addition to excellent connection quality, our M8 and M12 built-in connectors also offer very convenient installation. Certain M8 and M12 types may be soldered to the installation wall at the same distance. The PCB and housing can also be assembled separately before the nut and plug-in insert are combined in the end device.

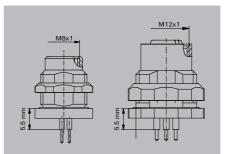
The new M8 and M12 built-in connectors optimise proven standards while making it extremely easy and convenient to configure IP6x devices. They are suitable for reflow soldering and are available in a number of different variants for different soldering methods.



In the field of equipment manufacturing for the IP6x world, the smart M8 and M12 plug-in connectors offer the perfect solutions. They ensure reliable connections with a convenient device design and efficient final assembly.

### Sophisticated system

Regardless of whether it's an M8 or M12, both plug-in connector types are characterised by a uniform distance from the PCB to the metal housing.





**Reflow-suitable solution** The implementation of reflow solutions for SMD and THR assembly means that the M8 or M12 inserts can be handled in any soldering process.

Your special advantages:

### **Standardised concept**

All of the components in the entire M8 or M12 plug-in connector series are perfectly coordinated to one another, making design and assembly significantly easier.



**Two-component plug-in connector** Plug-in insert for the PCB; metal nut for the housing. These create the finished M-plug when assembled.









Transportation

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# Making complex systems in hazardous areas more service-friendly Klippon<sup>®</sup> Protect combines functions in the Control Station Large

Decentralised applications in explosion-risk environments require particularly safe and compact solutions to control and operate motors, pumps, valves or whole machines.

Due to the Control Station Large, the latest application product in our Klippon<sup>®</sup> enclosure system, it is now possible to bundle all these functions in one enclosure and combine them sensibly with one another. For example, control points with additional signal converters or fieldbus distributors with manual control units.

The application-specific combination of multiple different functions in one enclosure reduces the space required and saves time on installation and servicing. As well as the Control Station Large, there is also the Control Station Small, which is a compact on-site control point, plus there is the traditional distributor enclosure with modular terminal blocks, all in a consistent design.



The increasing complexity of systems in hazardous areas means the solutions need to be more and more multi-layered. The option of combining multiple functions in a single enclosure makes the Control Station Large ideal for these requirements.

### Many applications – one design

Both the proven terminal box and the on-site control points or FOUNDATION fieldbus solutions can be produced in a consistent design – even when using different enclosure series within an application.





Various enclosure materials Depending on the local environmental conditions, the enclosure of the Control Station Large can be made of electropolished stainless steel, powder-coated aluminium or glass fibre-reinforced polyester.



### Many functions - one enclosure

Control points, fieldbus distributors, signal converters or even signal and power distributors – all these functions can be combined in a single enclosure as required.



#### **Customer-specific assembly**

Combinations of different command transmitters and signalling devices with electronic components such as transmitters and fieldbus components, plus their wiring and connection terminals, can be developed and produced to meet exact customer requirements.





**Three functions in one enclosure** Terminal distributors, fieldbus distributors and signal converters or on site control points can all be combined in a single enclosure with the Control Station Large.













Device Manufactı

Ex cable glands for safe devices as per EN 60079-0:2012

The environmental conditions in many industry and explosion-proof applications pose a real challenge for the system components. Dust, vibrations, moisture and extreme temperatures all have an impact on the installed devices and the cable glands must also be able to withstand these stresses too.

The new Ex cable glands guarantee process reliability in demanding environments. They are designed such that they can be used universally in any enclosure series. They are also just as easy to use in both high and low-temperature environments.

With impact resistance of 7 Joules, the new explosionproof polyamide cable glands offer extremely high levels of protection against external influences such as shocks or impacts. Together with their suitability for use in an extended temperature range and their proven conformity with current standards, these cable glands ensure safe and reliable functioning in a wide range of applications.



In process-intensive industries such as petrochemistry, energy production, machine construction, motor and drive technology and device components which are subjected to extremely high stresses. The new cable glands can withstand even the harshest environmental conditions. Guarantee impact-resistance of up to 7 Joules over an extended temperature range.



## Flexible application

Available in 8 standard sizes from M12 to M63, and with 14 different clamping ranges (PG7-PG48 on request), the new range of cable glands are suitable for an extremely wide range of applications.





### Extremely impact-resistant

With impact resistance of 7 Joules, the new explosion-proof cable glands offer extremely high levels of protection against external influences such as shocks or impacts, in accordance with EN 60079-0:2012.

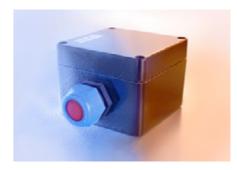


# Your special advantages:

### Impact and temperature resistant

The new cable glands for use in areas at risk of explosion can withstand extreme temperature conditions. They are impact-resistant up to 7 Joules and can be used in any Weidmüller enclosures, guaranteeing versatile applicability with full standard conformity.

**Resistant to high temperatures** The new cable glands have an operating temperature range of -40 °C to +70 °C with a chloroprene seal, and a range of as wide as -60 °C to +70 °C with a silicone seal.





Comprehensive approvals

Whether for Ex e or Ex i applications: The new plastic cable glands comply consistently with EN 60079-0:2012 and are approved in accordance with ATEX, IECEx and EAC.















# Stripping hard, halogen-free, XL-sized insulation materials

The stripax<sup>®</sup> ULtimate XL with an extended cross-section range

Whether you're dealing with control lines, earthing cables, motor connection lines or power bus lines, applicationspecific cables with large cross-sections and high insulation demands are used in numerous fields. Stripping becomes something of a challenge in such situations.

Our stripax<sup>®</sup> ULtimate XL tackles this task successfully. Designed for cross-section ranges of 2.5 mm<sup>2</sup> to 10 mm<sup>2</sup>, it can even cope with the most tenacious of insulation materials. Even tough sheath materials made of PUR, which are used in sensor / actuator lines in applications with a diameter of 4.1 mm to 7.2 mm, don't stand a chance.

From now on, you can easily and precisely strip halogen-free insulation materials and lines with hard or smooth insulation - even in larger cross-section ranges - using ULtimate technology.



Lines with insulating materials made of PE or TPE are often used to produce particularly positive electrical properties in the motor connection lines of tool machines, machining units, processing machines, production lines, assembly lines and robots. Tough-to-strip, halogen-free materials such as these pose no problem to the ULtimate technology incorporated in our stripax® solution.

#### Fast, clean and precise

automatically strip virtually all halogen-free lines and UL and UL-like conductors in a selfregulating manner - for a cross-section range of 2.5 mm to 10 mm<sup>2</sup>.



### Adaptation to insulation thickness To symmetrically adjust the stripping function to extreme insulation thicknesses, such as those

found in the particularly soft materials in the SAI range, the lower stripping jaw can be adjusted using a setting screw.



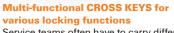
## A simple hand-held tool for complex tasks

Are you working with specific cable types or particularly hard, halogen-free insulating materials with cable cross-sections of up to 10 mm<sup>2</sup> and would still like to achieve a clean insulating result with a simple hand-held tool in spite of all this? The stripax<sup>®</sup> ULtimate XL can deal with any challenge you throw at it.



#### Simple prefabrication

The three-stage partial stripping function of stripax<sup>®</sup> ULtimate stripping tools, which can be adjusted to a pull-off length of 3 mm, 5 mm and 10 mm, allows you to prefabricate even short stripping lengths.



Service teams often have to carry different electrical cabinet keys with them. Our multi-functional CROSS KEYS combine conventional locking tools with electrical engineering functions in a compact solution. This means CROSS KEYS make an important contribution to increased efficiency for installation and service.















# Marking systems for the entire cabinet

MultiMark is the smart all-in-one solution

The higher the level of automation, the more complex the structure of a control cabinet. This rule means it is important than ever for installed components to be properly labelled. The internal arrangement of the cabinet must be clear from first glance for servicing: the marking system becomes an important safety feature for the cabinet infrastructure.

MultiMark is a marker system which perfectly meets modern requirements in conjunction with tailored software and particularly efficient printer technology. It is quick and reliable to use and allows seamless implementation of virtually all labels. It proves extremely economical, even for small and medium-sized projects.

Whether modular terminal blocks, wires or devices: the MultiMark product family includes practical markers for all areas of use. Incorporating the high-speed THM MMP thermotransfer printer makes it really economical, especially for small and medium print volumes. And the quality is excellent: all markings are very legible and resistant to external influences.



Industry 4.0 is leading to increasingly complex connection technology. This also involves an increase in the need for systematic, safe and economical labelling solutions for the cabinet

### Non-application-specific assignment

MultiMark device markers are geared towards non-manufacturer-specific marking. They ensure that all components are clearly assigned in a wide range of applications.



#### Print markers cleverly and economically The THM MMP thermotransfer printer with

intelligent cutting and perforation option processes markers and labels from the MultiMark range, as well as continuous materials, textile and polyester labels, heat shrinkable sleeves and PLC labels. Its intuitive operation, compact design and weight of just 3.5 kg mean it can be used anywhere.

### **Optimum visible connections**

Our TM-I and WM conductor markers and SFX cable markers for clear labelling of conductors and cables allow different circuits to be identified without doubt. The range is perfectly tailored to all normal conductor labelling functions.

# Your special advantages:

## Systemised, economical marking

Like all Weidmüller marking systems, MultiMark also has an impressive seamless, userfriendly process chain from data entry through to the actual markers. And the best thing is that we also deliver marking solutions that are already geared towards the requirements of increasing automation.

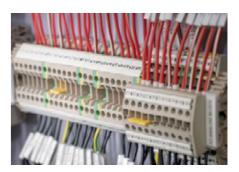


Machinery

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**Connector markers for efficient labelling** 

MultiMark terminal markers use an innovative composite material consisting of two components. The hard footprint of the marker slots safely into place and the elastic surface finish makes the marker easy to mount. The strip is expandable and tolerates some fluctuation in spacing.





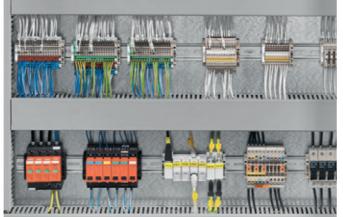
# Utilise the various options for system labelling

MultiCard extensions for even greater consistency

A clear labelling system not only helps you during installation, but also facilitates the subsequent maintenance and troubleshooting during operation. The marking of different devices, equipment or terminal blocks with a consistent system is especially convenient.

With the consistent extension of our MultiCard options even more professional marking options are now open to you. New formats, such as for plant identification or those which are suitable for certain types of terminal blocks, help you create exactly the right label for each application.

Benefit from a seamless process chain for labelling: from data entry to instantly deployable markers for your custom cabinet configuration.





Clear labelling in the cabinet helps users find their way around more easily and facilitates system installation and maintenance. Individual modules can be easily replaced and the system can be put back into operation in case of failure faster.



Known markers such as our CC DIA 30 and ESG 9/17.7 can be fitted quickly thanks to the double-sided adhesive film. The ESG 9/17.7 can now also be fitted in strips.



Lots of modular terminal blocks, one marking system MF-ABB type markers are suitable for labelling SNK modular terminal blocks from ABB quickly and safely.



Printed with PrintJet ADVANCED and M-Print<sup>®</sup> PRO With the added Printjet ADVANCED printer and the M-Print<sup>®</sup> PRO labelling software, MultiCard markers fit seamlessly into any production



# Your special advantages:

# Systemised marking

Our harmonised system of software, markers and printers allows you to optimise processes – from entering your data to the finished marker for the individual control cabinet configuration.

#### Marking system | New MultiCard variants

#### **Clearly visible**

Individual modules of the Siemens ET 200SP PLC can be given additional information using the ESG 15/10 in order to make assignment easier.





Application in strips is particularly quick and economical. It is typical of the WS Plus series. There are new sizes to extend the range of applications, e.g. for modular terminal bocks with PUSH IN connection.





Proces









Device Manufacturers

device Manufa

# Efficient and comprehensive use of design data M-Print<sup>®</sup> PRO eCAD, for exporting data from EPLAN Electric P8

Rising cost pressures in the industry are bringing about demand for the constant optimisation and standardisation of design work, and the same applies for the creation and use of data, macros, templates and scripts. The aim here is to ensure that all design data is documented in full and made available for use in future projects, which is a requirement that applies in relation to Industry 4.0.

The new M-Print<sup>®</sup> PRO eCAD checks the integrity of the data during export from Eplan Electric P8, informing the user in the case of missing information. All Weidmüller product data contains the associated accessory information, which ensures the correct allocation of the appropriate markers. This helps with project documentation, e.g. when creating parts lists.

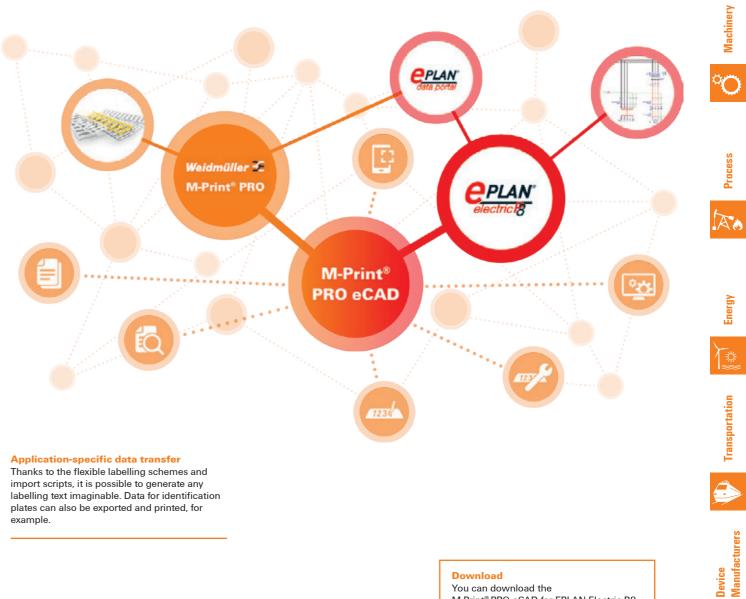
The new interface software supports the call for the systematic exploitation of existing data, thereby saving time and money involved in subsequent work. Having complete and comprehensive product data makes project planning easier and helps minimise sources of error, while increasing quality and efficiency.



The transfer of existing CAE data reduces the associated workload and prevents transfer errors. The use of labelling schemes, templates and import scripts allows for a variety of different export options.

#### High levels of data security

The Weidmüller product data for the individual components already contains information on the corresponding accessories, which helps prevent errors caused by incorrect product combinations.



# Your special advantages:

## Flexible export options

The systematic use of existing data combined with flexible software functions allows for application-specific data transfer and the standardisation and optimisation of internal processes. When used together with Weidmüller printers and markers, this creates "systemised marking".

Increased efficiency thanks to standardisatio The standardised project planning and the

exchange of data using macros and templates help to increase planning quality and efficiency.

#### **Plausibility testing**

The new M-Print® PRO eCAD checks the planned components to verify that the assigned markers are complete.

> You can download the M-Print® PRO eCAD for EPLAN Electric P8 here:

www.weidmueller.com/m-print\_pro\_ecad

# Our expertise for your requirements

Service connects - worldwide

Automation technology functions are becoming more complex in a globallyoriented 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 worldwide network of industrial managers for machine construction, process automation, energy and traffic engineering and for device manufacturers know the challenges you face and can support you in your specific applications.

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AO Angola Please contact Phambili Interface South Africa

AR Argentina CPI SA Bauness 2660 C1431DOF Buenos Airee Tel. +54 11 4523 8008 Fax +54 11 4522 0546 info@cpi.com.ar www.cpi.com.ar

AT Austria dmüller GmbH IZ NOE Süd, Str 2b, Obj M59, 2355 Wiener Neudorf Tel. +43 2236 67080 Fax +43 2236 6708-899 office.at@weidmueller.com www.weidmueller.com

AU Australia Weidmüller Pty. Ltd. PO BOX 6944 Huntingwood 2148 Huntingwood Drive 43 Huntingwood NSW 2148 Tel. +61 2 9671 9999 Fax +61 2 9671 9911 nfo@w www.weidmuller.com.au

AZ Azerbaijan Representative Office Weidmüller Interface Demirchi Tower, 4th floor 37 Khojali ave A7 1025 Baku Tel. +994 12 488 80 36 Fax +994 12 488 80 37 alivar.hashimli@weidmueller

BA Bosnia and Herzegovina Please contact our Representative Office nüller Interface GmbH & Co. KG Serbia

> or BIG electric d.o.o Mladena Stojanovića 117A 78000 Banja Luka Tel. +387 51926277 Fax +387 51926277 bigelectric@blic.net www.bigelectric.ba

BE Belgium Weidmüller Benelux B. V. Mechelsesteenweg 519 bus 6 en 7 1930 No 1930 Nossegem Tel. +32 2 752 40 70 Fax +32 2 751 36 06 info@weidmueller.be www.weidmueller.be

BG Bulgaria Weid-Bul EOOD Bul. "Kliment Ohridski" 13 1756 Sofia Tel. +359 2 963 2560 Fax +359 2 963 1098 sofia@weidbul.com www.weidbul.com

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BW Botswana Please contact Phambili Interface South Africa

BY Belarus TECHNIKON I td Nezavisimosti pr. 177-9 220125 Minsk Tel. +375 17 393-11-77 Fax +375 17 3930080 wm@technikon.by

CA Canada V Interconnections Canada 10 Spy Court Markham Ontario L3R 5H6 Tel. +1 (905) 475-1507 Ext. 9836 Fax +1 (905) 475-2798

support@weidmuller.ca www.weidmuller.ca CG Congo Please contact Phambili Interface South Africa

CH Switzerland Weidmüller Schweiz AG Rundbuckstraße 2 8212 Neuhausen am Rheinfall SH Rheinfall SH Tel. +41 52 674 07 07 Fax +41 52 674 07 08 info@weidmueller.ch www.weidmueller.ch

CL Chile ATS - INTECH María Luisa Santander 0475 Santiago Providencia 7500859 Tel. +56 2 341 1271

Fax +56 2 341 1275 felipe@atsintech.cor www.atsintech.com CPI CHILE LTDA Av. Presidente Frei Montalva 6001, 47 complejo el cortijo Santiago - Conchali Tel. +562 963 8440 Fax +562 963 8440

cpi@cpichile.cl www.cpichile.cl CN China Weidmüller Interface (Shanghai) Co. Ltd. 100 Yutong Road 25 F. BM Intercontinental Business Center 200070 Shanghai Tel. +86 21-22195008

Fax +86 21-22195009 customer.hotline@ weidmueller.com.cn www.weidmueller.com.cr CO Colombia utomatización Avanzada S. A. Carrera 97 No., 24 c - 23 Bodega 4 110911 Bogotá-D.C.

Fax +57 (1) 422-3044 comercial@ automatizacionavanzada.com //w. tomatizacionavanzada.com CR Costa Rica ELVATRON S. A. la Uruca 400 Norte Banco

Tel. +57 (1) 547-8510

Costa Rica San Jose Costa Rica Tel. +506 2961-060 Fax +506 5200-609 dirk.haase@elvatron.com /ww.elvatron.con

GE Georgia Please contact our Representative Office Weidmüller Interface Azerbaijan. Lomnického 5/1705 Tel. +420 244 001 400 Fax +420 244 001 499 office@weidmueller.cz www.weidmueller.cz

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Ohmstraße 9

32758 Detmold Postfach 30 54 blom

32720 Detmold Tel. +49 5231 1428-0 Fax +49 5231 14-292083

weidmueller@weidmueller.de

www.weidmueller.de

Weidmüller Danmark Vallensbækvej 18A 2605 Brøndby Tel. +45 27747800

www.weidmuller.dk

y Mañosca Quito - Pichincha Tel. +593 22456510 Fax +593 22456755

Elsystec@uio.satnet.net

our Representative Office Weidmüller Interface GmbH

Please contact

Soots Interface OÜ

Tel. +372 609 6933

info@sootsinterface.ee

www.sootsinterface.e

EG Egypt Standard Electric (OMEGA) 1, Abdelhamid Badawy Street

Tel. +202 21805111

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stdelec@rite.com

ES Spain Weidmüller, S. A. Narcis Monturiol 11-13, Pol.

Ind. Sudoeste

Finland

8960 Sant Just

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Tel. +34 934 803 386

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Koy Plaza Vivace

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FR France Weidmüller E. U. R. L.

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A +44 116 282 3470

Fax +44 116 289 3582

marketing@weidmuller.co.uk www.weidmuller.co.uk

ail@weidmuller.fr

Weidmüller Ltd.

Klippon House

Business Park

Leicester

LE19 1TP

BP 263 Osny 95523 Cergy-Pontoise Cedex

asiakaspalvelu@weid www.weidmuller.fi

Pärnu mnt 142 11317 Tallinn

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Weidmüller s.r.o.

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GH Ghana Please contact our Representative Office Weidmüller Interface GmbH & Co. KG Weidmüller GmbH & Co. KG South Africa. GR Greece

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HU Hungary Weidmüller Kereskedelmi Kft Budapest Gubacsi út 6. 1097 Tel. +36 1 382 7700

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www.ateka.co.il India Representative Office Weidmueller Electronics India Pvt. Ltd. IN No. 9, Union Street, Off. Infantry Road BANGALORE 560 001 Tel. +91-80-22860028 wmi@weidmueller.in www.weidmueller.com



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18 Lima, Miraflores Tel. +51 1 447 5608 info@impexinca.pe www.impexinca.pe 18 W CIA S A

J & W CIA, S. A. Calle 6 Mz, D Lte. 23, Urb. Ind. Grimanesa 01 Callao Tel. +51 1 572 2539 Eav. +51 1 572 0152 Fax +51 1 572 0152 contacto@iwcia.com www.iwcia.com

SE Sweden Weidmüller AB Axel Danielssons väg 271 BOX 31025 SE-200 49 Malmö Tel. +46 77-143 00 44 Fax +46 40-37 48 60 info@weidmuller.se

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Tel. +92 42 37809948 Fax +92 42 37809950 nadeem@acpak.com.pl www.acpak.com.pk

Weidmüller Sp. z. o. o. ul. Ogrodowa 58 00-876 Warszawa Tel. +48 22 510 09 40 Fax +48 22 510 09 41 biuro@weidmuller.co www.weidmuller.pl com.p

PR Puerto Rico Please contact W Interconnections Inc. United States

> Weidmüller Sistemas de Interface S. A. Estrada Outeiro Polima, R Augusto Dias da Silva, Lote B - Esct. 2

São Domingos de Bana 2785-515 Abóboda Tel. +351 214 459 191 Fax +351 214 455 871 weidmuller@weidmuller.p www.weidmuller.pt

se contact

Representative Office Weidmüller Interface GmbH & Co. KG & Co. KG Ionescu Crum Street, No 1, 1st Tower, 1st Floor, Office 4

500446 Brasov - Brasov

Business Park Tel. +40 (268) 446 222 Fax +40 (268) 446 222 claudiu.totea@weidmuelle

www.weidmueller.ro

Representative Office Weidmüller Interface GmbH

Ustanicka 189, III sprat Tel. +381 112885274 Fax +381 112885274

zoran.rabrenovic@ weidmueller.com Weidmüller Group

7/10 Khlebozavodskiv

Tel. +7 495 280 72 71 Fax +7 495 280 72 71 Info@weidmueller.ru www.weidmueller.ru

SA Saudi Arabia Please contact Weidmuller Middle East FZE United Arab Emirates

www.weidmuller.se

Weidmüller Pte. Ltd. 70 Bendemeer Road # 04-03 Luzerne Building Singapore 339940 Tel. +65 6841 5311 Fax +65 6841 5377 info@weidmuller.com.sg www.weidmuller.com.sg

#### SI Slovenia

Elektrospoji d. o. o. Stegne 27 SI- 1000 Ljubljana Osrednjeslovenska Tel. +386 1 511 3810 Fax +386 1 511 1604 info@elektrospoji.si www.elektrospoii.si

#### SK Slovakia ELEKTRIS s.r.o.

Elektrárenská 1 831 04 Bratisla el. +421 2/4920 0113 Fax +421 2/4920 0119 bratislava@elektris.sk

### SV El Salvador

Prestegard Electro 11 Avenida Norte No. 240 Edificio Salazar No. 2 San Salvador Tel. +503 2271 1690 Fax +503 2221 3851 prestegard@navegante.com.sv

# SY Syria

Please contact Weidmuller Middle East FZE United Arab Emirates

SZ Swaziland Please contact Phambili Interface South Africa

# TH Thailand

Pisanu Engineering Co. Ltd. Kwang Dingaeng, Khet Dingaeng 800/2 Soi Trakulsuk, Asokedindaeng Road Dindaeng, Bangkok 10400 Tel +66 2 248 2896 Fax +662 105 6301 ecsales@pisanu.co.th www.pisanu.co.th

Representative Office

Weidmüller Pte. Ltd. 37/F, Sathorn Square Building 98 North Sathorn Road Bangkok, Silom Bangrak 10500 Tel. +66 2 105 6300 Fax +66 2 642 9220 info@weid

### TJ Tajikistan

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## TM Turkmenistan

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TR Turkey Weidmüller Elektronik Ticaret Ltd. Sirketi Kavacik Mah. Orhan Veli Kanik Caddesi 9/1 Caddesi 9/1 34810 Beykoz / Istanbul Tel. +90 (216) 537 10 70 Fax +90 (216) 537 10 77 info@weidmuller.com.tr www.weidmuller.com.tr

#### TW Taiwan

Weidmuller (Hona Kona) Limited No. 3, Lane 89, ChaungYang 24148 SanChuang City,

Tel. +886 921 949 751 roy.lin@we



#### Please contact our Representative Office Weidmüller Interface GmbH & Co. KG South Africa.

UA Ukraine

LLC WM UKRAINE evskogo str. 6 Tel. +38 044 490 32 48 info@wm-ua.com.ua wm-ua.com.ua/

Representative Office Weidmueller Interface GmbH & Co. KG Z, office 303 7-D, Zdolbunivska str. Kiev. 2081 Mobile +38 050 440 25 24 info.ua@weid



W Interconnections Inc. 821 Southlake Boulevard Richmond Virginia 23236 Tel. +1 (804) 794-2877 Fax + 1(804) 379-2593info@weidmuller.com www.weidmuller.com



#### UZ Republic of Uzbekistan Please contact our Representative Office Weidmüller Interface Azerbaijan.

VN Vietnam AUMI Industrial Equipment & Automation Company Limited E1, La Thanh Hotel 218 Doi Can Street Lieu Giai Ward, Ba Dinh District Hanoi City Tel. +84 4 37628601 Fax +84 4 62661391 aumi@aumi.com.vn www.aumi.com.vn

> Representative Office Weidmüller Pte. Ltd. Level 16 Saigon Tower Building 29 Le Duan Street District 1 Ho Chi Minh Tel +848 3520 7717 Fax +848 3520 7604 info@weidmuller.cor



hambili Interface PO Box 193 1609 Johannesburg, Edenvale 5 Bundo Road, Sebenza 1610 Joha Tel. +27 (11) 4521930 Fax info@weidmuller.co.za

www.weidmuller.co.za Representative Office

Representative Office Weidmüller Interface GmbH & Co. KG 210 Amarand Avenue, Pegasus Building 181 Pretoria, waterkloof Glen evt 2 ext 2 -Tel. +27 12 003 2906 Fax +27 (11) 4526455 Jacques.Vosloo@weidmuelle www.weidmueller.com



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