### Weidmüller Information & News | Special Issue

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### WIN! Special

**Simplified machine automation with maximum performance**

u-remote, the new remote I/O system

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**sps ipc drives**

Electric Automation
Systems and Components
International Exhibition and Conference
Nuremberg, Germany, 26–29 November 2013

Hall 9, Stand 9-351

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Weidmüller
Dear readers,

The future of industrial production is in your and our hands. Key factors to take into account are the growing flexibility of modern production systems, more elaborate structures and increasingly complex automation systems. To satisfy these, we are focusing on providing you with high-performance interfaces – embedded, as needed, in solutions packages designed specifically and in direct response to the automation tasks you face now and in the future.

Our latest contribution to increasing your productivity is called u-remote. The innovative remote I/O concept with IP 20 focuses purely on user benefits: u-remote allows for tailored planning, faster installation, safer startup and efficiently minimised downtimes. Our formula: “More Performance. Simplified. u-remote.” Our partner, Ferag, has already been convinced of the powerful benefits behind these key words. The leading producer of intelligent post-processing systems for newspaper and magazine production is delighted with u-remote as a system that satisfies its need for productive automation from planning to ongoing operation (pages 9 to 11).

If you would like to find out about other solutions we are using to deliver optimum added value, now and in the future in the production processes of our core industries, read this magazine and experience it live at SPS IPC Drives. The key topics for us are robust solutions for a secure network infrastructure, from management level to field level, for efficient energy and bus infrastructures, and for professional switching and connectivity – from the cabinet to the field.

On this note, I hope you enjoy reading our news and updates. We look forward to welcoming you at the Weidmüller exhibition stand (Hall 9 – Stand 351). Let’s connect.

With kind regards.

Volpert Briel
Sales and Marketing Director

»Our latest contribution to increasing your productivity is called u-remote.«
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Industry 4.0 – a commentary

Volpert Briel, Weidmüller’s Sales and Marketing Director, discussing the status and prospects of German industry’s commitment to Industry 4.0

“The fourth industrial revolution has continued to progress. In the beginning, critics were saying that it was simply a flash in the pan, but now they have to admit that it’s here to stay. This is a fortunate occurrence because, despite all the scepticism, Industry 4.0 offers Germany as a business location more opportunities than risks. But these opportunities also have to be exploited. Now – and with specific measures.

Other countries and markets have long been aware of the topic, too. With some massive promotional programmes they are attempting to regain ground and catch up with Germany. At a European level, and as a part of the Horizon 2020 initiative, the ECSEL programme is meant to help European industrial firms maintain their leadership in – amongst others – the embedded systems segment. While it is certainly a correct and praiseworthy step, it also represents no more than a milestone in the context of the overall marathon.

As regards technological development for implementing Industry 4.0 applications, Germany is now holding prime position worldwide, which needs to be defended. We now have to implement our research findings in time, not least to prove how seriously we are committed to this field. On a technical level, German industry has laid the foundations. Components and solutions are available. The sector is carrying out research and development on a daily basis. All the trade fairs that focus exclusively on industry or automation now address Industry 4.0 as a key element of their conceptual design.

Industry 4.0 is on everybody’s minds; the minds of researchers, developers, the media and even politicians. The goal must now be to turn Industry 4.0 into reality. We will certainly see the first endeavours at SPS IPC Drives.”

Ten years of operation at the production facilities in Suzhou

Weidmüller in China: A long-term success story in providing sustainable growth in the region

In order to supply customers and partners with products and solutions directly, Weidmüller has been active in China since 18 August 2003, with its own production facility in Suzhou. A commitment that has been continuously expanded over the ensuing years. Over the ten-year period being celebrated, the production area in Suzhou has more than trebled in size and the staff headcount has risen from 40 to over 500 people. In addition, the production facility now has its own test laboratory and development team, thereby guaranteeing the safety and quality of the products it produces for Weidmüller’s customers.

“Our commitment to China can look back on a long and extremely successful tradition,” stated Köhler during the celebrations in Suzhou. In particular, Köhler sees Weidmüller’s success on the Chinese market as resulting from the long-term focus and partnership-based collaboration: “We led the way when it came to showing interest in China and this early entry into the market enabled us to garner experiences that both we and our customers are benefiting from today.”

He is also convinced that the potential in China is as big today as it has ever been. “This is why we will focus on China going forward and will continue to drive our expansion in both the country and the region.”
With u-remote, innovative design is the driver behind a convincing increase in productivity: the design concept combines powerful technologies with efficient processes.

**u-remote design is a triple award-winning concept**

After winning the “iF product design award 2013” and the “universal design award 2013”, the “German Design Award 2013” is the third accolade recognising the innovative remote I/O system.

The panel of judges of the "German Design Award 2014" awarded the modular u-remote system the international premium prize in the “Industrial Goods and Materials” category. The prize honours top-class products that are designed with particularly well-executed features and solutions. The judges were particularly impressed by the fact that the entire product concept was strictly aligned to the needs of customers and subsequent users. The product design of u-remote is an effective key driver of wide-ranging improvements in productivity.

Two other panels of international experts have already been won over by the “u-remote” design concept. The “iF product design award 2013” honoured in particular the design quality, workmanship, degree of innovation and functionality. The fact that the solution is simple and intuitive, as well as innovative and sustainable, were decisive factors for the “universal design award 2013”.

**New research and development centre in Singapore**

Since the start of 2013, Weidmüller has been represented in Singapore with a new research and development centre, which primarily works on standard components for electronics and upgrades for the new remote I/O system.

Singapore is regarded as a competence centre for electronics. Access to experienced development engineers and fresh, highly qualified talent was the key factor in Weidmüller’s decision when it came to choosing the location of the new research and development centre. What is more, Weidmüller had already been working in close partnership with the Polytechnic Institute in Singapore for a number of years.

“‘The new research and development centre in Singapore helps us to develop hardware and software products,’ explains Michael Höing, Head of the Electronics Division. ‘They complement our global portfolio in Electronic Interface Technology and Electronics.’

In addition to I/O modules for the new u-remote system, products for analogue and digital signal processing are developed in Singapore: “We are developing these products as part of a platform strategy which will enable us to respond faster to the needs of our customers and markets,” adds Höing. The new site in Singapore is already playing a key role. This is why there are plans to expand the Singapore team in the long term.
Tackling power supply economically

With PROeco, Weidmüller is expanding its range in the power supply segment. PROeco combines high performance, failure protection and a low height.

Even in series machine manufacturing, switched-mode power supply units can create a real competitive edge by providing above-average performance values. Thus, Weidmüller’s PROeco series has a strong focus on efficiency. The high degree of compactness is particularly important in this respect. With a depth of 100 mm, PROeco even fits into very small cabinets. And in terms of width, it requires up to 50 % less space. Despite its size, this product includes all the necessary functionality. Thanks to the provision of protection against excess temperature, short-circuits and overload, customers are using PROeco in machine construction applications, for example packaging, machine tools, timber processing or materials handling segments. Other suitable areas of use include simple process applications or renewable energies.

Find out about our practical power supply concepts with suitable add-on modules:
▶ www.weidmueller.com/permanently_supplied

Let’s connect.

Proven system partnership with Siemens

As a chosen “solution partner”, Weidmüller supplies customised connectivity solutions for automation projects from Siemens

Relying on certified quality with strong partners around the world – Siemens is pursuing this principle under the name “Siemens Solution Partner Automation”. Selected system integrators not only contribute their components, but also their specific application- and sector-related expertise to Siemens projects in the field of automation and drive technology – as is the case with Weidmüller in the industrial connectivity segment.

“Our application-specific FieldPower® energy distributors, plug-in connectors and system cabling optimally round off Siemens’ drive solutions. Siemens can use these to pass on the benefit of fault-free installation options to their customers in an extremely short time,” reports Weidmüller’s Arno Priller, who supports Siemens as a Key Account Manager. “For example, Siemens customers recently benefited from our expert know-how in the field of industrial connectivity within the context of large logistics projects for South German automotive manufacturers.”

You will find more information about the solution partnership with Siemens and an overview of Weidmüller’s customised add-on components at:
▶ www.weidmueller.com/Siemens

Let’s connect.

Awarded as “Place of Progress”

NRW State Government: “Weidmüller leads the way in connecting knowledge and business”

The Minister for Innovation, Science and Research, Svenja Schulze, and the Minister for Economics, Energy and Industry, Garrelt Duin, jointly presented the “Ort des Fortschritts” (“Place of Progress”) award to the Weidmüller Academy for its work over the last ten years. The State Government acknowledged Weidmüller’s outstanding commitment to training and personal advancement as well as its innovative concepts for the exchange of knowledge between the worlds of business and science.

Dr. Eberhard Niggemann (Head of the Weidmüller Academy), Garrelt Duin (NRW Minister of Economics, Energy and Industry), Svenja Schulze (NRW Minister of Innovation, Science and Research) and Dr Peter Köhler (CEO of Weidmüller) at the presentation of the award. (l.-r.)
Energy parameters at a glance – energy consumption under control

An accurate overview of all relevant information pertaining to energy consumption is critical if consumption by machines and systems is to be optimised. Thanks to their high measurement accuracy, the energy meters of the “Power Monitor” series form the ideal basis for setting up an active energy management system.

“A high level of transparency in terms of the energy requirements of machines during their various operational statuses not only achieves noticeable savings. It also guarantees grid quality and, not least, extends a machine’s service life,” affirms Jens Muttschall, Product Manager at Weidmüller. “Our Power Monitors measure and visualise all the relevant parameters with a high level of accuracy, thereby providing a precise overview of how much energy is being consumed over time. One of the features that sets them apart is the extremely simple installation process, which makes them just as suitable for new installations and machines as it does for upgrades.”

Exact conclusions for energy management

The “Power Monitor” devices precisely measure current, voltage, power, performance factor, apparent power and reactive power for every phase connected, as well as in the total line. In this respect, current levels from just 1 mA are precisely registered, allowing even small amounts of power to be recorded for devices in stand-by mode, for instance. With their outstanding accuracy class and a display update every 0.1 seconds, the energy meters satisfy accuracy requirements pursuant to IEC 62053-21, the European standard for electronic energy meters. The new Power Monitor 51 A, which permits an increased degree of system integration thanks to two digital inputs and outputs, offers additional analysis functions. This makes it possible, for instance, to switch to an energy-saving mode or trigger alarms, thus effectively preventing machine damage.

“One predestined field of application for our Power Monitor is the automotive industry, with all of its automated manufacturing processes and other infrastructures. Here, the lifecycle depth is very distinct, and consumption has to be calculated right down to the smallest component,” explains Muttschall. “Our Power Monitor has proven itself to be a fantastic asset. The consumption of energy-intensive applications, such as fully automated welding robots, can easily be controlled by appropriate measurements. Our industrial current transformers and communication components, such as the Serial/Ethernet converters for integrating the Power Monitors in existing Ethernet structures, round off the solution package.”

More information about the precise identification of electrical characteristics as the basis of efficient energy management:
▶ www.weidmueller.com/Power_Monitor

Let’s connect.

The “Power Monitor” has already been put to successful use in Weidmüller’s own production facilities, where it supports the innovative heat recovery system and energy monitoring with precise measured values.
“Scoring top marks with proven strengths”

u-remote is enriching machine automation

“More Performance. Simplified.” The new IP 20 remote I/O system from Weidmüller is giving this promise. Dr Timo Berger, Head of the Electronic Interface Technology Division, explains how u-remote is contributing to simplified machine automation with maximum performance.

WIN! Weidmüller affirms that u-remote is geared exclusively towards benefits for the user. How do you deliver on this promise?

Berger: Firstly, we have been at home in the area we have identified for our remote I/O systems, namely machine construction, for decades now. u-remote integrates directly in our core cabinet portfolio and is scoring top marks with proven strengths that have already allowed us to help our customers achieve success. We also conducted an extensive market analysis, which enabled us to identify four important requirements: our customers want tailored planning, faster installation, safer startup and minimised downtimes. We have concentrated on precisely these requirements and consistently geared u-remote’s properties to precisely meet these requirements.

WIN! Against this backdrop, which features set u-remote apart from other remote I/O systems?

Berger: The distinction lies in the fact that our system exploits installation space and is easy to use, commission and service. With details such as optionally pre-assembled PUSH IN connectors, conductor-mounted channel LEDs, exchangeable electronics, or the various coding options, we offer benefits in an area which Weidmüller is known for: user-friendly and smart housing and connection systems. u-remote also boasts outstanding “inner values”, such as our two highly durable 10 A current paths or the integrated web server featuring diagnostic functions.

WIN! Which additional support services can u-remote customers expect from Weidmüller?

Berger: We consistently pursue the goal of guaranteeing our customers optimum integration in their automation environments and automation of their machines and systems to make them noticeably more powerful. From the software tool for simple configuration and placing of product orders, to the on-site technical troubleshooting service, we are on hand to provide our customers with appropriate assistance and a wide range of support services.

WIN! The u-remote system is a solution for the IP 20 world inside cabinets. How does Weidmüller cover needs in the field?

Berger: We have been successful on the market with our versatile IP 67 remote I/O system SAI Active for many years now. In combination with u-remote, we are therefore now offering two perfectly coordinated systems for both protection classes – for the best connections from the cabinet to the field. ←

Experience “More Performance. Simplified. u-remote.”
online too:
► www.weidmueller.com/u-remote

Let’s connect.
With intelligent post-processing systems for newspaper and magazine production, Swiss company Ferag AG is making an important contribution towards ensuring that printed publications reach their readers on time. u-remote is driving performance as part of automation. The remote I/O concept from Weidmüller not only guarantees efficient processes during ongoing operation, but also beforehand.

We encounter newspapers and magazines almost everywhere we go in our daily lives: from our own letter boxes, through magazine stands at the baker’s, to kiosks, supermarkets and petrol stations. In the competition with digital information, the time frame between the press deadline and the printed products being delivered is becoming ever shorter. In particular, media published daily should be as up-to-date as possible when it reaches the point of sale or the reader personally. As a global specialist for intelligent post-processing systems in newspaper and magazine production, market leader Ferag AG consistently devotes its solutions to one idea: designing the transport routes between the printing press and mailing area to be as productive as possible.
Seamless interim storage in newspaper processing

An integral part of efficient newspaper processing is the temporary winding of print products on space-saving intermediate storage elements called MultiDiscs. This system offers a solution for all formats, without the need to make adjustments in the event of changing product lengths. As soon as the empty disc carrier enters the winding station, the winding process starts without any manual intervention. Full carriers are automatically disconnected and can be removed with a shuttle. With these properties, the mobile carrier ensures seamless product transport between various production centres, for instance.

The individual sub-systems must be networked precisely if the winding process on the MultiDiscs is to be consistently integrated into the other processing steps. The key to this is efficient automation, which enables reliable system operation. To complete the automation tasks relating to your systems in as efficient a manner as possible, Ferag AG relies on solutions that combine high-performance technologies with outstanding productivity.

“Since we are active in the series machinery segment, the solutions we use don’t have to prove themselves in isolated cases, but continuously – both in our own processes and during operation at our customers’ premises. Accordingly, we have doubly high standards when choosing every component,” explains Stefan Sutter, Head of MC Software Development, in discussing Ferag’s requirements. “When we were redesigning our MTD-10 winding machine, our goal was to create a highly-productive, fail-safe system. After checking different remote I/O variants in detail, we opted for the new system from Weidmüller, the properties of which optimally answer our call for powerful high-performance automation.”

No inconsistencies: compact design and simple installation

The winding machines are used as modular components in various sub-sections of a Ferag system – as a dynamic buffer between printing presses and the mailroom or as intermediate storage for printed forms and inserts that will be processed later on, for instance. For the purpose of decentralised control, every MTD-10 machine is equipped with a u-remote station, which is connected to the higher-level control system via EtherCAT. When designing the system, Ferag was especially won over by the compactness of the practical remote I/O concepts.

“Thanks to the high channel density and its slim design with a module of just 11.5 mm wide, u-remote saves space and offers flexible design options,” explains Cédric Hengartner from Weidmüller, who assisted Ferag during the winding machine redesign process as a Project Manager for Industrial Automation. “To be specific, Ferag is benefiting from the fact that u-remote supplies up to 64 I/O modules with just one feed-in on the coupler. Moreover, two highly durable 10 A current paths are intelligently separated, such
that the inputs and outputs are supplied separately. With these options, our u-remote stations can be designed to be slimmer than the other solutions that Ferag considered. This is especially beneficial for decentralised control boxes, such as those on the winding machines, as they can be kept very compact.

In spite of the compressed assembly, the system makes no compromises on handling – quite the contrary. Thanks to the clear, pluggable connection level, Ferag’s installers benefit from the fact that they can connect the 48 sensors and 32 actuators per station using pre-assembled cables. In addition, there is the PUSH IN direct connection technology, which delivers a considerable time saving without impairing security.

Diagnosis via the web server – on-site and remotely

As well as a stable system, Ferag’s main requirements centred around practical diagnostic options. “Security issues are a huge topic for us when it comes to handling our system software. Against this backdrop, we have long since wanted an alternative solution that would allow us to perform diagnostics during operation,” explains Project Manager Norbert Bürge, who was responsible for developing the software for the MTD-10 winding machines. “The u-remote system with its integrated web server came just at the right time in this respect.”

There is no need for any software installation as the web server enables diagnostics via remote access using a standard browser. Inputs and force outputs can also be simulated locally and with ease. With these properties, the web server is not only making section-based commissioning easier for Ferag; it is also speeding up maintenance work during subsequent operation.

The benefits of the unique status and diagnosis assignment become important during system test runs and ongoing operation. This is an especially easy process with u-remote, as an LED is located on the channel and status indicators on every module. Technicians can see errors instantly and rectify them directly.

“Weidmüller has given us the opportunity to test all of u-remote’s functionalities extensively. Following a successful test, we can now integrate the system in our plants confidently,” reports Bürge. “We are delighted to have found such a stable system that enables fantastic diagnostics and satisfies our requirement for productive automation from planning to ongoing automation.”
The transfer wagons of the palletising system, developed recently by a South American machine construction company for a large consumer goods manufacturer, cover a distance of 80 metres. In order to reduce the number of wear-prone components without undermining reliability, a wireless communication solution from Weidmüller is being used. This guarantees full radio coverage and uninterrupted data transmission over the entire distance.

People around the world should be given the opportunity to consume products that are manufactured, packaged and prepared for shipment to the highest quality standards. It is precisely this objective that the South American company is pursuing, and Weidmüller is helping it to develop machines for manufacturing and transporting beverages, food and chemical products. The company attaches great importance to the robust design and smooth handling of the palletised units, in addition to low maintenance costs.

Successfully avoid system disruptions

The machine construction company recently developed a palletising system for a major consumer goods manufacturer comprising a total of ten production lines, each with its own product stacker. A wagon moves between two end stations within this system: at the first station the empty pallet is placed on the wagon and transported to the stacker. The stacker loads the goods from the roller conveyors onto the pallet, which is then conveyed to the wrapping station. Once the pallet has been set down, the cartons that are ready for transport are wrapped with polypropylene film to protect them during their onward journey.

To allow the wagons to be activated and controlled, communication needs to be maintained with the central controller over the entire distance of 80 metres. The moving parts in sophisticated machinery systems like these require state-of-the-art drag chain connecting cables or sliding contact systems. However, the stresses in an 80-metre long drag chain, which could be used in the palletising system above, would be extremely high. To prevent defects, the data cable would have to be replaced on a regular basis. Disruptions to the system caused by wear and tear or maintenance work can be avoided, however, by setting up wireless communications with proven industry components.

On the right track with WLAN modules

“A previous solution comprising slip rings and brushes was more than capable of controlling the movements of the wagons, but was considered too vulnerable for the demands of our customer. Installations with a non-industrial grade wireless solution were also unable to provide the necessary performance and associated reliability,” explains José de Paula from Weidmüller, summarising the experiences that were related to him by his customer. “The machine company came to us with the explicit request for a wireless solution. The initial test setup with our WLAN module, which can be used flexibly as an access point, bridge or client, was enough to convince the company that we were on the right track with this solution.”

For the application, four servo motors and three converters for each wagon needed to be integrated into the communications network via Ethernet/IP protocol. Various sensors and valves
were also used; these too needed to be centrally controlled. As the communication structure was being set up, Weidmüller provided the machine company with detailed advice and worked with it to determine the ideal configuration and orientation of the WLAN module. A WLAN client is now positioned on the wagon and communicates in roaming mode with two WLAN access points along the route. These are connected to a Wireless Distribution System (WDS) to enable the radio range to be extended fully across the length of the application. This allows the mobile client to continuously test which of the two access points provides the best transmission and reception quality at a given moment.

“At the cross-over point, handover to the transmission and reception range of the other access point takes place smoothly and automatically. The transfer of communication usually takes around two seconds. Our modules accelerate these processes by means of Turbo Roaming,” explains de Paula, pointing out one of the highlights of the Weidmüller WLAN modules. “Depending on the control performance, our solution supports fast changeover times of less than 50 ms when switching clients between different access points. This ensures that the cycle times required by the application can be transmitted flawlessly via wireless communication without any risk of interruption to data communication.”

Stable, uninterrupted data transmission

“During operation we were particularly impressed by the stability of communications. Even though the environment with its many metal fences is a challenging place to assemble a wireless solution, Weidmüller was able to provide us with a completely stable solution,” smiles the Palletisation System Engineering Coordinator. “By dispensing with the slip ring motors, cabling, additional filters and special rails that were previously used, we ended up with a structure that is both non-wearing and more cost-effective. In line with our own high standards, we were able to deliver to our customer an efficient overall package for achieving the required product quality and production targets.”

To ensure the smooth commissioning of the system at the end customer’s premises, Weidmüller provided the consumer goods manufacturer with support both during and after the implementation of the palletising solution. Measurements were taken of the action and reaction times of all the Weidmüller modules installed in the machine structure to ensure sustainable high performance. To enable this successful solution to be transferred to other systems, Weidmüller provided its customer with detailed advice and training on possible standardisation and configuration. Equipped with the requisite know-how, the engineers of the manufacturing group are now able to deal with any upcoming projects that require wireless communication.
Globalisation is entering a new phase: with emerging markets booming, more than two billion new consumers are entering the global market. At the same time, general mobility is constantly rising while resources are becoming increasingly scarce. As a result, global commodity flows have to be controlled ever more efficiently. This is one of the challenges faced by SEW-EURODRIVE customers, who have to constantly increase the cost and time efficiency of planning, installation and commissioning from logistics centres spread across the world. Operations that are as continuous as possible and the use of components that are gentle on resources is of decisive economic importance in this regard.

Handy for materials handling
Decentralised drive technology with integrated power distribution

The decentralised MOVIFIT® basic drive unit from SEW-EURODRIVE is specially designed for simple materials handling applications in intra-logistics. By integrating the FieldPower® contact block in the connection box, the power bus is situated directly in the device – delivering a noticeable topology benefit compared with classic solutions.

Simple project planning, installation and commissioning

To economically satisfy the requirements of simple applications in horizontal materials handling, SEW-EURODRIVE deliberately reduced its decentralised MOVIFIT® basic drive controller to the essential functionalities and properties. The power elements can be used as frequency converters up to 1.5 kW and motor starters up to 4 kW or 2 x 2.2 kW. When designing the product, SEW-EURODRIVE attached a great deal of importance to combining an installation process that was as fast and error-free as possible with pluggable connectivity.

The product philosophy of MOVIFIT® is characterised by clear functionality, a robust housing design, a high protection class and simple project planning, installation and commissioning.

FieldPower® Drive
Basis for decentralised drive technology

Whether in car production plants, logistics warehouses or airports – FieldPower® is proving its worth as an energy distributor for managing decentralised motors from renowned suppliers. And with good reason. The variable FieldPower® contact module supports both the pre-assembly of cable sets and the fast and error-free installation at the construction site: Pre-assembled line elements only have to be connected to the appropriate plant modules. Also, the modularisation of the power bus segments makes it easier to check functions and power.

Find out more about FieldPower® Drive, the basis for decentralised drive technology:
www.weidmueller.com/FieldPower_Drive

Let’s connect.
and commissioning. It was precisely these positive properties that SEW-EURODRIVE wanted to implement in the grid connection too. With this in mind, the drive expert opted for the FieldPower® contact block from Weidmüller, which was integrated directly into the device, in order to implement the grid connection. Combined with modern, reliable quick-connection technology, the integrated solution provides customers with extremely short installation times and reduces the investment costs for their systems.

**Demonstrable time and material savings**

The Weidmüller FieldPower® power bus system can be used wherever power needs to be distributed over large distances. The power can be picked up at any point close to the consumer. With its uncut power line, the system is characterised by a virtually unnoticeable voltage drop. These properties make FieldPower® predestined for the logistics-based conveyor systems that SEW-EURODRIVE operates with its drive solutions.

Having the FieldPower® contact block integrated in the MOVIFIT® basic connection box, means that one single component satisfies all of the feed-in requirements as well as those for the interface to the plugged drive unit. This simplifies assembly and allows the component assembly to be manufactured cost-efficiently. The reliable contact to the power line via IDC connection technology is synonymous with particularly fast installation, as the uncut technology enables a complete drive train consisting of MOVIFIT® basic drives in line topology to be assembled using just a single cable. The power supply can be connected using standard cables.

"Integrating the FieldPower® contact block in our MOVIFIT® basic connection box went down extremely well with our customers. The integral IDC technology demonstrably saves a great deal of time and material during installation," sums up Patrick Plechinger of SEW-EURODRIVE, discussing the feedback obtained from practice. "This naturally has a beneficial effect on the plant’s overall costs as well. Cutting cables, stripping wires and crimping wire-end ferrules is now a thing of the past." →

More about innovative connectivity for decentralised drives from SEW-EURODRIVE:

▶ [www.weidmueller.com/SEW](http://www.weidmueller.com/SEW)

Let’s connect.
A modular distributor system
for initiators and actuators

Geared towards practical requirements, the initiator and actuator terminals of the ZIA series boast impressive compactness, vibration-proof spring connections and flexible modularity. Mechanical and plant engineering company Hymmen is benefiting from having the all-purpose system in the terminal boxes mounted on its transport and vacuum tables.

Thanks to their modular design, the terminals can be matched to the relevant application on-site. Dimensions of just 5 mm wide and 46 mm high also contribute to this. Terminal boxes can thus be kept very compact. Last but not least, the connection system with TOP connection and tension clamp technology facilitate assembly with very short cable duct distances, thus promoting the use of a thin, low housing.

Distribution strips as the core of the modular system

“Our ZIA series is testament to the fact that we consistently design our modular terminals to suit the needs of practitioners, as they can also be used and handled under cramped and complex installation conditions,” sums up Product Manager Martin Adamczyk. “To connect an initiator or actuator, our clients only need the basic modular terminal ZIA 1.5 featuring the connections for the signal line and the ZVL distribution strip to supply the initiators. These distribution strips form the actual core of the modular system. The cross-connections to the neighbouring plus/minus and functional earth elements are already integrated in them.”

The socket is on one side of the connection element, and the male pin contact is on the other. The individual distributor elements are automatically connected to one another during the patching process – there is no need for laborious cross-connecting, and it also means that it’s impossible to leave out any cross-connections. In this way, the modular design effectively contributes to preventing errors during customisation. What’s more,
assembled distribution boxes for these system parts, which should be kept as standardised as possible. With a proven universal solution in the modular terminals segment, Hymmen is able to act quickly where necessary.

“Where we previously used Weidmüller’s modular terminals with screw connections, we are now relying on variants featuring a tension-clamp system. The ZIA modular terminals mean that we can save time during assembly and modification work – which is also due to the system’s clear colour coding,” explains Herold. “The distribution strips in red/brown, blue and yellow/green create a clear assignment between the conductor and terminal point. The precise marking options provide an additional overview. We can attach up to eight designations for the modular terminals and signal connections on two marker tag holders arranged at an incline.”

Reliable contact security

In addition to simple handling, the tension clamp technology also offers excellent contact security. Hymmen’s housing solution mounted directly underneath the tables is also proving itself in the presence of vibrations. The vacuum arms running across the tables involve constant movement. However, using the ZIA modular terminals, Hymmen has not experienced any contact interruptions in spite of these influences. “The latest projects we implemented were for customers in Belgium and Thailand. Especially with our solutions being used on a global scale, we are delighted to know that we are building on reliable components with the ZIA modular terminals,” smiles Herold.

»We consistently design our modular terminals to suit the needs of users.«

Martin Adamczyk,
Weidmüller Product Manager
Brilliant connections
for inspirational device design

The compactness of the time and monitoring relays from Tele Haase being a first obvious benefit, the relay range indeed features a wealth of other advantages that Weidmüller has supported as a design-in partner. Easy operation thanks to PCB terminals with PUSH IN connection technology and multiple worldwide fields of application are amongst these advantages. An important aspect in this regard is the 600 V device approval in accordance with UL 840, which Weidmüller has supported by conducting special laboratory tests.

“We want to inspire our customers with extremely small device dimensions that save them a discernable amount of space. At the same time, we won’t compromise on functionality,” says Heinrich Reinolt, Development Manager at Tele Haase, outlining the Austrian relay manufacturer’s ambition. “To satisfy this requirement, we need suppliers that share the same vision when developing their solutions. We have found precisely this kind of partner in Weidmüller in the device connectivity segment.”

Customised connection systems
for unlimited functionality

Across industries, the relays from Tele Haase monitor and control most diverse processes. For the new Tele VEO range, which comprises time and monitoring relays, the relay specialist went through the entire device design process with Weidmüller. At the beginning, the focus was on learning all about and understanding the existing requirements.

“In addition to the high degree of miniaturisation, we were also expected to provide functional reliability in the various target applications for relays with our PCB terminals. The areas of use range from energy generation and distribution, through traffic engineering to machine construction and process applications, whereby flexible relay integration in the relevant automation technology should be possible,” explains Gottfried Steinklammer of Weidmüller, who accompanied Tele Haase’s entire design process. “A connection system that accurately satisfies the most diverse industrial
»We want to inspire our customers with extremely small device dimensions.«

Heinrich Reinolt,
Development Manager at Tele Haase

requirements is a key step on the road to unlimited functionality. To also guarantee global applications, there was another huge requirement, in that the device needed to be approved for 600 V in accordance with UL 840. With this bundle of tasks in mind, we were constantly exchanging ideas with Tele Haase to find a solution."

Keeping options open with respect to the device design

Weidmüller and Tele Haase were able to identify the LSF-SMT PCB terminals featuring a pitch of 7.62 mm and designed for lead-free soldering in the reflow procedure as the ideal solution for signal connectivity. The maintenance-free PUSH IN connection technology allows vibration-free connections that reliably withstand the conditions of all intended relay uses to be created in no time at all. This pays off when the relays are placed in climate boxes to monitor the transportation of pharmaceuticals via the cold chain, for instance.

Tele Haase also benefits from being able to pass on to its customers an all-round, impressively user-friendly concept. As the Tele VEO relays can be installed without tools using PUSH IN connection technology, end users save valuable time during assembly and can even leave the work to robots. In addition to this, connection options for rigid, single-wire, ultrasonically-compressed or flexible wires with or without wire-end ferrules and featuring a clamping range from 0.25 to 1.5 mm² provide a high degree of flexibility when connecting the most diverse single-wire cross-sections.

To ensure approval according to UL 840, Weidmüller provided Tele Haase with support as part of a comprehensive service. By means of specially conducted and documented checks in its own accredited laboratory, Weidmüller was able to provide the relay manufacturer with certified connection components for its devices, allowing Tele Haase to carry out UL-compliant device approvals up to 600 V. “Because Weidmüller kept the options open for us with this kind of device connectivity, we were able to fully concentrate on turning our vision of a relay housing measuring just 22.5 mm wide and 76 mm deep into a reality,” Reinolt happily acknowledges. “And last but not least, thanks to the practical device connection system we were able to let our ideas flow and so developed a creative relay solution with numerous functions and fields of application.”

More outstanding connections

If you would like to find out more about OMNIMATE, visit the new OMNIMATE product page online. You will find out everything about the leading and extensive device connector and electronics housing product range:

▶ www.weidmueller.com/OMNIMATE
Weidmüller – Your partner in Industrial Connectivity

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.