WAGO

NEW
PRODUCTS
ISSUE 2/2020

READY FOR THE MECHANICAL ENGINEERING OF THE FUTURE

Dear Reader,

Networking, analysis or productivity increases – the demands on modern mechanical engineering are high. But with the right partner and the right solutions, you can readily tackle these issues. WAGO offers the best technologies to meet your challenges in an **#open**and**easy** way. Time-sensitive networking (TSN for short) combined with OPC UA is an up-and-coming technology for the consistent, flexible, powerful and secure networking of machines and systems. With our two brand-new "made for TSN" automation solutions, the WAGO I/O System Advanced and the WAGO I/O System Field, you'll be ready to leverage the unbeatable advantages of this new communication standard. We also have many other innovations for your automation projects. Take a look at our latest generation of WAGO Controllers PFC200: With two additional interfaces, it offers you even more connectivity and additional freedom. In addition, it is now available with an integrated 4G cellular modem for communication within modern LTE networks. Speaking of communication: WAGO has developed various OPC UA server profiles for its controllers, control panels and integrated various security features. This effort has perfectly positioned our automation solutions for the future.
And it won't be isolated to factory automation. You'll also see it in our building and power grid automation, as well as electrical interconnection and interface solutions –

we've worked tirelessly to create innovations for you. For example, our new compact energy meters are easily connected in a time- and space-saving manner to dramatically simplify energy measurements for building or industrial applications. Saving time and space is also the order of the day in the control cabinet: Many of our new products make these savings possible. Ready to learn more? Then you'll enjoy reading about our most recent developments.

Best regards,
Thomas Hüttemeier and Marco Henkel
Heads of Business Unit *AUTOMATION*

04

NEW TECHNOLOGY FOR PEAK PERFORMANCE

Ready for Modern Mechanical Engineering: The New WAGO I/O System Advanced

06

DECENTRALIZED I/Os WITH EXTENDED CONNECTIVITY

New WAGO I/O System Field (IP67) for Future-Proof
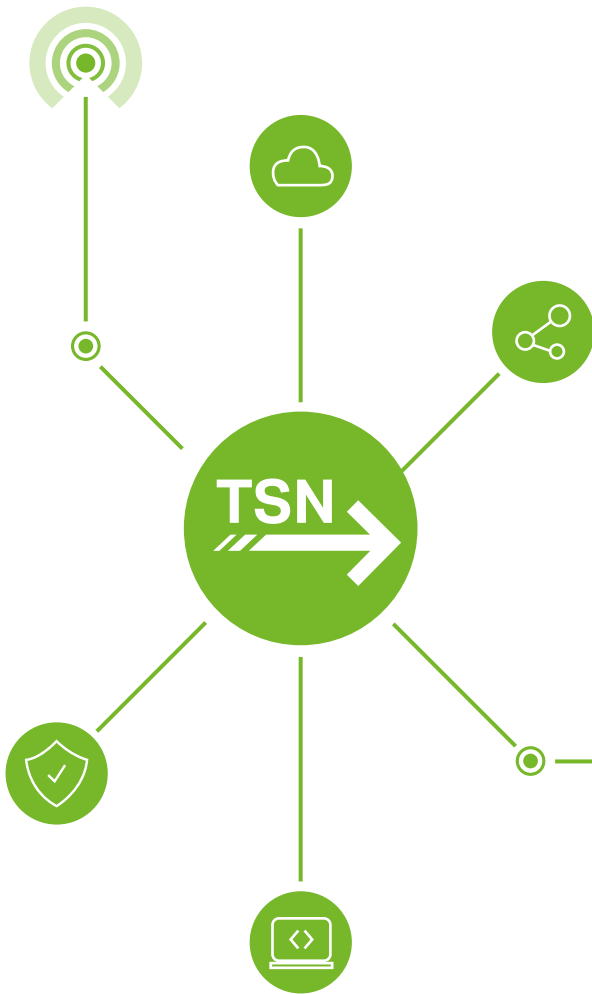Automation of Modular Machines

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New Technology for Peak Performance

Ready for Modern Mechanical Engineering: The New WAGO I/O System Advanced

With the WAGO I/O System Advanced, WAGO has the leading solution for future-proof automation in mechanical engineering. As a gateway to WAGO's universal 750 Series I/O System, the new IP20 I/O System Advanced combines the proven benefits and functionality of the 750 Series with a fresh and ergonomic design, error-preventing mechanics, and outstanding performance. The results: Short reaction times, high signal transmission synchronicity and the use of fast ETHERNET fieldbuses (e.g., PROFINET, EtherCAT®, EtherNet/IP), as well as TSN in the future. These advantages make the I/O System Advanced the new benchmark for high-end industrial automation systems. With the debut of I/O

System Advanced, WAGO is also relaunching the PFC200 Controller that pairs the new system's exterior design with industry-proven PFC technology. The new controller is a bridge to various technologies via the Linux® operating system and Docker virtualization (IT), as well as the IEC 61131 runtime system (OT). Sending data to the cloud and leveraging all the benefits of cloud computing are simple thanks to a large number of interfaces and the highest cybersecurity standards. The customer may choose to use WAGO Cloud or an external solution. Users benefit from all of these advantages without investing a significant amount of time or money because the I/O System Advanced supports well-known PFC

MADE FOR TSN

Engineeringsoftware

e!COCKPIT

functionalities and CODESYS-based programming via **e!COCKPIT**. The proven engineering tool's configurators and options are available for this purpose. Alternatively, the PFC can also be programmed using this open approach and its software can be supplemented or exchanged thanks to Linux®. In addition, the Docker interface offers a simple solution for the integration of "open-source software." Using so-called containers, independently running software components can also be integrated into the PFC200 Advanced. Additionally, this gateway to WAGO's universal 750 Series I/O System allows all 500+ modules to be directly connected, maximizing the return on investment.

Your Benefits:

- An open, innovative and future-proof automation system for mechanical engineering
- The I/O System Advanced combines the proven benefits and functionality of the 750 Series with outstanding performance and an ergonomic mechanical design that helps prevent errors.
- The new WAGO Controller PFC200 ADV 2ETH combines the vast possibilities of PFC technology.

Item Number:
763 Series
768 Series

Availability:
mid-2020

MADE FOR TSN

Decentralized I/Os with Extended Connectivity

New WAGO I/O System Field (IP67) for Future-Proof Automation of Modular Machines

The new WAGO I/O System Field with IP67 protection is the perfect solution for cabinet-free automation. It combines speed with ETHERNET-based fieldbuses (e.g., PROFINET), technologies such as *Bluetooth®*, OPC UA or Webserver, and MQTT as a communication protocol is on the horizon.

Additionally, the system is ready for TSN, the key technology for end-to-end, flexible, powerful and secure networking. For superior flexibility, the IP67 system is available in a host of configurations for adapting perfectly

to a particular application and machine. The IO-Link communication standard enables seamless data flow from the control level to the sensor level. This considerably simplifies configuration and cabling. It also gives way to entirely new possibilities for diagnostics, parameterization and device identification. The system is powered via an L-coded high-current M12 connector, providing up to 16 A. This design allows more power to be connected in less space.

Innovative load management ensures that

the system's power is fully utilized via supply current management. Both output currents and the overload limits of supply currents can be monitored and specified channel by channel. As a result, errors can be detected faster and more clearly differentiated in the event of faults – errors are also more easily predicted, which is essential for trends such as predictive maintenance.

Your Benefits:

- More ways to communicate for future-proof automation
- Housing variants available for mobile applications too
- IO-Link for intelligent communication between the field and control level
- Load management for detailed system/machine monitoring

Item Number:
765 Series

Availability:
June 2020

NOW ALSO IN 15.6" AND 21.5"

High-Quality Visualization

Visu Panels and Control Panels with Larger Display Sizes and Higher Resolution

Automation and visualization are becoming increasingly complex. When combined with *e!COCKPIT*, the new Visu Panels and Control Panels provide the perfect solution for high-quality visualization. Their screen sizes of 15.6" (39.6 cm) and 21.5" (54.6 cm) are significantly larger than those of the current WAGO Touch Panels 600, allowing the new devices to display more information. The resolution is now higher with Full HD for displaying data in greater detail – thanks to the onboard visualization – without sacrificing response time. Practical features such as an energy-saving standby function, integrated sensors for automatic brightness adjustment and an easy-to-mount design make installation and operation simple. All Visu Panels and Control Panels are equipped with the future-proof Linux® operating system and are "Docker-ready" – just like the current Touch Panels 600.

Your Benefits:

- High-quality visualizations can be displayed with the new Visu and Control Panels.
- Docker-ready devices
- High-resolution displays in a robust aluminum housing

Item Number:
762-430x
762-420x
762-520x
762-530x

Availability:
July 2020

Retrofit BACnet Functionality

BACnet/IP Firmware Extension for PFC200 and Touch Panels 600

BACnet is one of the most common communication protocols used in building automation. Recognizing this, WAGO is now offering a firmware extension for its PFC200 Controllers and Touch Panel 600 units; the extension can be used to activate existing devices by licensing for BACnet/IP. This addition allows a large number of BACnet objects to be automated with just one PFC200 Controller or Touch Panel 600. With the powerful, Linux®-based Touch Panels and BACnet licenses, control and visualization of larger building automation projects can be implemented on a single unit. The devices act as BACnet Building Controllers (BBC) per BACnet Revision 14. The BTL listing means that they meet the typical requirements found within tenders. WAGO offers two different licenses: One supports up to 256 BACnet objects, and the other has no limitations.

Your Benefits:

- Upgrading existing products thanks to BACnet/IP
- Automating a vast number of BACnet objects
- Control and visualization in one device for cost-effective solutions
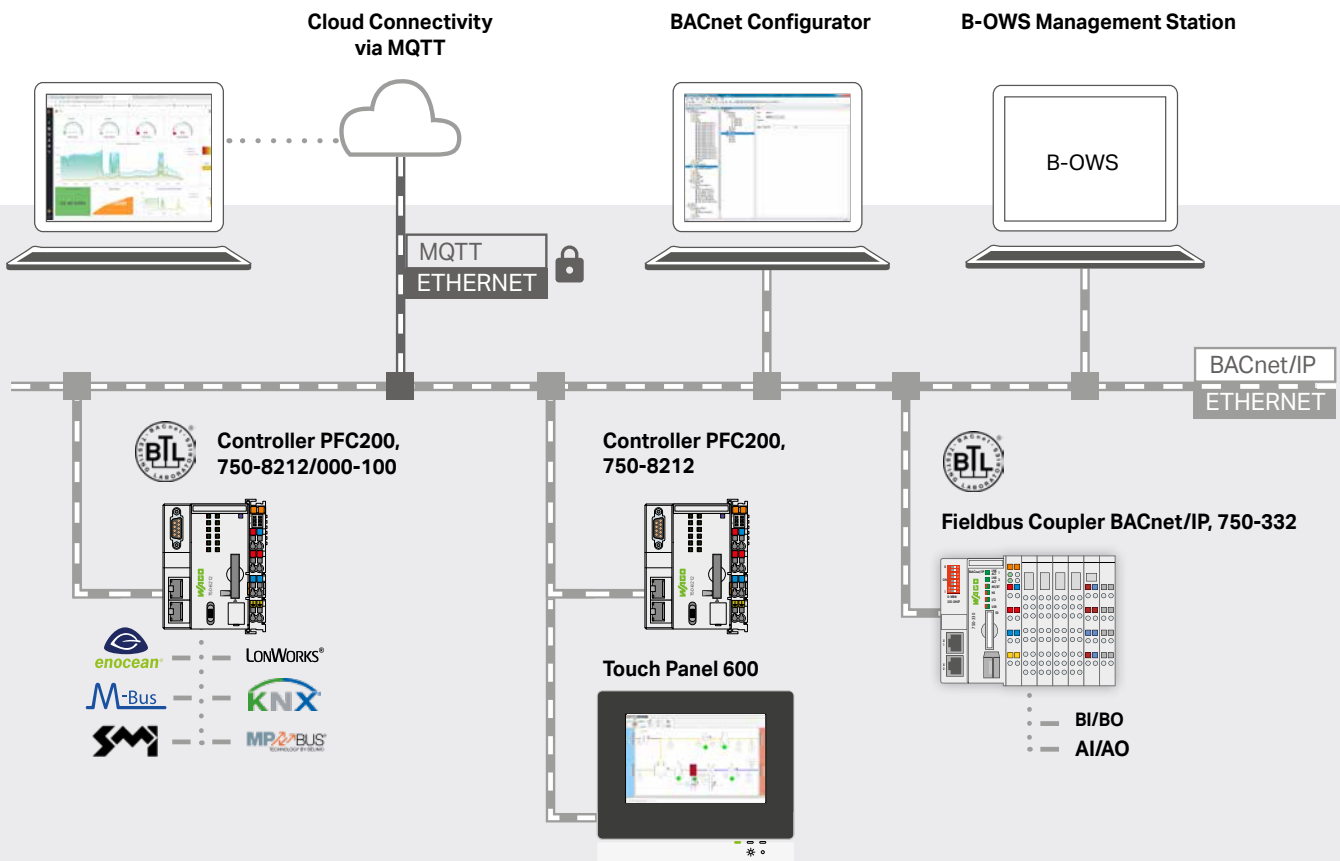- Scalability through different licenses

Item Number:
2759-0283/
0211-1000
2759-2283/
0211-1000
2759-0286/
0211-1000
2759-2286/
0211-1000

Availability:
April 2020

Cloud Connectivity via MQTT

BACnet Configurator

B-OWS Management Station

B-OWS

MQTT
ETHERNET

BACnet/IP
ETHERNET

Controller PFC200, 750-8212/000-100

enocean
M-Bus
SMI
LONWORKS®
KNX
MP BUS

Controller PFC200, 750-8212

Touch Panel 600

Fieldbus Coupler BACnet/IP, 750-332

BI/BO
AI/AO

WITH 4 ETHERNET PORTS

More Freedom with Four ETHERNET Ports

The PFC200 Controller now offers two additional interfaces.

The latest generation of WAGO's PFC200 Controllers now provides up to four separately configurable ETHERNET ports, allowing the implementation of applications with high connectivity demands. The networks on the ports can be freely configured. This means that the controller can be integrated with two ports into both an extensive network and a smaller local network. The possibilities range from connecting to four different networks to connecting all four ports with other switches. This flexibility can prevent using an additional switch in the control cabinet, which is often the case. Integrated firewall functionality ensures high security in local networks. The four interfaces on the PFC200 are designed as 100BASE-TX ports with RJ-45 sockets. All common ETHERNET protocols are supported. Typical applications for the PFC200 can be found in machinery and equipment control, in the process industry and in building automation. The powerful controller works with the real-time capable Linux® as its operating system and can be programmed with the IEC 61131-3 languages.

Your Benefits:

- Four ETHERNET ports on one controller
- Freely configurable
- There is no need for an additional switch in the control cabinet

Item Number:
750-8210

Availability:
March 2020

More Safety, Less Space Required

Top Solution for LTE Networks: WAGO Controller PFC200 with 4G Cellular Modem

The WAGO Controller PFC200 is now available with an integrated 4G cellular modem for communication within LTE networks. The great advantage of mobile communication is that data can essentially be transmitted worldwide. The continued development of the proven PFC200 makes automation solutions with mobile connectivity future-proof. Combining a controller and cellular modem in one compact solution not only saves space in the control cabinet, but it also offers several cybersecurity advantages because swapping or tempering with the modem is not possible. The new version of the PFC200 for LTE networks is particularly powerful thanks to G2 hardware. The Cortex A8 CPU with 1 GHz offers sufficient computing power for complex control tasks. The PFC200 can connect to the Internet via the cellular modem. The mobile radio settings can be configured directly via the controller's Web-Based Management. The IEC 60870-5-101, -103 and -104 telecontrol protocols, which are important for the energy industry, can be enabled on the controller.

Your Benefits:

- WAGO Controller PFC200 with a 4G cellular modem for LTE networks
- Space-saving combination of controller and cellular modem
- High security against manipulation

Item Number:
750-8217

Availability:
July 2020

PFC200 WITHIN AN LTE NETWORK

Convenient and Clear Lighting Control

New, Intuitive User Interface for WAGO Lighting Management

Once WAGO Lighting Management has been installed and commissioned, the focus shifts to operation and monitoring while the system is running. For this focus, the new visualization provides a streamlined user interface. Whether on a desktop, touch panel, tablet or smartphone, the entire lighting system can be operated clearly and conveniently via the HTML5 web user interface. Access is performed with a standard web browser. A responsive design ensures perfect display on all end devices. The visualization of the lighting system's operating data always keeps users informed of the entire lighting system's current status. Simultaneous access to several lighting management controls is also possible via the new visualization interface. In addition to language and color settings, HMI devices, users, rooms and custom profiles can be easily created and managed. Through these capabilities, you can fine-tune lighting to meet incredibly specific needs.

Your Benefits:

• Intuitive operation
• Individually designed user interface
• Cross-controller access via lighting management software

Item Number:

750-8212
2759-204/261-1000
2759-2101/271-1000
2759-2102/271-1000
2759-2103/271-1000

Availability:

April 2020

Data Analysis without IT Skills

WAGO Cloud is the universal IoT solution for machines, systems and buildings.

It doesn't matter if it's in industry, in buildings or in retail, worldwide access to data has become essential for every company. WAGO Cloud offers you the ability to centrally collect and analyze data from different machines, systems and buildings. Furthermore, you can easily manage and monitor all WAGO controllers, including your data and applications, on a PC, in a conference room or on a tablet while traveling. With simple, user-friendly operation, WAGO Cloud was developed so that people without extensive IT experience can use it. Thanks to its app structure, WAGO Cloud is intuitive to use. Many standard functions such as visualization, remote maintenance and firmware update are already set up.
WAGO Cloud is ready after just a few mouse clicks. It is based on the established Microsoft Azure cloud platform. Microsoft Azure is highly scalable in terms of computing power, data storage, transactions, availability and security standards – it is a future-proof solution.

Your Benefits:

- Worldwide access via WAGO Cloud
- Ready and easy to use
- Highly scalable solution

Item Number:
2759-1061/6501, -6505, -6510

Available

OPC UA™

SECURE COMMUNI- CATION

OPC UA Server Profiles with Security Features

Communication via OPC UA for WAGO Controllers and Control Panels

Thanks to its flexible, future-proof and expandable architecture, OPC UA is one of the most important communication standards for automation applications. WAGO has now implemented various OPC UA server profiles for its PFC Series Controllers and Control Panels. This makes WAGO's automation hardware fit for the future communication standard. Standardized functions, which adhere to OPC UA specifications, can be used easily and smoothly in automation applications. WAGO offers OPC UA on its PFC Controllers and Control Panels with the different server profiles – Nano, Micro or Embedded. This enables seamless customized communication with OPC UA clients. Various security features are integrated into the profiles. These

include encrypted communication between server and client, authentication via user name and password, and certificate management. This enables secure communication in automation applications with OPC UA.

Your Benefits:

- OPC UA server profiles for PFC and Control Panels
- Customized communication with OPC UA clients

Functionality is available free of charge!

Availability:
May 2020

Paving the Way for Modular Production

WAGO launches the "Module Type Package" (MTP).

To meet growing demands for modular systems, WAGO is adding the "Module Type Package" (MTP) to its range of automation solutions. MTP works as a standardized interface and functional image of entire system modules in compliance with VDI/VDE/NAMUR 2658, creating the basis for automating versatile production systems. MTP can be used with both WAGO Controllers (PFC200/PFC200 XTR) and WAGO Touch Panels (600). For module engineering, the WAGO *e!COCK-PIT* Engineering Software provides both an add-on and a library with many preparatory functions. Once the module has been created, the MTP is automatically generated with one click and can be read into a wide variety of process control systems. In manufacturing and process engineering, modular automation has quickly become dominant. In fact, with systems consisting of several stand-alone modules, operations become much more flexible and faster than they were with conventional systems designed from individual parts.

Your Benefits:

- MTP brings flexibility and speed to the modular production line.
- Extensive library functions facilitate module engineering.
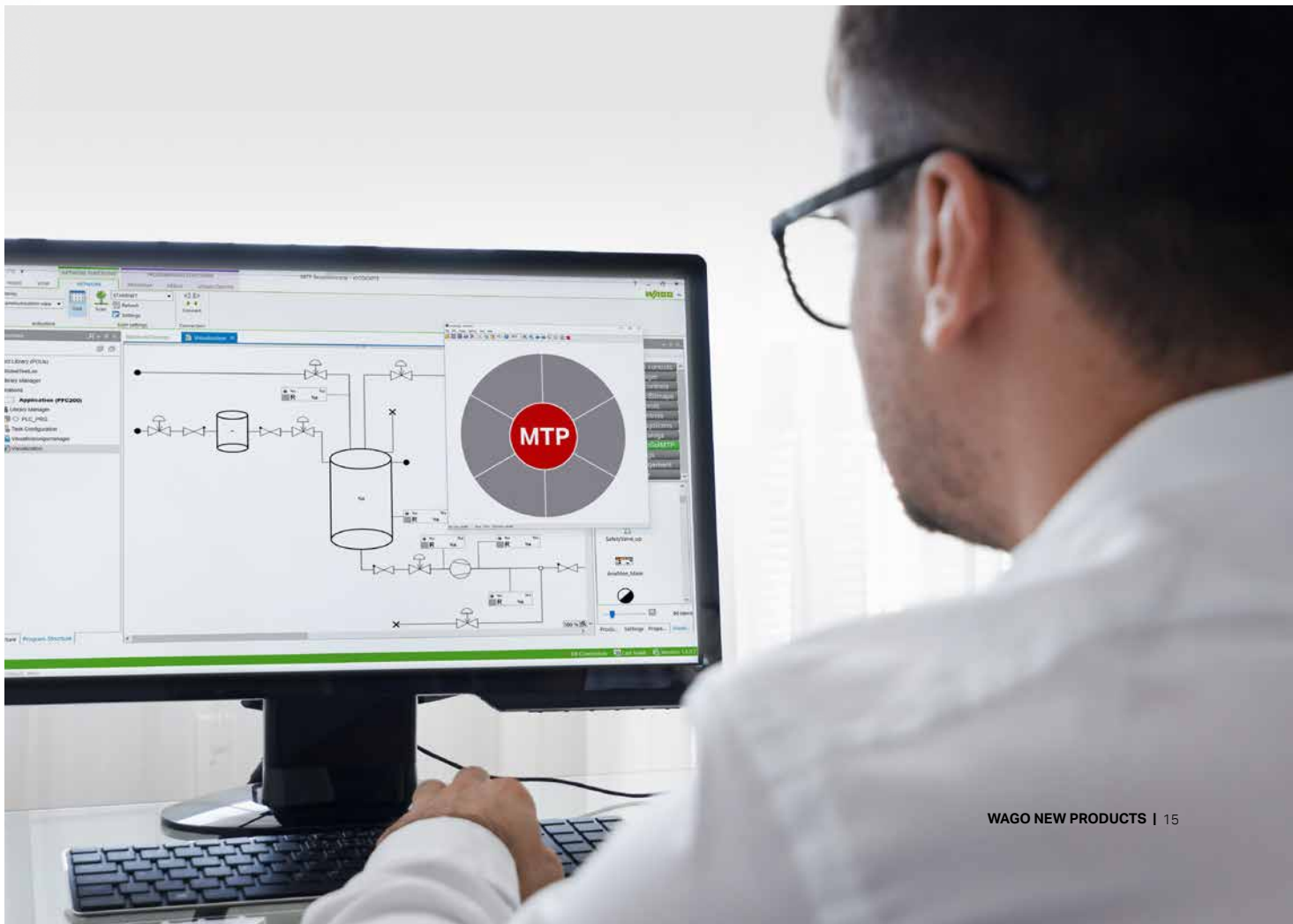- Modules can be fully automated with just one click.

Item Number:
2759-0120/1121-1000
2759-0208/0211-1000
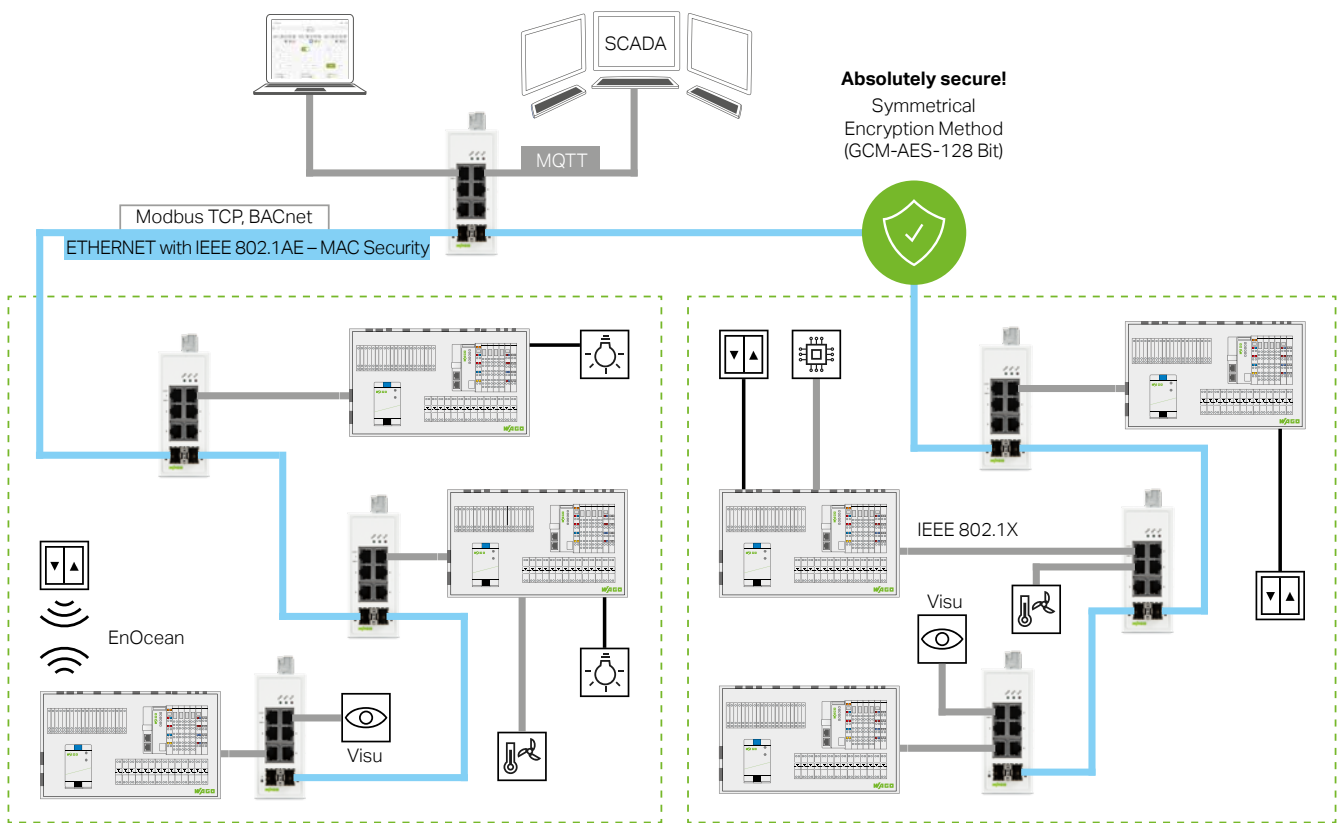
Availability:
from stock

Cybersecurity Directly in the Switch

New Industrial Managed Switch with Integrated Encryption

Cybersecurity is trending in building automation (BA). With WAGO's new industrial managed switches, users can easily increase the security of their BA applications. The innovation integrates cybersecurity functions: Data packets are encrypted with 128 bits on two ports. This means that it's possible to integrate secure data transmission into an existing network – regardless of the protocol and without application changes. The encryption meets the IEEE 802.1AE standard (IEEE MAC Security Standard), ensuring data integrity and authentication of the transmitter with high data throughput. The optional authentication of other participants in the network is port-specific in accordance with IEEE 802.1X and RADIUS server. Due to a compact shape (45 x 90 x 110 mm), the new 8-port gigabit switches can be easily retrofitted in the control cabinet.

And each switch is equipped with two ports for encrypted communication. With WAGO's

Absolutely secure!
Symmetrical
Encryption Method
(GCM-AES-128 Bit)

SCADA

MQTT

Modbus TCP, BACnet
ETHERNET with IEEE 802.1AE – MAC Security

IEEE 802.1X

EnOcean

Visu

Visu

852-1328 Industrial Managed Switch, SFP modules are used for secure communication. This also enables secure networking of distant buildings with optical fibers. Configuration and diagnostics of the industrial managed switches are also performed securely using a Web browser or SNMPv3.

Your Benefits:

- Industrial managed switches with hardware-related encryption (MAC Security)
- Retrofitting secure data transmission in existing networks
- Authentication in the network

Item Number:
852-1322
852-1328

Availability:
June 2020

Certified Power Plant Controllers for Feed-In Management

WAGO *e!COCKPIT* Power Plant Control Library

The growing number of energy producers and the high volatility of electricity generation from renewable energy sources pose major challenges for power grids. This is why a feed-in management system has been mandatory in Germany since April 2019 for power generation plants (PGP) with an output of more than 135 kilowatts (kW), which must be certified to comply with the VDE-AR-N 4110/4120 application rule. WAGO has thus certified its *e!COCKPIT* library accordingly. System integrators can now use the WAGO Library Power Plant Control based on the second generation WAGO Controller PFC200 to implement certified PGP controllers for power supply management. The PGP controllers ensure that the setpoint values for active and/or reactive power at the grid connection point required by the grid operator are adhered to. Manipulated variables are calculated and communicated to the generation plant by comparing setpoint specifications with the measured actual values. The PGP controllers based on the PFC200 Controller with the certified *e!COCKPIT* library support renewable energy production systems including, solar parks, biogas plants and energy storage systems.

Your Benefits:

- Feed-in controller based on the PFC200 Controller (2nd Generation)
- Certification per VDE-AR-N 4110/4120
- Flexible and future-proof solution with proven hardware

Item Number:
2759-0203/
0211-1000

Availability:
from stock

Efficiency Becomes Visible

WAGO Energy Data Management (EDM) – Easy, Flexible, Efficient

WAGO Energy Data Management offers more than data acquisition, storage and visualization. Based on data transparency and energy key figure calculation, it allows accurate efficiency assessments and leads to successful energy management that adheres to ISO 50001. No IT knowledge is needed for this – simple parameterization is sufficient. With this solution, users benefit from maximum flexibility, security and convenience – from the extensive connectivity of energy meters and systems to location- and software-independent HTML5 web visualization, alarms for limit violations and integrated cloud connectivity. For example, the data collected by WAGO's MID-compliant 879 Series Energy Meters can also be recorded and visualized via WAGO Energy Data Management. Optionally, modern dashboards can present efficiency gains in a clear, traceable and device-independent manner.

Your Benefits:

- Simple parameterization instead of complicated programming
- Efficiency assessment thanks to energy key figure calculation
- Maximum security and connectivity

Item Number:
2759-206/
261-1000*
2759-207/
271-1000**

Availability:
*from stock
**July 2020

INTEGRATING NEW MID METERS

Early Ground Fault Detection

Increasing Availability via Improved and Preventive Maintenance

According to the IEC 60204-1 standard, measures must be taken to reduce the probability of malfunctions due to insulation faults/ground faults in a control circuit. A common option is connecting 0 V to the ground potential in the control circuit, which is combined with an upstream fuse. With the new ground resistance signaling module, WAGO offers the possibility of detecting not only the grounding of the 0V potential, but also the full and automatic undershooting of a non-adjustable, unbalanced insulation resistance between +24 V or 0 V of the supply voltage and ground. An integrated potential-free contact can be used to signal the Iso OK status to a controller, for example, a PLC. Additionally, on-module LEDs clearly indicate the insulation fault to the operator. Compared to mechanical ground conductor disconnect terminal blocks, maintenance is considerably simplified. Early detection of imminent ground faults enables improved preventive maintenance, ensuring increased system uptime. The module can be used in single-phase grounded and ungrounded control circuits, but it does not meet the requirements for insulation monitoring devices according to IEC 61557-8. A slide switch allows the user to select the grounded/ungrounded control circuit operating mode. With the new ground resistance signaling module, it is possible to upgrade from the former manual testing of a ground fault to a permanent test of the insulation resistance.

Your Benefits:

- Automated insulation resistance measurement
- Early detection of potential ground faults
- Insulation fault indication via LEDs and potential-free contact

Item Number:
789-665

Availability:
August 2020

Easy Installation and Configuration

New Compact Energy Meters with a Large Display

Comprehensive energy measurement is necessary for optimizing energy consumption. WAGO now has new energy meters in its portfolio that simplify this task while providing several key advantages. The energy meters use the Push-in CAGE CLAMP® with a lever, making them connect quickly and easily. The devices have a width of just 72 mm for direct measurement; versions for current transformers are even slimmer at only 35 mm. These widths save a tremendous amount of control cabinet space. In addition to the values for active and reactive energy, the energy meters also record the mains frequency, as well as current, voltage and power for all phases. And the user can conveniently scan all of these energy characteristics at a glance on a large, illuminated display. The new energy meters are true communication professionals because all devices have both an M-Bus and Modbus® interface that users can select from. In addition, two S0 interfaces are available for both energy directions, with the pulse rate being adjustable. All recorded energy data can be recorded and displayed in the WAGO Energy Data Management application within clearly arranged dashboards. Configuration and operation are refreshingly straightforward: A large display facilitates operation using the integrat- ed touch-sensitive controls. A configuration app can also be used that communicates with the device via *Bluetooth®*. With these new energy measurement devices, a wide variety of building or industrial applications can be implemented thanks to the MID declaration of conformity. Applications with consumption billing are also possible.

Your Benefits:

- Saving time at every level thanks to the Push-in CAGE CLAMP® and lever
- Conserving valuable cabinet space via slimline design
- Professional communication thanks to the M-Bus and Modbus® interface and two S0 pulse outputs
- Full transparency with an illuminated full-format display
- •Intuitive configuration through touch-sensitive controls and configuration app via *Bluetooth®*
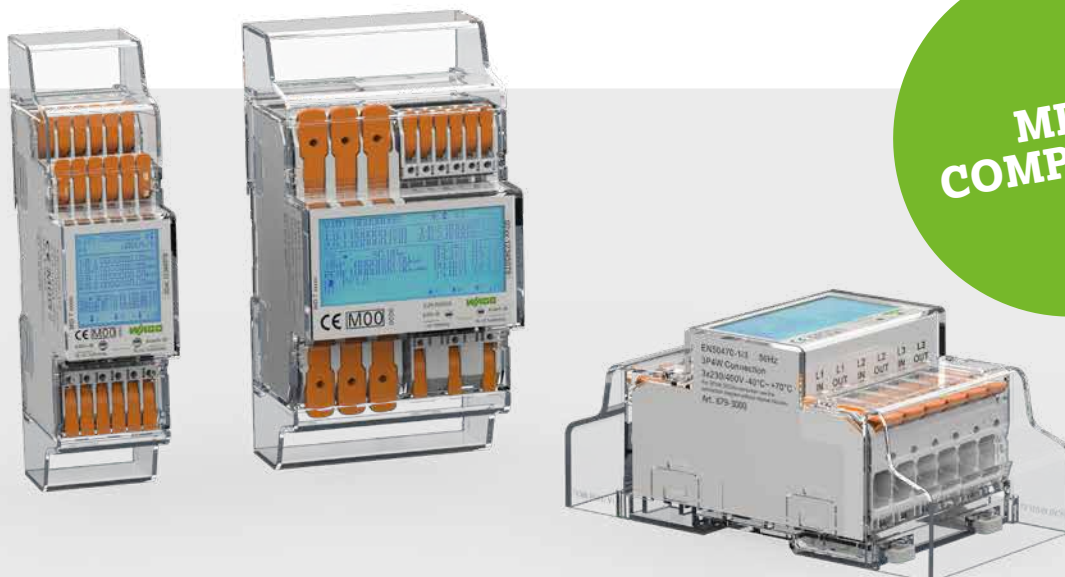
Item Number:
879-3000
879-3020
879-3040

Availability:
November 2020

MID-COMPLIANT

WITH HIGH EFFICIENCY

Communicative and Reliable in Demanding Environments

WAGO Power Supplies Pro 2

WAGO's line of Pro 2 Power Supplies, which range from 120 to 960 W, sets new industry communication and parameterization benchmarks. And with up to 96.3% efficiency, the devices have also set new standards for economical operation. This saves hard cash, especially when used in applications that run around the clock, 365 days a year – such as those in building automation. On top of that, the adjustable overload behavior, as well as the Top- or PowerBoost features, guarantee high system uptime. Optionally, the devices are now also available with a protective coating for even greater resistance to dirt, moisture and corrosion, e.g., by harmful gases according to the ISA-71.04 Class G3 standard. This is particularly advantageous in applications for utilities and disposal companies, as well as those in process technology. Snap-on type communication modules for IO-Link (and coming soon for Modbus RTU and Modbus TCP), enable constant communication and intelligent monitoring. The modules also allow parameterization for both commissioning and maintenance via the PLC or building automation system, bypassing expensive on-site service.

Your Benefits:

- Save energy and costs thanks to a peak efficiency of up to 96.3%
- Reliable supply via Top- or PowerBoost function
- Always informed through constant communication via standardized protocols

Item Number:
2787-2448, -2147, -2146, -2144
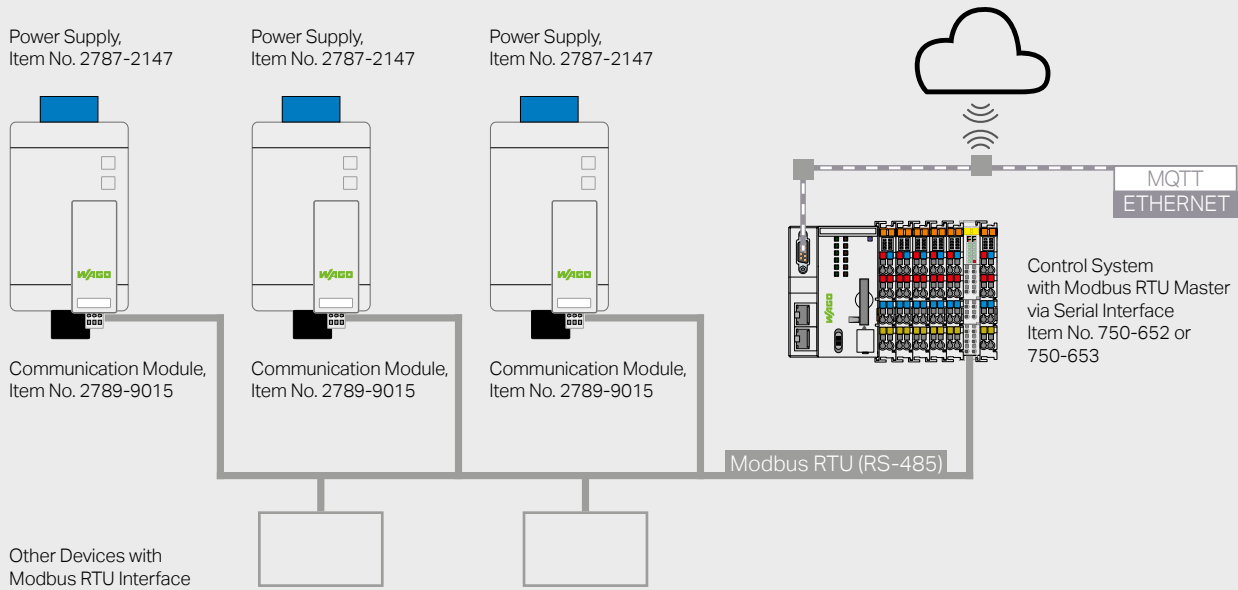2789-9080*
2787-2347*
2787-2346**
2789-9015***
2787-2348***

Availability:
*from stock
**September 2020
***June 2020

Power Supply,
Item No. 2787-2147

Power Supply,
Item No. 2787-2147

Power Supply,
Item No. 2787-2147

MQTT
ETHERNET

Communication Module,
Item No. 2789-9015

Communication Module,
Item No. 2789-9015

Communication Module,
Item No. 2789-9015

Control System
with Modbus RTU Master
via Serial Interface
Item No. 750-652 or
750-653

Modbus RTU (RS-485)

Other Devices with
Modbus RTU Interface

Cost-effective, proven and interference-free fieldbus communication via Modbus RTU

WAGO Power Supplies Pro 2

In addition to functioning as a standard converter, a modern power supply can provide valuable data to help guide preventive maintenance and service. The new snap-on type Modbus RTU Communication Module connects the Pro 2 Power Supplies to a PLC, a control system or an IoT controller via Modbus RTU master. The proven bus structure is inexpensive, easy to set up and, thanks to RS-485, quite resistant to interference – even over long distances. An additional advantage is that the current, voltage and operating states of the power supplies are always available, permitting a quick response to production process deviations. In addition, setting both output voltage and signaling is possible via the PLC program or control system – even during adjustments while operating. The main communication partner is, for example, a serial interface in the WAGO I/O System that has been configured as a Modbus RTU mas-

ter. In addition to the power supplies, other devices can be connected to the Modbus RTU network, such as power measurement modules, current sensors, sub-control units or visualization devices. In all, up to 247 devices can be connected with the Modbus RTU interface.

Your Benefits:

- Modbus RTU is inexpensive, easy to set up and immune to interference
- Current, voltage and operating states of the power supplies are always available
- Quick response to production process deviations

RS-485 Interface as Modbus RTU Master

Your Benefits:

- Supports up to 247 devices within the Modbus RTU network
- Just 12 mm wide
- Convenient tooling
- Seamless integration into the WAGO I/O System 750 or WAGO I/O System Advanced 763

Item Number:
750-8212
750-652

Availability:
from stock

Modbus RTU Communication Module

Your Benefits:

- Permanent monitoring and reliable parameterization of the WAGO Power Supplies Pro 2
- Cost-effective and proven fieldbus communication, from the power supply unit via the PLC or control system to the cloud
- Easy to use thanks to free function blocks

Item Number:
2789-9015

Availability:
June 2020

3-Phase Power Measurement Module

Your Benefits:

- Monitoring of AC voltages with regard to voltage level, phase position and harmonics: Phase failure, rotating field and power quality analyzer in one device
- Measured variables such as active/apparent/reactive power, energy consumption, power factor, phase angle and frequency are provided for a three-phase supply network
- Measurement via current transformers or Rogowski coils: Flexible selection of upcoming measurement tasks
- Modbus RTU network interface (RS-485): Provision of the measured values via Modbus RTU
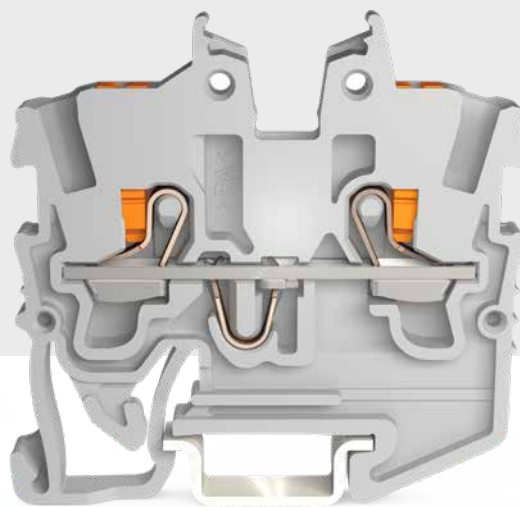
Item Number:
2857-570/024-001
2857-570/024-005
2857-570/024-000

Availability:
from stock

WAGO MINI TERMINAL BLOCK 1 MM²

Full Range in the Smallest Space

WAGO Mini Terminal Blocks TOPJOB® S in a Compact Design

With the WAGO TOPJOB® S Mini Terminal Block (1 mm²/18 AWG nominal cross-section), WAGO is expanding its range of TOPJOB® S Rail-Mounted Terminal Blocks by a miniature version with full functionality. The new mini terminal blocks are particularly compact, making connection in the cramped terminal boxes of motors or pumps, for example, much more convenient.

In addition, they offer various mounting options to provide exceptional flexibility. It can be mounted on a 15 x 5.5 mm DIN-rail or on a mounting plate with a flange or a snap-in foot. The name, TOPJOB® S Mini Terminal Blocks, makes it clear that the popular accessories from the TOPJOB® S Rail-Mounted Terminal Blocks, such as jumpers and marking strips, can be used. There are also two actuation variants: Terminal blocks with push-buttons or operating slots, both of which also allow direct termination via Push-in CAGE CLAMP® connections.

A REAL SPACE GENIUS!

Your Benefits:

- Compact design with full functionality
- Various mounting options
- Push-in CAGE CLAMP® termination
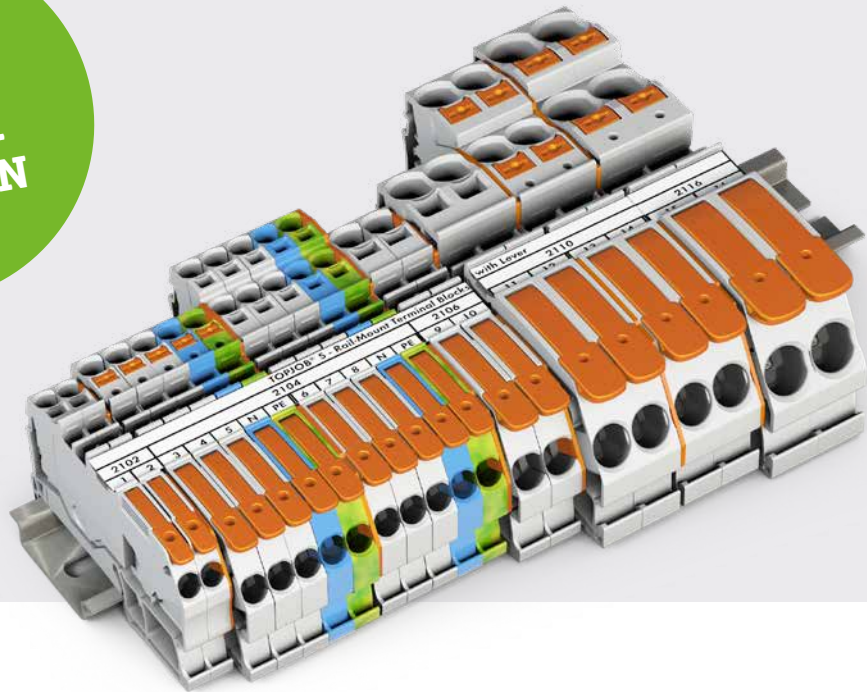- Can be used up to 500 V IEC/300 V UL

Item Number:
2250 + 2050
Series

Availability:
July 2020

NEW: 4 MM² CROSS-SECTION

Range of Lever-operated Terminal Blocks is Expanding

The Portfolio Grows: New TOPJOB® S Rail-Mount Terminal Blocks with Levers

The newly developed TOPJOB® S Rail-Mount Terminal Blocks with levers (4 mm²/12 AWG nominal cross-section) complement the existing range of WAGO Through Terminal Blocks. With this newest variant, rail-mount terminal blocks with levers are now available with nominal cross-sections from 2.5 mm² to 16 mm² (14 to 6 AWG). It fits perfectly into the entire range of TOPJOB® S Rail-Mount Terminal Blocks and can be easily combined with existing terminal blocks, whether with operating slots or push-buttons. For example, the same jumpers and the same marking system are used. Its compelling feature is the intuitive lever-operated connection, which requires no tools for operation and marks the open clamping point when open. The rail-mount terminal blocks with levers are suitable for, among other things, quick and easy mains connection. The 2- or 3-conductor through

terminal block is available in gray, blue and green-yellow for ground conductors. It has an external connection with lever actuation; internal connection is handled via an operating slot or push-button. Simultaneous connection of multi-core sheathed cables that are difficult to bend is particularly convenient thanks to the lever. In addition, the lengthy time required for any rewiring is reduced by the intuitive and tool-free lever operation.

Item Number:
2104-120x
2104-130x
2104-520x
2104-530X

Availability:
July 2020

Your Benefits:

- Tool-free wiring
- Time saving with frequent rewiring
- Intuitive operation

Maximum Safety in the Smallest Space

A center locking lever and strain relief plate for WAGO's *MCS* MAXI 16 PCB Connectors offer safety in an incredibly compact design.

Both the highest level of safety and an easy-to-use design – in the smallest of spaces – is provided by the center locking lever with or without a strain relief plate for WAGO's 832 Series *MCS* MAXI 16 PCB Connectors. This makes WAGO the market's most compact solution for locking PCB connectors within power electronics. The intuitive center locking lever protects against unintentional disconnection of the connector – without additional pin spacing width, allowing the connectors to be placed directly next to each other. In combination with the strain relief plate, conductors are secured against pull-out forces. At the same time, the user has a solid gripping plate that makes plugging and unplugging of the connector easier.

Your Benefits:

- The most compact center locking lever on the market for PCB connectors used within power electronics
- Intuitive mechanism allows easy locking and unlocking with one hand
- The strain relief plate secures the connected conductors and facilitates installation as a gripping plate

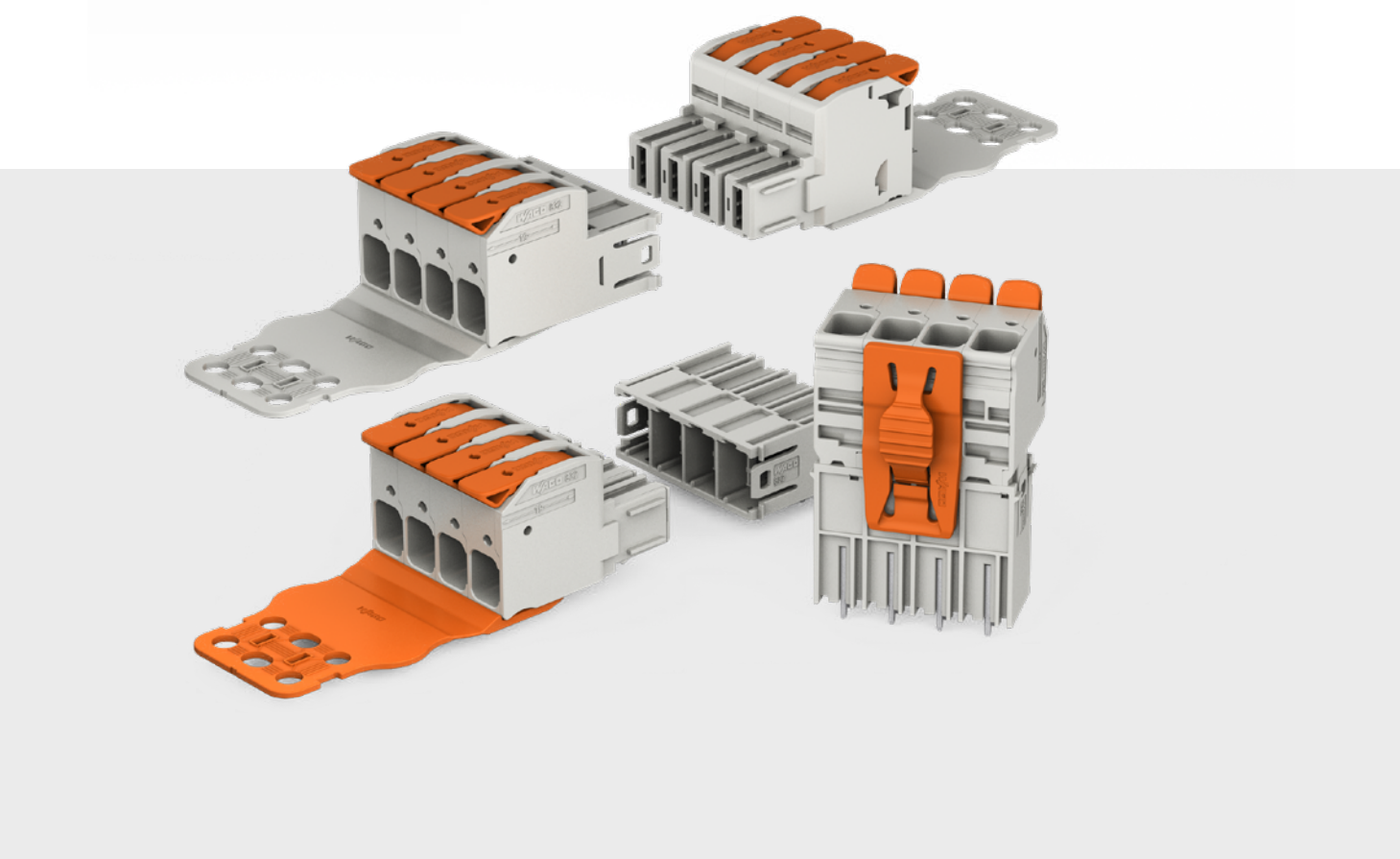Item Number:
832-522
832-523
832-532 to
832-535
832-542 to
832-545

Availability:
from stock

IPX8 PROTECTION

Simply Protected from Moisture

WAGO's Gelbox provides IPX8 levels of protection for splicing connectors – quickly, easily and reliably.

Electrical installations in environments that range from merely damp to soaking wet can now be made waterproof – in a way that's faster and easier than expected. Deploy it instantly at your electrical installation. Access it at any time. Store it indefinitely if needed. The WAGO Gelbox offers these benefits and unbeatable connection protection anywhere electrical installations are exposed to moisture and humidity, such as outdoors. The WAGO Gelbox utilizes high-quality, silicone-free gel from Cellpack, making this enclosure ready for any branch of industry. The WAGO Gelbox is available in six sizes and is compatible with both WAGO's 2273 Series COMPACT PUSH WIRE® Connector for Junction Boxes and its 221 Series COMPACT Splicing Connectors.

Your Benefits:

- Fast application – ready for direct, on-site deployment
- Unlimited shelf life
- Ease of use
- Exceptional versatility – made of silicone-free gel for use in all industries
- Safe application – VDE-tested and IPX8-certified

Item Number:
207-133x
207-143x

Availability:
May 2020

Conquering the Chaos of Many Wires

WAGO's Junction Box for the 221 Series allows you to clearly organize and quickly connect up to 60 conductors.

It doesn't matter if you're connecting light distribution or heating systems, things can get confusing wherever multiple cables meet. WAGO's Junction Box helps connect up to 60 conductors with WAGO's 221 Series COMPACT Splicing Connector for all conductor types up to 4 mm² (12 AWG). It creates a large-scale, fixed position of the clamping points on one level for both flush-mounted and surface-mounted cables. A total of 12 strain relief devices allow convenient and safe cable entry and fastening. The clearly visible labeling options of each terminal point ensure that you not only get an overview but keep it. Real-world examples include quickly identifying the circuit while upgrading or troubleshooting, retrofitting the installation or correcting errors. Since the junction box can be freely positioned, a host of possible appli-

cations exists in a wide variety of worksites. The tool-free and maintenance-free connection technology of WAGO's 221 Series Splicing Connector ensures fast wiring, simple rewiring and a secure connection.

Your Benefits:

- Simple, quick and safe connection of up to 60 conductors
- A clear, structured arrangement that's secured on one level
- Clearly visible labeling of each individual clamping unit

Item Number:
207-4301 Series

Availability:
June 2020

PERFECT OVERVIEW

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