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## **Weidmüller demonstration machine – the next step on the road to Industry 4.0**

**“Energy-efficient process optimisation through condition monitoring and diagnosis”. – Communicative ACT20C signal converters: digitalisation of analogue production data and cloud-based evaluation make production facilities fit for Industry 4.0.**

***True to the motto “NEXT STEPS”, Weidmüller is set to showcase the next step on the road to networked production – Industry 4.0 – at this year’s Hannover Messe trade fair with the “Energy-efficient process optimisation through condition monitoring and diagnosis” demonstration machine. The demonstration machine is a conventional injection moulding machine incorporated into a production network with communicative components, so the vision of the fourth industrial revolution can already be implemented in sub-areas. At the very heart of the application are communicative ACT20C signal converters, which allow for the digitalisation of analogue production data and its transmission to and evaluation in the cloud. The ACT20C signal converters can be directly incorporated into existing Industrial Ethernet structures using an Ethernet interface. Even back in 2013, Weidmüller took a brilliantly progressive approach with respect to the topic of Industry 4.0, unveiling a new stamping and bending machine capable of identifying and independently optimising fluctuations in the ongoing production process and materials. The project, which is known as “Self X Pro”, was developed within the context of the “It’s OWL” leading-edge cluster and in cooperation with the Fraunhofer Institute for Production Technology in Paderborn.***

Producing companies are faced with a challenge: In the digital age, the ability to produce in a faster, more customised and more flexible fashion is becoming increasingly important. To make matters worse, the end product should not cost any more than it did previously. So, in future, the ability to retrieve and check current production costs and the condition of the production process during ongoing production operations will prove critical to companies' success. What is the operational performance like? What are the current production costs? What is the

condition of the machinery and systems? And what is the ideal compromise between production performance and energy costs?

These questions can only be answered if all of the data is available at all times to all of the systems that have to access it. Looking at the present operational reality of most companies, this may be true in some cases – but in many production facilities, all of the relevant data and information are not yet provided for all applications. And if something isn't transparent, you can't control it.

The “Energy-efficient process optimisation through condition monitoring and diagnosis” demonstration machine is a conventional injection moulding machine that is incorporated into an Industrial Ethernet production network using communicative components. The integrated power monitor measures and records all of the relevant electrical characteristics of the machine and makes them available for the energy management system. Communicative ACT20C signal converters convert the analogue machine data into digital data, which is subsequently provided and analysed in the cloud. The ACT20C modules can be incorporated into Industrial Ethernet structures using their communication interfaces. What is remarkable about the signal converters is that they include comprehensive diagnostic functions in addition to the typical functions such as signal acquisition, preparation, standardisation and output. As the data is subsequently made available in the cloud, a comparison can be made between production and manufacturing data and other information, such as current energy prices, guaranteeing absolute transparency for all production data. The technology has already proven its worth in everyday use: Weidmüller already uses an identical system in its own production facilities to manufacture die cast parts.

The next step towards Industry 4.0 is direct communication between the individual parts of the production or manufacturing facility. In this regard, the ACT20C also allows the communication to be uploaded to the cloud, thus providing conclusions and findings about the production or manufacturing facility. This enables system operators to set up new services to optimise and diagnose their production and manufacturing processes for energy management. It is precisely at this point that we've come full circle: What was previously isolated data can now be reviewed and

evaluated again, giving process optimisation a long-term boost.

The benefit of Weidmüller's solution is clear to see. It will allow producing companies to prepare themselves today for the Internet of Things and for controlling production from the Big Data Cloud, even with respect to their existing range of machinery. Weidmüller is thus once again proving its worth as the Industry 4.0 pacemaker and as an Industrial Connectivity partner.

***Weidmüller – electrical connection, transmission and conversion of power, signals and data in the industrial environment. – Let's connect.***

**Keyword: Weidmüller Industry 4.0 demonstration machine**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

**Captions:**

**Fig. 1: Weidmüller demonstration machine – the next step on the road to Industry 4.0**

*Fig. no.: Sä 20140401*

**Fig. 2: Weidmüller POWER MONITOR: measure and record the electrical characteristics of machines and systems. The device records even tiny amounts of power, such as for devices in stand-by mode. Detail: The large keys enable secure navigation of the menu.**

*Fig. no.: Sä 20130303*

**Fig. 3: “More process transparency via Ethernet” — the ACT20C generation of signal converters from Weidmüller is equipped with an Ethernet interface. The signal converters transmit diagnostic information, signals and data.**

*Fig. no.: Sä 20130311*

**Weidmüller “OMNIMATE Signal LSF-SMD”:** LSF-SMD PCB connection terminals with “PUSH IN” connection technology for fully automatic SMD assembly. – “OMNIMATE Signal LSF-SMD” combines connection efficiency with design freedom and facilitates customised and flexible device design. – “OMNIMATE Signal LSF-SMD”: Pitches of 3.50, 5.00 or 7.50 mm and three conductor outlet directions of 90°, 135° or 180° cover a wide range of device requirements.

*With a broad range of “OMNIMATE Signal LSF-SMD” PCB connection terminals featuring “PUSH IN” connection technology, pitches of 3.50, 5.00 or 7.50 mm and conductor outlet directions of 90°, 135° or 180°, Weidmüller is enabling developers to implement customised and flexible PCB and device designs. The “OMNIMATE Signal LSF-SMD” PCB connection terminals satisfy the requirements of fully automatic PCB assembly with SMT soldering (reflow process) and can be efficiently worked with the component assembly in a single production process. The PCB terminals are constructed with two soldering pads per pole to ensure high mechanical stability pursuant to IPC-A-610 Class 2 – without the need for additional mounting flanges. The “PUSH IN” connection technology provides secure conductor connections from 0.2 to 1.5 mm<sup>2</sup> (AWG 24-16) – without the need for tools, of course. “OMNIMATE Signal LSF-SMD” PCB terminals can be put to beneficial use, for example, in LED devices with aluminium heat sinks where drilled holes are not possible.*

Products need to provide impressive technical performance and offer an expressive device design. A striking design language reflects the brand personality of the manufacturer – devices are distinctive and instantly recognisable. Design concepts such as this have a direct impact on the PCB structure and its conductor connection elements. Drilled holes and feed-throughs on devices and PCBs also cost time, take up space and compromise the creative freedom of developers. Weidmüller's solution comprises a wide range of “OMNIMATE Signal LSF-SMD” PCB terminals for SMT soldering. The product range supports the requirements of fully automatic surface mounting and enables new and innovative design options. The PCB terminals can be assembled automatically with the active components and thus be easily incorporated in the SMT production process – guaranteeing complete consistency throughout the SMT process. Automatic assembly is supported by tape-on-reel

packaging in standard belt widths. Pick-and-Place pads guarantee reliable attaching and setting down of the PCB terminals. Featuring two soldering pads per pole, the Weidmüller PCB terminals satisfy the most stringent requirements for mechanical fixing on the PCB – without the need for additional mounting flanges.

When using SMD technology with the relevant components, the rear of the PCB remains free and can be used for attaching further components. In the best-case scenario, SMD technology provides device manufacturers with twice the amount of space on the PCB – alternatively, they benefit from a PCB that's only half the normal size, meaning they can design a device with a more compact overall structure. For the “OMNIMATE Signal LSF-SMD” PCB terminals, Weidmüller uses LCP, the highly temperature-resistant insulating material, which is characterised by its shape and dimensional stability. As they absorb very little water, the PCB terminals can be used in the reflow process without having to undergo a prior drying phase. There is no risk of blisters forming. An uninterrupted production process from automatic machine assembly to soldering is guaranteed, thus saving time and money. The LCP insulation material ensures compliance with the stringent fire safety requirements in accordance with the IEC 60335-1 standard for domestic appliances.

With “OMNIMATE Signal LSF-SMD”, Weidmüller is continuing to expand its extensive range of reflow-capable PCB components. The new connection terminals feature “PUSH IN” connection technology and are available with pitches of 3.50, 5.00 or 7.50 mm and in three conductor outlet directions: 90°, 135° and 180°. They therefore cover a wide range of equipment requirements. PCB terminals are available in the following block construction: 3.50 mm pitch, 2 to 12-pole; 5.0 mm pitch, 2 to 8-pole and 7.50 mm pitch, 2 to 6-pole.

Weidmüller is offering the “OMNIMATE Signal LSF-SMD” PCB terminals with “PUSH IN” connection technology. The innovative connection system cannot fail to impress with its intuitive operation, secure handling and extremely short cabling times. All you have to do is plug the stripped, solid conductors or conductors fitted with wire-end ferrules into the clamping point – and you're done. No tools are required for connection. Finely stranded conductors are connected by opening the clamping point. Simply press the integrated push-button to do this. Press it again to unclamp

connected conductors.

“OMNIMATE Signal LSF-SMD” featuring “PUSH IN” connection technology holds solid or stranded conductors with cross-sections ranging from 0.2 to 1.5 mm<sup>2</sup> (AWG 24-16) – with or without wire-end ferrules. It is designed as a TOP system, so pressing the “PUSH IN” contact enables conductors to be inserted and released as part of a parallel process. The IEC rating data is as follows: 320 V, 17.5 A, 0.2 to 1.5 mm<sup>2</sup> conductors. The UL ratings are: 300 V, 12 A, AWG 24 to 16 conductors. For crimping the wire-end ferrules, Weidmüller recommends crimp shape A and the crimping tool PZ6/5.

***Weidmüller – electrical connection, transmission and conversion of power, signals and data in the industrial environment. – Let’s connect.***

**Keyword: Weidmüller “Omnimate Signal LSF-SMD”**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

**Captions:**

**Figure 1: Weidmüller “OMNIMATE Signal LSF-SMD”: The “OMNIMATE Signal LSF-SMD” PCB connection terminals satisfy the requirements of fully automatic PCB assembly with SMT soldering (reflow process) and can be efficiently worked with the component assembly in a single production process.**

*Fig. no.: Sä 20140201*

**Figure 2: Weidmüller “OMNIMATE Signal LSF-SMD”: The LSF-SMD PCB terminals featuring “PUSH IN” connection technology satisfy the requirements of fully automatic surface mounting, with terminals supplied in tape-on-reel packaging in standard belt widths.**

*Fig. no.: Sä 20140202*

**Figure 3: Weidmüller “OMNIMATE Signal LSF-SMD”: The proven “PUSH IN” connection technology enables secure and tool-free conductor connections up to 1.5 mm<sup>2</sup>.**

*Fig. no.: Sä 20140203*

**Figure 4: Weidmüller “OMNIMATE Signal LSF-SMD”: With two soldering pads per pole, the LSF-SMD PCB terminals provide a stable soldering connection – without the need for additional mounting flanges.**

*Fig. no.: Sä 20140204*

### **Integrated energy management system from Weidmüller sustainably cuts both consumption and costs. – Forward-looking solution creates options for taking action in the industrial environment.**

Energy efficiency is a topic that is on everyone's lips. Alongside Industry 4.0, energy efficiency is one of the key elements of Hannover Messe 2014. At the world's biggest industrial trade fair, Weidmüller will be showcasing an integrated energy management system from a single source for the very first time.

Companies benefit from this integrated solution in more ways than one. The solution is offered from a single source, so companies no longer have to go through the often time-consuming process of coordinating between different project partners.

Weidmüller's many years of sector-specific professional expertise in consultancy and implementation mean that it is very much on an equal footing when holding discussions with customers. The system is designed as a pre-configured "Plug & Play solution", which reduces system downtimes. The installed software has already proven its worth and found acceptance in the industry. All of these points make for extremely short and affordable retrofitting and initial installation processes when compared with other systems. Nevertheless, Weidmüller's in-house experience is especially important: "The solution has already been put to use in Weidmüller's premises, where it has made itself indispensable as a reliable tool for integrated energy management throughout the entire company," reports Helene Derksen-Riesen, Head of International Facility & Energy Management at Weidmüller.

But it's not only companies in Germany that would do well to optimise their energy consumption. The domestic industry accounts for around half of the electricity consumed in Germany. There is still potential to make enormous savings here, yet it often goes untapped. Measures such as these not only help to cut costs as a result of less being spent e.g. on electricity, heating etc.; they also contribute towards sustainable corporate development. Weidmüller is set to showcase an integrated energy management solution at Hannover Messe for the first time ever. As part of its presentation at the fair, Weidmüller will first of all record the current situation on-site, then offer customised advice and planning, and finally draw up a milestone plan. It's not just the hardware that is important in the system; the software also plays a

key role. It collects, saves and prepares data, thus laying the foundation for energy-saving measures. "This data can be used to create options for taking action in companies that are optimising systems, for example, with a view to significantly enhancing efficiency within energy management," explains Ms Derksen-Riesen. Based on her own experience within the company, she played a leading role in developing the system. In addition to the technical hardware and software components, trained consultants help customers to develop suitable steps to promote savings: "The consultants complete the integrated approach employed by the Weidmüller energy management solution, thus making it virtually unique on the market," adds Ms Derksen-Riesen. And Weidmüller is even going one step further: "As well as advice being provided before, during and after the installation process, this offer also includes the option of support and introduction to a certification process pursuant to DIN EN ISO 50001," Ms Derksen-Riesen continues. Weidmüller's energy management consultants check in advance to see whether it makes sense to install the energy management box locally in each respective case. They examine all of the energy aspects in the production facilities, processes and building and calculate the potential in production. Using this as a basis, further measures can be taken where necessary. These may include detailed advice and even implementation of the most effective energy management solution. The package is rounded off by subsequent staff training sessions on using the software and any certification required. Subsequent official certification pursuant to DIN EN ISO 50001, the energy management standard, is merely a formality in most cases following the introduction by Weidmüller.

In taking this approach, Weidmüller is responding to the burning question that many companies have at the perfect time with a specific solution. Up until now, many companies' attempts to introduce an energy management system have failed, primarily due to the high costs that go hand-in-hand with installation: "This solution significantly simplifies and shortens the process of retrofitting systems with measurement technology in particular," affirms Ms Derksen-Riesen. The minimal time and effort spent on installation also reduces the system downtimes and therefore the total costs of the measure.

### A new dimension of energy management

With the pre-assembled energy monitoring box, Weidmüller is launching a “Plug & Play solution” that overcomes all of these challenges for the very first time: “As all of the components are assembled in the box in a space-saving fashion and wired together in the best way possible, the length of time spent installing it on the machine is reduced to a fraction of the time that was originally spent,” reports Ms Derksen-Riesen. “At the same time, potential errors caused by the local fitters and longer machine downtimes are eliminated, as the box is supplied in a pre-configured state and all of the components are coordinated to one another.” This also includes the software. Time and again during the implementation process, compatibility problems occur on interfaces if components from different manufacturers are used. “Project delays, higher costs and a more complex and therefore more vulnerable system are the consequences of this,” explains Ms Derksen-Riesen. “And these consequences are exactly what we avoid with our integrated solution.”

The bottom line is that the time and effort spent, even on installing an energy management system at a later date, pays off in any case. On the one hand, this is due to the option of cutting consumption and therefore costs based on the data collected and findings made, and on the other, this is due to the fact that a certified energy management system is essential for tax refunds in the industry. Furthermore, companies with appropriate measures also meet the requirements for sustainably designed production processes. “However, it only makes sense for companies to install the solution if they are going to take the right measures afterwards,” warns Ms Derksen-Riesen. “After all, every kilowatt hour that is not consumed is the biggest saving that a company can make.”

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**Keyword: Weidmüller energy management system**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

**Captions:**

**Fig. 1: Weidmüller energy management system: Sustainably cutting energy costs by way of integrated and customised energy management.**

*Fig. no.: Sä 20140308*

**Fig. 2: Weidmüller energy management system: Intelligent interplay when implementing energy management pursuant to ISO 50001. Measurement, consultancy and controlling all go hand-in-hand as part of an integrated process.**

*Fig. no.: graphic 1 or graphic 2*

**Fig. 3: Helene Derksen-Riesen, Head of International Facility & Energy Management at Weidmüller.**

*Fig no.: Helene Derksen-Riese.jpg*

**Number one for innovation at Hannover Messe 2014: Remote I/O System “u-remote” is a real winner – its performance has been further enhanced and its system handling made even simpler.**

**32 conductor connections on a single I/O module. – Eight individually pluggable sensors on a system width of just 11.5 mm – shorter project times and faster maintenance and tooling. The system has also been expanded through the addition of input and output modules with individual channel diagnosis and functions for frequency-dependent system automation. “u-remote” triumphs at Hannover Messe 2014 with superior features.**

Following the successful launch of “u-remote” at the end of 2013, Weidmüller is once again raising the bar in modern I/O technology at Hannover Messe 2014 with new HD modules. HD stands for high density and the abbreviation is not used without good reason: four lines with wire cross-sections of 0.14 to 0.32 mm<sup>2</sup> can be connected to every single HD connector, producing 32 connection points on what is already the narrowest module width on the market – just 11.5 mm. This gives the “u-remote” a connection density never achieved before and makes possible a much smaller design than that used in all alternative systems with a comparable range of functions. Connection density, of course, goes hand in hand with system structure flexibility: there is enough room on these new HD modules for all the wiring for eight individually pluggable sensors or actuators. On all other systems currently available, these would have to be distributed over several modules.

And this is the very area in which Weidmüller is developing the superior handling concept of “u-remote”. The resulting plug & play solution for the HD connectors is very simple but embodies very sophisticated technology and allows for quick and reliable installation in tight spaces in local applications. Working with pre-assembled lines in connectors whose maximum dimensions match those of a standard M8 connector results in fewer wiring mistakes despite the considerably faster assembly times. Entire machine modules can be wired much faster and taken into productive use far more easily. So it's obvious that maintenance and tooling work are also much more straightforward.

Product manager Andreas Hoffmann describes this unique and customer-focused functionality as follows: “Right from the start of the project, the HD modules have been a key element of the overall “u-remote” concept. In all detailed developments in our system, we offer our customers solutions to problems in those areas where they encounter major challenges in machine automation. Such challenges range from restricted installation space to solutions for complete reviews of project run times and maintenance costs. The HD modules are a logical – almost indispensable – next step.”

In this context, the functionality of “u-remote” can be further expanded. In tough everyday machine use, sensor and actuator failures are a routine occurrence for machine operators. Environmental influences, friction, power surges, and much more, impact on connection technology in the field and continually subject it to damage. Detecting such damage in a targeted way and diagnosing it as e.g. wire breakage or short-circuit is another job of the new “u-remote” input and output modules with individual channel diagnosis. At the level of individual sensors/actuator, the module reports the current function status to the control. This can then be used as a detailed source of information should maintenance be required, e.g. information about the precise location of line damage. This allows the service technician to work efficiently when replacing defective components and saves him the job of laborious analyses.

The “u-remote” functions for Hannover Messe 2014 are rounded off by modules with frequency counter technology. In many cases, information in the PLC relating to current speeds, flow rates or even angle changes in incremental or speed transmitters are indispensable for precise system control. But this information cannot be recorded with standard functions, so a function for this specific purpose has been added to the “u-remote” module portfolio. The corresponding input module records signals in a range of 0.1 to 100 kHz from any source and can therefore be used universally for a wide range of frequency-dependent automation applications.

These detailed innovations allow Weidmüller to strengthen its claim of giving its customers the greatest possible project and automation performance coupled with simplified I/O technology handling with “u-remote”.

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**Keyword: Weidmüller remote I/O system “u-remote”**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

**Captions:**

**Fig. 1: Weidmüller “u-remote” at Hannover Messe 2014: Weidmüller is developing its superior I/O connection concept in the HD modules too. The modular system design allows assembled sensor lines to be plugged in with ease, which greatly speeds up wiring and prevents mistakes. Systems can progress from the installation stage to commissioning much faster.**

*Fig. no.: u-remote\_HD\_plugandplay.jpg*

**Fig. 2: Weidmüller “u-remote” at Hannover Messe 2014: The new “u-remote” input and output modules with HD technology combine 32 conductor connections on just one module with the option of individually plugging in eight sensors or actuators. Together with the narrowest module design on the market, “u-remote” achieves by far the greatest connection density, resulting in much smaller system add-ons.**

*Fig no.: u-remote\_HD\_highestconnectiondensity.jpg*

**Fig. 3: Weidmüller “u-remote” at Hannover Messe 2014: A never-before-seen performance density is achievable with the new HD modules from Weidmüller's innovative I/O system “u-remote”. No other system is currently able to guarantee such compact connections between the sensors/actuators and control.**

*Fig no.: u-remote\_HD\_smalleststation.jpg*

**Weidmüller “u-remote”: Remote I/O system with plug-in connection level and the slimmest modular design currently on the market (11.5-mm module width) saves a lot of space in the switch cabinet thanks to high channel density. – Leaner planning, easier installation, faster commissioning and fewer downtimes with “u-remote”.**

With “u-remote”, Weidmüller presents its new, modularly designed remote I/O system. All advantages focus directly on the users: “u-remote” is distinguished by a plug-in connection level, high component density – as well as best performance – and features high levels of efficiency and productivity. The integrated web server simplifies starting up and speeds up maintenance work. The distinctive features include lean planning, simple installation, fast start-up and the avoidance of downtimes. As installation can be carried out without the need for tools and the cabling is pre-assembled, a reliable installation can be conducted much faster in the switch cabinet as well as on the machine and system. The single row connection level facilitates ease of wiring, installation and service. The plug-in connection level allows for the quick and safe connection of sensors and actuators with pre-assembled cables while simultaneously minimising the error rate in the system wiring. Thanks to very slim modular design of just 11.5-mm module width and a low number of power-feed modules, switch cabinets with “u-remote” can be designed significantly smaller while increasing flexibility in their layout. A component can be replaced load-free during operation, i.e. without having to interrupt the bus connection and disconnect the power supply. “u-remote” has two features that make it stand out as best in class: First, “u-remote” separates the supply for inputs and outputs with two 10-A current paths capable of handling heavy loads – this reduces the number of power-feed modules needed and at the same time saves space as well as planning and maintenance effort. Secondly, “u-remote” has an internal supply path capable of handling heavy loads, which allows 64 modules to be operated with just one power supply on the coupler. The “u-remote” I/O system has freely selectable sensor connection options (2-, 3-, 4-conductor technology). It can be operated in a temperature range from -20°C to +60°C. The high-speed system bus provides impressive electronic performance and works with as many as 256 DI/DOs in 20 µs. LEDs on the module and each channel, directly positioned on the conductor connection, are extremely helpful for reading statuses and diagnoses.

Protection against mismatched connections thanks to 64+4 coding, a wide range of marking options, a professional software tool for planning and checking the I/O station, and much more enhance the perfectly attuned system.

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**Keyword: Weidmüller Remote I/O System “u-remote”**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

## **Captions:**

**Fig. 1: Weidmüller “u-remote”:** The new, modular designed “u-remote” remote I/O system is distinguished by a plug-in connection level, high component density, best performance and high levels of efficiency and productivity.

*Fig. no.: Sä 20130202*

**Fig. 2: Weidmüller “u-remote”:** Couplers are available for connecting up to 64 I/O modules for the various Fieldbus standards. The couplers have an integrated web server and a power supply for the station.

*Fig. no.: Sä 20130206*

**Fig. 3: Weidmüller “u-remote”:** Thanks to very slim modular design of only 11.5-mm module width and a low number of power-feed modules, “u-remote” ensures that switch cabinets have considerably smaller designs and greater flexibility in their layouts.

*Fig. no.: u-remote Schalt\_2.jpg*

**Weidmüller SAI SVV power distributor: The new power distributor significantly reduces the amount of cabling required. – Pluggable M12 power distributors (IP67) for 24 V with up to 32 A of total current. – T-coded connectors for high power levels. – Continuously pluggable M12 cabling for power and signals.**

With the SAI SVV, Weidmüller is presenting a new, compact power distributor that effectively reduces the amount of cabling required. Progressive automation not only increases the amount of cabling required, but also the number of field components needing power. The SAI SVV offers a convincing solution to this problem. For efficient 24 V power distribution pursuant to the IP 67 standard, Weidmüller is providing all users with pluggable M12 power distributors for up to 32 A of total current. The new SAI SVV power distributor also securely supplies up to four components in the field via a single cable. The compact SAI SVV module is a continuously pluggable solution equipped with T-coded sockets for high power levels. Last but not least, the SAI SVV shortens installation times and makes servicing easier. The SAI SVV is equipped with an assembly hood, so cables – up to 4-wire, 4 mm<sup>2</sup> – can be assembled easily and in a customised fashion. Each SAI SVV features 24 V plug-in stations pursuant to the IP 67 standard – with 10 A for power and 1 A for electronics per plug-in station. The four “10 A load circuits” are all fuse-protected. Each fuse is connected to an LED, which goes out in the event of fuse failure. The “1 A electronic circuit” is also protected by a fuse, and an LED signals failure here too. The SAI SVV is therefore a unique solution for voltage supply in the field at the present time.

***Weidmüller – electrical connection, transmission and conversion of power, signals and data in the industrial environment. – Let's connect.***

**Keyword: Weidmüller SAI SVV**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

**Caption: Weidmüller SAI SVV power distributor: The compact 24 V power distributor with protection pursuant to the IP 67 standard and a total current of up to 32 A effectively reduces the amount of cabling required for power distribution. Detail: Four “10 A load circuits” and one “1 A electronic circuit” are protected with “Littlefuse” fuses.**

*Fig. no.: Sä 20131201*

**Weidmüller's "PROmax" series of switched-mode power supply units: New, versatile power supplies for machines and systems. – Powerful and all-purpose switched-mode power supply units in a slim design for demanding automation solutions. – "PROmax" supplies power for overloads, even at high temperatures.**

***With its new "PROmax" series of switched-mode power supply units, Weidmüller is offering versatile and extremely efficient power supplies for machine construction and plant manufacture. The "PROmax" switched-mode power supply units, which are designed to be powerful and durable, are especially suited to demanding applications. "PROmax" can therefore absorb continuous overloads of up to 20 percent or transient peak loads of 300 percent with ease. Whether used in large machines, power systems or process plants, "PROmax" switched-mode power supply units can be deployed worldwide – thanks to their high boost capability, space-saving width and wide temperature range from -25°C to +70°C. For this purpose, the "PROmax" products have been TÜV-certified and approved by cURus, cULus, C-Tick, GOST, SEMI F47, CCC, GL (EMC1) and CI1Div2. There are precisely 16 single- and three-phase variants with output current ranging between 3 A and 40 A, while output voltages of 5 V DC to 48 V DC allow for all-purpose applications.***

The new "PROmax" switched-mode power supply units from Weidmüller are the first choice as soon as users need powerful power supplies for their machines and systems. They enable versatile solutions for demanding automation tasks. The power supplies for large machines and systems with intense, transient loads at high cabinet temperatures are especially challenging. Failures caused by device defects can also impact on the entire production line and result in high costs. This is not the case with "PROmax" – the switched-mode power supply units supply the power required for overloads, even at high temperatures. The new "PROmax" series of switched-mode power supply units absorbs continuous overloads of up to 20 percent or transient peak loads of 300 percent with ease.

# Press Release

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Weidmüller also covers complex applications with its powerful and durable “PROmax” range of switched-mode power supply units. Indeed, “PROmax” offers high boost capability (150% power boost for 4 s and 120% at  $\leq 45^{\circ}\text{C}$ ) and full capacity in the wide temperature range of  $-25^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ . With start-up temperatures of  $-40^{\circ}\text{C}$ , “PROmax” is proving itself to be especially robust. Also, high MTBF values of more than 500,000 hours cut an impressive figure and offer a reliable power supply (MTBF = Mean Time Between Failures). Thanks to their slim width and side-by-side connectability, “PROmax” devices save on installation space on the DIN rail.

“PROmax” is suitable for high loads and is designed to be extremely efficient. Constant output ratings of up to 120 percent at temperatures of up to  $+45^{\circ}\text{C}$  and high output peaks of up to 300 percent guarantee safe operation even in the limit range. A high degree of efficiency of up to 92 percent and low idling losses translate into permanently low power consumption and a long service life.

Two-coloured LED displays (on the front of the device for on-site analysis) and an integrated status relay (for remote monitoring) allow for swift condition diagnosis, making it easier for users to analyse conditions and errors — both during commissioning and subsequent operation. The potentiometer on the front enables the precise setting of the output voltage.

“PROmax” devices are available in 16 variants: users can choose from 12 single-phase devices and 4 three-phase devices (from an output current of 3 A to 40 A and with output voltages of 5 V DC to 48 V DC). The “PROmax” series is certified according to CE and TÜV (EN/IEC 60950-1); the products also hold various international approvals, allowing for all-purpose use around the globe (cURus, cULus, C-Tick, GOST, SEMI F47, CCC, GL (EMC1) and CI1Div2). All of the “PROmax” switched-mode power supply can easily be combined with Weidmüller's diode modules, capacity modules and UPS components – to assemble a redundant power supply, for instance.

The Weidmüller portfolio not only includes the “PROmax” series, but also the “PROeco”, “PRO-H” and “INSTAPOWERR” families of switched-mode power supply

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units, all of which cover different requirements. The economic and compact “PROeco” switched-mode power supply units offer a reliable and efficient power supply with all of the basic functions. The “PRO-H” family of power supplies is used to tackle more demanding tasks in the processing segment, for instance, and is synonymous with fantastic reliability given that it boasts MTBF values of up to 1.8 million hours. “INSTAPOWER” switched-mode power supply units, meanwhile, are predominantly used in building automation.

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**Keyword: Weidmüller “PROmax” switched-mode power supply units**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

## **Captions:**

**Fig. 1: Weidmüller's “PROmax” series of switched-mode power supply units: Powerful and all-purpose switched-mode power supply units in a slim design for demanding automation solutions. The “PROmax” switched-mode power supply units supply power for overloads, even at high temperatures.**

*Fig. no.: Sä 20140301*

**Fig. 2: Weidmüller's “PROmax” series of switched-mode power supply units: Thanks to their slim width and side-by-side connectability, “PROmax” devices save on installation space on the DIN rail. The switched-mode power supply units are designed to be powerful and durable.**

*Fig. no.: Sä 20140302*

**Fig. 3: Weidmüller's "PROmax" series of switched-mode power supply units: Power supplies for intense transient loads in machines, power systems and process plants are especially challenging. The "PROmax" switched-mode power supply units safely and reliably supply the required power – even at high temperatures.**

*Fig. no.: Sä 20140307*

**Weidmüller's TERMSERIES interface adaptor makes for faster signal wiring and takes up very little space. – Interface adaptor for TERMSERIES relays shortens wiring times in electrical cabinets thanks to Plug & Play.**

***With its new TERMSERIES interface adaptor, Weidmüller is offering a compact solution for faster signal wiring, as the interface adaptor for TERMSERIES relays shortens wiring times thanks to Plug & Play. Pre-assembled lines are simply connected to the TERMSERIES interface adaptor between the I/O cards of the control and interface level. The pre-assembled Plug & Play solution featuring a TERMSERIES interface adaptor reduces the amount of wiring required, thus also shortening throughput times in electrical cabinets. When used in combination with the identically shaped TERMSERIES products, the interface adaptor offers a considerable space saving thanks to its universal fit. Its symmetrical structure means that it can be plugged onto coils, just as it would on the TERMSERIES contact connections. Its new contact system guarantees permanent contact at all times, even in the event of vibrations. A potential changeover switch for the lower level allows for trouble-free use of both positive- and negative-switching logic in a single device. There are four interface adaptor variants available: TIA F10, TIA SUBD 15S, TIAL F10 and TIAL F20. All four versions are suitable for input and output logic. TERMSERIES interface adaptors can also be combined with u-remote, Weidmüller's remote I/O system, whether connecting u-remote DO sub-assemblies using form-fit cable sets or for TERMSERIES relays.***

Cabinets needing a great deal of wiring represent a major challenge for cabinet builders, which is why an equal amount of wiring is required for standardised series cabinets in machine construction, plant manufacture, process control engineering and shipbuilding. The new TERMSERIES interface adaptor from Weidmüller guarantees rapid cabinet equipment, offering a compact solution for faster signal wiring. Generally speaking, more wiring translates into a longer throughput time in electrical cabinets. Thanks to Plug & Play, the interface adaptor for TERMSERIES relays shortens both the wiring times and the throughput times too. To this end, the user inserts pre-assembled lines between the I/O cards of the

control and interface level and simply connects them to the TERMSERIES interface adaptor. With its universal fit, the interface adaptor cuts an impressive figure when used together with the identically shaped TERMSERIES products, as it really does save on space. Thanks to its symmetrical design, the interface adaptor can be plugged onto both the TERMSERIES' coil connections and its contact connections. The interface adaptor's new contact system creates a spring-loaded effect, thus guaranteeing permanent contact at all times – even in the event of vibrations. Furthermore, the adaptor visually and audibly snaps into place, providing the user with feedback and indicating that the adaptor is perfectly fixed into the relay block.

The new interface adaptor allows for connection to a multitude of I/O cards. Standardised ribbon cable plug-in connections mean that pre-assembled cable types from the Weidmüller Interface system can be connected. The auxiliary voltage can be quickly and safely fed in thanks to the TOP connection with “PUSH IN” technology. Duplicate connections guarantee simple bridging too.

Also, users can utilise both positive- and negative-switching logic in a single device. With the potential changeover switch for the lower level, the interface adaptor can be used for positive- and negative-switching logic. The potential changeover switch itself is located between the contact rows of the interface adaptor. It can be used to change the potential of the lower contact series to the “+” or “-” potential of the supply voltage.

Weidmüller is providing its new interface adaptor in four variants: TIA F10, TIA SUBD 15S, TIAL F10 and TIAL F20. All four variants are suitable for input and output logic. The TIA F10, TIA SUBD 15S and TIAL F20 adaptor variants are versions for the 6.4 mm TERMSERIES base, while the TIAL F10 variant is for the 12.8 mm TERMSERIES base. TIA F10 and TIAL F10 are designed as 10-pin connectors (pursuant to DIN EN 60603-13), TIA SUBD 15S is a 15-pin Sub-D plug (pursuant to DIN 41652 / IEC 60807) and TIAL F20 is a 20-pin connector (pursuant to DIN EN 60603-13).

Weidmüller's MultiCard markers make for reliable and clear wiring. They can be used to clearly mark connections, reliably assign contacts and practically create customised marking.

TERMSERIES interface adaptors can also be combined with u-remote, the remote I/O system, whether connecting u-remote DO sub-assemblies using form-fit cable sets or for TERMSERIES relays.

The extremely slim relay modules and solid-state relays of Weidmüller's TERMSERIES take up very little space on the mounting rail, as they measure a mere 6.4 mm and 12.8 mm wide. The powerful relay modules and solid-state relays, which can be combined in any way imaginable, reliably switch loads of up to 250 V at 8 A. Depending on their requirements, customers can opt for products featuring fixed voltage inputs or a unique multi-voltage input from 24 V to 230 V UC. TERMSERIES modules are available with screw or tension clamp connection technology as options.

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**Key phrase: Weidmüller TERMSERIES interface adaptor**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

**Captions:**

**Fig. 1: Weidmüller TERMSERIES interface adaptor: The new interface adaptors for TERMSERIES offer compact solutions for faster signal wiring and shorten the wiring time thanks to Plug & Play.**

*Fig. no.: Sä 20140303*

**Fig. 2: Weidmüller TERMSERIES interface adaptor: With the potential changeover switch for the lower level, the interface adaptor can be used for both positive- and negative-switching logic.**

*Fig. no.: Sä 20140304*

**Fig. 3: Weidmüller TERMSERIES interface adaptor: The auxiliary voltage can be quickly and safely fed in thanks to the TOP connection with “PUSH IN” technology. Duplicate connections guarantee simple bridging too.**

*Fig. no.: Sä 20140305*

**Fig. 4: Weidmüller TERMSERIES interface adaptor: TERMSERIES interface adaptors can also be used with “u-remote”, the remote I/O system.**

*Fig. no.: Sä 20140306*

**Weidmüller second-generation voltage testers with extra functions: Simple and standard-compliant voltage testing with two-pole testers. – Built-in visual and/or buzzer function for continuity and voltage testing. – Six variants offering a wide variety of functions.**

Weidmüller has equipped its second-generation two-pole voltage testers with extra functions and made even more improvements to its product range. Weidmüller is offering users a wide range of voltage testers, each of which simplifies work with useful features and guarantees standard-compliant testing. The Combi-Check, Combi-Check Pro, Digi-Check and Digi-Check Pro two-pole voltage testers have both a visual display and a new acoustic function (buzzer) for continuity and voltage testing; the Multi-Check and Master-Check variants are each equipped with a visual display. The voltage testers (protection class IP65) boast extensive functions, such as checking that no voltage is present, taking standard-compliant voltage measurements over a wide range, testing rotating fields and connecting loads. Weidmüller also attaches a great deal of importance to simple operation and good readability. A light sensor activates the backlit LC display, helping to lengthen the service life of the battery. The battery compartment has been improved too. The non-detachable battery compartment opener is incorporated in the test probe cover. The two-pole voltage testers are certified in accordance with current standards (DIN VDE 0682-401:2011, DIN EN 61243-3:2010) and provide all-purpose usage thanks to their wide measurement range from 0.3 V to 690 V. DC and AC voltages are detected automatically.

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**Keywords: Weidmüller voltage testers**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

**Captions:**

**Fig. 1: Weidmüller voltage testers: Weidmüller has equipped its second-generation two-pole voltage testers with extra functions and made even more improvements to its product range. New: the built-in, acoustic buzzer function.**

*Fig. no.: Sä 20140209*

**Fig. 2: Weidmüller voltage testers: The second-generation voltage testers can be used to test voltage and continuity both visually and acoustically (buzzer function).**

*Fig. no.: Sä 20140210*

**Weidmüller “stripax<sup>®</sup> Ultimate” stripping tool and “AM 16” sheathing stripper: for stripping down tough, halogen-free and UL or UL-type cables with ease. – Speed up cabling processes with “stripax<sup>®</sup> Ultimate” and “AM 16”. – Three-stage partial stripping function for precision prepping.**

Weidmüller simplifies and accelerates all work processes involving tough, halogen-free cables and wires with the new “stripax<sup>®</sup> Ultimate” stripping tool and “ON 16” sheathing stripper. Users of “stripax<sup>®</sup> Ultimate” and “AM 16” can for the first time strip and dismantle halogen-free insulation materials and UL or UL-type cables with hard or smooth insulation quickly and easily. Halogen-free cable materials are becoming increasingly mandatory in the most diverse areas as they produce no corrosive or toxic gases in the event of fire. One example is wind turbines, where the wide temperature range of cables and individual wires from - 40 °C to + 145 °C results in increased processing complexity.

The unique set of blades of “stripax<sup>®</sup> Ultimate” allows it to strip and cut practically all halogen-free insulation materials as well as UL and UL-type cables. You can process stranded and solid conductors from 0.14 mm<sup>2</sup> to 4 mm<sup>2</sup> (~AWG 26... 10) to a stripping length of 25 mm. Cables up to 6 mm<sup>2</sup> in diameter can be cut with precision and ease. Weidmüller has designed the “stripax<sup>®</sup> Ultimate” as an automatic, i.e. self-adjusting stripping tool: the new 3-stage partial stripping function enables hard insulation materials to be perfectly prepped, even in small stripping lengths. This helps to optimise the processing of 6 mm long copper wire-end ferrules.

The Weidmüller “AM 16” sheathing stripper is used with insulated round cables (Ø 5 mm to 17 mm) and is equipped with stabilising cable management. The add-on cable manager provides a secure grip when working with very thin conductors. Even cables of 5 mm in diameter can be stripped without slipping. The “AM 16” is both compact and lightweight (weight 60 g, length 53 mm), which also makes it suitable for stripping cables located in cable conduits. The compact “AM 16” is designed for stripping cables with PVC, PU, PE, TPE and halogen-free LSZH insulation.

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**Weidmüller “stripax<sup>®</sup> Ultimate” and “AM16”**

**Additional information: [www.weidmueller.com](http://www.weidmueller.com)**

**Captions:**

**Fig. 1: Weidmüller stripping tools for hard, halogen-free cables. The “stripax<sup>®</sup> Ultimate” and the “AM 16” sheathing stripper speed up cable processing. Details: the innovative set of blades can strip practically all halogen-free and UL or UL-type cables.**

*Fig. no.: Sä 20140205*

**Fig. 2: Weidmüller “stripax<sup>®</sup> Ultimate”: with the new 3-stage partial stripping function of “stripax<sup>®</sup> Ultimate” Weidmüller is once again setting new standards for stripping and the precision prepping of cables.**

*Fig. no.: Sä 20140206*

**Fig. 3: Weidmüller “stripax<sup>®</sup> Ultimate” and “AM 16” sheathing stripper: the “AM 16” is used with insulated round cables with diameters from 5 mm to 17 mm. Detail: the add-on cable manager provides a secure grip when working with particularly thin conductors.**

*Fig. no.: Sä 20140207*