

PROFINEWS

PROFINET and PROFIBUS News

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25 Years: The Right Decision Looking Forward

On March 27, 1990, the first General Meeting of the PROFIBUS Nutzerorganisation e.V. (PNO) took place at which organizational matters were discussed and work began on establishing key committees and working groups. Back then, probably no one could imagine what was started. 25 years later, the organization is not only a global community under the roof of PROFIBUS & PROFINET International (PI). It has established itself as a driving force for communication in industrial automation systems.



The past 25 years in the community were a mix of professional exchange, hours of hard work, and highly contentious discussions -but always with a spirit of cooperation. Everyone was consistently united behind the goal of successfully automating all industrial applications. Over and over again, the PNO set the course for new developments. For example, PROFIsafe impressively demonstrated how PI changed the way industrial automation is done. Sending safety signals over the network is commonly accepted today and the basis for a close cooperation of workers and robots on the shop floor. The result: tremendous productivity gains for the end user.

Several leading companies of the ZVEI, the German electrical and electronic manufacturers' association, were instrumental in founding the PNO. Michael Ziesemer, President of the ZVEI and Chief Operating Officer at Endress+Hauser, summarized the reasons as follows: “What 25 years of participation in the success of PROFIBUS means to me is being at the forefront of technical advancement for 25 years. PROFIBUS stands for openness of the system world. The standardized bus is the basis of a business opportunity for anyone. We can learn a lot from this in order to meet the challenges of the future: Industry 4.0 and digitalization of value creation. ”

This is why we call it “the PROFINET of Things”. PROFINET is the only standard that combines the strict real-time requirements of high-performance machines with the necessary openness for IP communication.



In our anniversary year, Industry 4.0 and the Industrial Internet of Things are hot topics. They will have a deep impact on industrial communication for sure. But the way we developed our technology, we have a significant advantage in the years to come. First of all, with 50 million PROFIBUS nodes and 10 million PROFINET nodes we are the market leader among the industrial protocols and provide a strong basis for the future. If the IIoT is about connectivity and information, we provide the data through our networks. But there's more to it than that! Delivering data is just half the battle. Every other network can claim this. The strength of PROFINET is that we deliver the infrastructure as well. PROFINET is 100% Ethernet. Additional IIoT protocols like OPC can use our network and forward valuable information to drive new business models. This is why we call it “the PROFINET of Things”. PROFINET is the only standard that combines the strict real-time requirements of high-performance machines with the necessary openness for IP communication.

On April 13th, Hanover Fair opens its doors again. At our booth we will showcase the latest and greatest of our technologies: PROFIBUS, PROFINET, and IO-Link. It's the place to see lots of new products, have a chat with our members, or to enter deep discussions with the technical experts from our working groups. Industry 4.0 and the Industrial Internet of Things will be key topics there as well. If you want to learn more about the PROFINET of Things, please feel free to stop by our booth in Hall 9.

Looking forward to seeing you and having a chat,

[Karsten Schneider](#)

Chairman, PROFIBUS & PROFINET International

Hanover Fair 2015

PI is exhibiting at Hanover Fair again this year, April 13 through 17. The 215 square meter (2300 square feet) booth is in Hall 9 at D68. There are 24 kiosks and hundreds of products from many manufacturers. It is situated directly on the "Automation & IT Tour", which leads by way of a red carpet through the halls of the trade fair.



The PROFINEWS editor will be in attendance Monday through Thursday; stop in to share your news.

Visitors can learn about four technology areas from the products of the other co-exhibitors. In these exhibition areas, visitors receive a comprehensive overview of the diversity and applications of the technologies as well as an overview of newly certified devices:

- Process automation (live demo of PROFIBUS and PROFINET in process automation)
- Production automation (diversity of devices with PROFINET interfaces and other technologies)
- Information on PROFIenergy, PROFIdrive, and PROFIsafe
- IO-Link (diversity of devices, services, and manufacturers)

In particular, the interaction of various technologies and manufacturers in the process automation area, which will also be observable in a live PA demo, may be of great interest. All aspects of FDI and the use of PROFINET in process automation will be discussed, in particular.

PI Conference 2015: Network of the Future

Who is more knowledgeable about networks than PROFIBUS and PROFINET International? Reason enough to attend the PI Conference held once every 2 years. A variety of presentations and detailed technology-related workshops provided inspiration to the 270 participants.

The Technik Museum in Speyer was selected as the venue for the 4th PI Conference. It not only presented historical developments but also highlighted current technical development in various fields. At the event, users and manufacturers as well as experts and novices from all sectors discussed current issues on all aspects of PROFIBUS, PROFINET, and IO-Link. Because of the 25-year anniversary of PI Germany, the main theme "Network of the future - Partner of users for 25 years" was established at an early stage.

Michael Zieseemer, President of the German Electrical and Electronic Manufacturers' Association (ZVEI), who has been connected to PI since the beginning, opened the PI Conference and outlined the past quarter century. Current requirements in everyday production were then highlighted in the many presentations. For example, one issue discussed was how to integrate technological progress in existing production plants. After all, partial technology replacements – during operation in some cases – are an everyday occurrence in large production areas. This calls for methods that enable fast and reliable migration.

For the first time, the 2015 PI Conference offered technology-specific workshops in addition to presentations. On the basis of real-world examples and smaller live models, these workshops provided users with in-depth insight into the benefits, handling, and use of PI technologies. The workshop topics included "Hands-on PROFIBUS PA – Installation, operation and maintenance" and "Easy IO-Link configuration – Device replacement during operation".

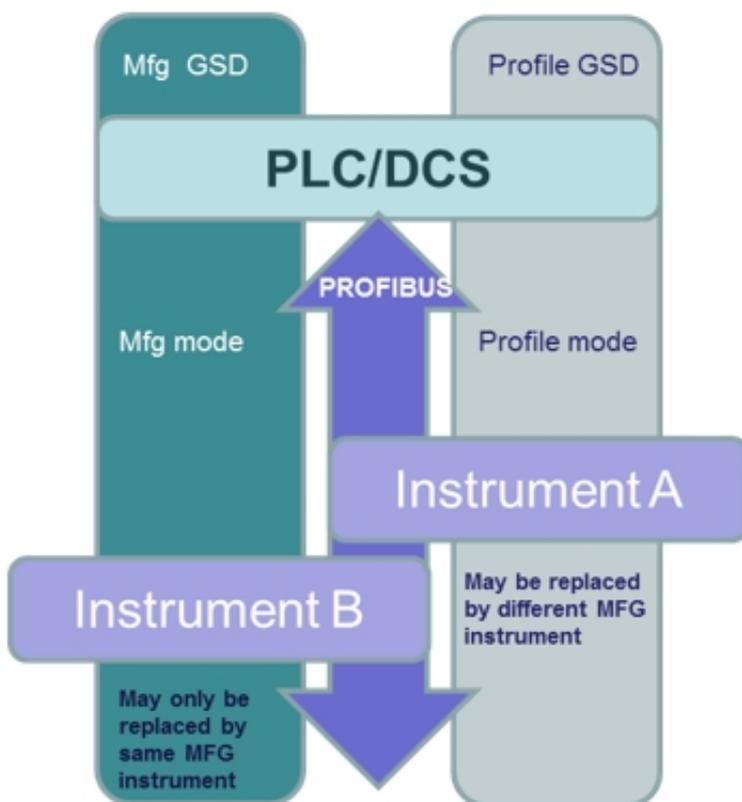
Prof. Dr. Gunter Dueck, IEEE fellow, philosopher, and author, ensured a smooth transition to the evening event where participants could experience the "Network of today". Covering concepts like swarm intelligence, he provided more than enough material for discussion. For new technologies, in particular, it is important to question over and over again whether the trend will endure over an extended time period. After all, networks may also require new rules, especially in matters related to security. While the economic potential for new industrial concepts such as smart factories, autonomies, and proactive maintenance is undisputed, some IT security issues remain unanswered. For this reason, a central role was given to this topic, which provided important food for thought.

Tech Tip: How PROFIBUS PA Profiles Work

Profile 3.0.2 defines the rules for PROFIBUS for Process Automation (PA). How can you use Profiles to your benefit in the Process Industry competition?

Profiles were created to define properties and behaviors as an abstraction layer for devices, device families, or entire systems. Using Profiles gives the PROFIBUS or PROFINET devices a common framework for operation.

PA Profile 3.0.2 has some features within it that were put there to give the power of flexibility to the customer. Unfortunately, these very user oriented features are not often talked about. PA Profile mode can allow us to make instruments generic. By using PA



Profile mode a device can be replaced by a similar type device from an entirely different manufacturer.

General Station Description files (GSD), are files that describe all the features of the device so that the PLC/DCS configuration tool can set up communication between the PROFIBUS master and the slave devices. GSDs describe the features of the instrument such as baud rates supported, parameters that the device uses to determine how it should work, and possible I/O configurations that the user can specify. The essential difference for the user between Profile mode and Manufacturer's mode is which GSD file the user chooses to represent their device in the PLC or DCS configuration.

PA Instrument Manufacturer mode GSD files describe the way a PROFIBUS Master (PLC or DCS) can communicate with the slave device using the data exchange cycle. Each GSD file is specific to the

manufacturer's particular instrument. Using the manufacturer's GSD, the master can do data exchange with this slave from this manufacturer only.

PA Profile GSDs are generic files, defined by PROFIBUS and PROFINET International. They are available to be downloaded from the web at <http://www.profibus.com/download/profiles/>. PA Profile GSDs describe the type of I/O the instrument supports rather than the device itself. For example, single input temperature transmitters can be accessed with the Transmitter Profile Transmitter 1 Analog In (4 bytes of analog input + 1 byte quality data). Actuators, Discrete Inputs, Discrete Outputs, Flow Transmitters, Analyzers and Multi-Variable Transmitters are defined as PA profiles as well.

The value of using Profile mode GSDs can be seen in operation when a failing device needs to be replaced. If the Master system was configured to communicate with the slave using the Manufacturer's mode GSD, the failed unit must be replaced with the same type of unit, from the same manufacturer. If the Master was configured using the Profile GSD, the failed device can be replaced by a similar type device from an entirely different manufacturer. This gives the customer the ability to do a quick replacement with something they have in their parts locker, rather than waiting for a spare to be shipped to their site from the original vendor.



If you have questions about using or implementing PA profiles, the fastest way to get up to speed is to contact us here at the [PROFI Interface Center](#) or a [global PI Competence Center](#).

--John Swindall, [PROFI Interface Center](#)

IO-Link: Did You Know?

Did you know that the signal quality of measuring sensors can be increased with IO-Link?

IO-Link enables reliable, loss-free signal transmission from the sensor to the controller.

Background: When an analog signal is transmitted to the controller, several conversions from analog to digital and from digital to analog are necessary. Each of these conversions affects the quality of the transmitted process value. Furthermore, the signal is affected by electromagnetic interferences. Unfortunately, it is common practice in the real world for signal lines to be routed together with, and not separate from, power cables. If, in addition, the shield is not implemented properly, the quality of the transmitted process value is affected.

Result: The signals measured at the sensor tip do not reach the controller. The accuracy that could be achieved through the use of high-quality sensors is therefore lost along the transmission path.

The situation is completely different with IO-Link. A major advantage of IO-Link is that it needs only one conversion. The analog signal from the sensing element of the measured quantity is converted to a digital signal. The signal is then processed and transmitted from the sensor to the controller via the IO-Link master only as a digital signal. Conversion losses are thereby prevented. The signal measured at the sensor tip reaches the user program without loss of quality. The signal quality is continuously monitored for assurance purposes. An additional secondary effect is that the plant operator or service technician receives the same measured values both on the measuring device and on the plant display.

Additional advantage: The digital signal transmission cannot be affected by electromagnetic disturbances. This means that costly shielded cables are no longer necessary. IO-Link can be used cost-neutral compared with the previous analog technology.

[IO-Link](#)

PI Update

Updates from PI this month include a new MinutePROFINET video about manufacturing uptime, some creative blog posts on the Industrial Internet of Things, PROFINETuptime.com, and the 2014 PROFIBUS and PROFINET node counts.

MinutePROFINET

The first MinutePROFINET video ("What is PROFINET?") was released on November 18, 2011. If only we had known at that time what we'd created... Since then, the MinutePROFINET Channel has gathered:

- 100,000 total video views
- 500 subscribers
- 18 unique videos

The latest:

<https://www.youtube.com/watch?v=WVH5pKZQfaQ>

PROFIblog

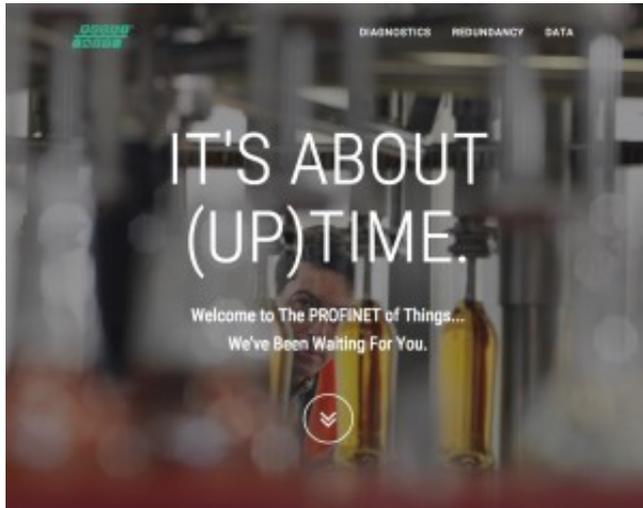
“If you're not part of the solution you must be part of the solute.”



So begins a recent post on the PROFIBlog. The flurry in creativity doesn't stop there however. The PROFIBlogger has been busy.

- [Feed Me... PROFINET Data](#)
- [For Industrial Internet of Things Success – Standardize](#)
- [PROFINET vs EtherNet/IP](#)
- [IIoT is not IoT](#)
- [PROFINET, THE Open Standard for IIoT Data](#)
- [PROFINET, the Solute in the Automation Solution](#)
- [Choose the Network First](#)

PROFINETuptime.com



A new advertising campaign from PI North America looks at how PROFINET helps reduce manufacturing downtime. This microsite will expand throughout the year with information and application stories. Head over to PROFINETuptime.com.

Nodes

Even though it has been on the market for a long time, PROFIBUS continues to report impressive market growth. At the end of 2014, nearly 51 million PROFIBUS devices were installed in industrial plants worldwide, about 3.6 million more than the previous year. This number shows that user confidence in PROFIBUS is as high as ever. PROFIBUS PA is also recording steady growth. Around 9 million PROFIBUS devices are now installed in the process automation sector including around 800,000 more than in 2013.

With 10 million PROFINET devices installed in the market today, another goal has been reached. The steep growth curve is set to continue. This is consistent with the forecasts of an ARC market study of trends in Ethernet-based systems, which stated that the growth of PROFINET is expected to exceed that of its competitors and the general Industrial Ethernet market.

Training and Events



Training events are available widely around the world.

From free one-day courses, to certified week-long classes: dedicated PROFIBUS and PROFINET trainings show how easy it is to employ these technologies. Even specialized events can help to highlight their use in wider applications.

USA

Free one-day [PROFINET Training](#) classes are off to a fast start in the USA. 2014 saw the most successful year ever in terms of average attendance, a 15% increase over 2013. Now, through the first quarter of 2015, the numbers are even stronger than ever. And the pace does not appear to be slowing with large classes lining up for April and beyond.

City	Date
St. Louis	April 16, 2015
New York / New Jersey	April 30, 2015
Pittsburgh	May 14, 2015
Minneapolis	June 4, 2015

There are only a handful of [Certified Training classes](#) left before the summer break. And with a limited number of seats per course, now is the time to get certified.

Class	Date	Location
PROFINET Certified Training	May 4-8, 2015	Johnson City, TN
PROFIBUS DP/PA Certified Training	May 11-15, 2015	Johnson City, TN
PROFIBUS DP/PA Certified Training - Canada	June 15-19, 2015	Peterborough, ON

Phoenix Contact

The 5th International mGuard User Conference 2015 is coming to Houston; June 3-4. The main themes of the event will revolve around industrial cybersecurity and remote connectivity.

[More Information](#)

Worldwide

Regional News

Regional news items this month include: a very successful seminar hosted in the Philippines, the United Kingdom prepares for its annual PROFIBUS Conference, and Italy 'gears up' for its first of three roadshows.



[South East Asia](#)

The PROFIBUS/PROFINET Association South East Asia has conducted its first PROFIBUS/PROFINET Seminar of 2015. The seminar was conducted in Cebu, Philippines at the Radisson Hotel on 5th of March 2015 and a total of 115 people from various industries, distributors, system integrators, and universities attended.

[Read More](#)

[United Kingdom](#)

Where better to be in the UK in June than historic Stratford-upon-Avon, enjoying the delights of Shakespeare's town while learning about the latest developments of PROFIBUS and PROFINET? The conference runs 23 through 24, June 2015.

[Read More](#)

[Italy](#)

In Italy, PROFIBUS and PROFINET Days return to present the latest technological developments in Industrial Communication. This year's stopovers will be:

- Verona (22nd April)
- Pescara (17th June)
- Naples (14th October)



For the first event in Verona, PI-Italy invites technicians, experts, and system integrators to an untraditional experience. The event will take place at Museo Nicolis, a 'museum-not-museum' that tells, through hundreds of machines and motorbikes, the evolution of transportation in the last centuries. The synergy between technology and motors is perfectly aligned with PI-Italy's objective of leading its guests to discover the latest innovations in industry.



The most important themes will be operational excellence, energy efficiency, and security. Esteemed guests will present PROFIBUS and PROFINET success stories as well. It will be a unique opportunity to share experiences and to get the latest news from the technology leader of the industrial automation world.

[Read More](#)

Member News

Members PROCENTEC, Softing, GE, and Balluff are in the news this month. PROCENTEC announces network auditing services, Softing provides an application story using their All-In-One PROFIBUS Tester in retail logistics, GE releases a white paper on advanced power management, and Balluff provides a white paper concerning IO-Link implementation.

PROCENTEC

PROCENTEC has qualified engineers who can check the quality of your PROFIBUS or PROFINET network through a comprehensive network audit. PROCENTEC offers network audits to have a full health check-up of your PROFIBUS or PROFINET network. [Read More](#).



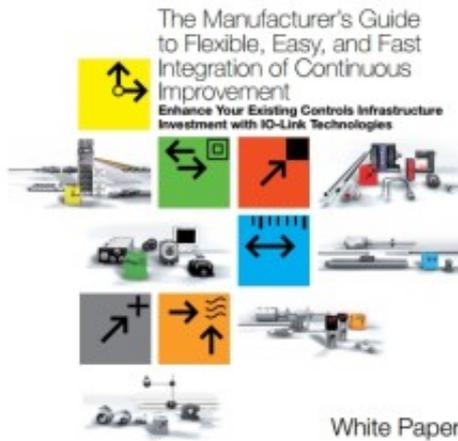
Softing

A significant number of end-users and manufacturers that run PROFIBUS networks have standardized on Softing's reliable diagnostic toolset. One example is one of the largest retail store chains in the US. Recently, this retail chain has decided to upgrade its existing fleet of PROFIBUS testers to a newer version under a trade-up program offered by Softing. [Read More](#).

GE Intelligent Platforms

In today's "always on" society, facilities that support operations in data centers, healthcare, power and emergency response are under intense pressure to maintain continuous system availability, and at the same time, improve energy efficiency to reduce costs. These types of demands require control systems that utilize the type of high speed redundancy that PROFINET enables to maintain continuous operations and increase efficiency. Integrating advanced power management strategies into backup power control systems further improves the ability to deliver performance consistency by combining power grid synchronization with the measurement and analysis of power consumption metrics. [Read more about GE's integrated power management solution here](#).

Balluff



White Paper

IO-Link is a vendor neutral technology that provides configuration and diagnostic information from sensors and actuators. This Balluff white paper provides some background on IO-Link and provides information on implementation. You can [download the white paper here](#).

New Products

There are new products this month from: Deutschmann, HMS, Laumas, Moxa, ProSoft, Siemens, Wago, Harting, Balluff, and InduSol. Click the link in the Product Announcement column in the table below for the full story.

Company	Product Announcement	Picture
Deutschmann	UNIGATE CM CAN/PROFINET Gateway	
HMS	Anybus CompactCom 40-series Certified for PROFINET 2.31	
Laumas	Multi-Channel PROFINET IO Weight Transmitter	
Moxa	Multiport Secure Router Firmware Upgrade	
ProSoft	In-Chassis PROFIBUS Interface at the Cost of a Gateway	
Siemens HMI	Second Generation Wired Mobile Panels for Automation	

Company

Product Announcement

Picture



Siemens Controllers

[Compact Controllers Combine Small Size with High Performance](#)



Siemens Drives

[Synchronous Reluctance Technology Increases Energy Efficiency and Dynamic Response](#)



WAGO

[Safety Meets Ex-i: One Module, Twice the Safety](#)



HARTING

[Installation Technology with Process Reliability](#)



Balluff

[Expanded SmartLight Product Family](#)

Company

Product Announcement

Picture



InduSol

[Smart Monitoring - Integrated Monitoring](#)



PI South East Asia Seminar in the Philippines

The PROFIBUS/PROFINET Association South East Asia has conducted its first PROFIBUS/PROFINET Seminar of 2015. The seminar was conducted in Cebu, Philippines at the Radisson Hotel on 5th of March 2015 and a total of 115 people from various industries, distributors, system integrators, and universities attended.



Full house at the Cebu Seminar

The seminar was supported by Leoni Kerpen, Presidium Controls & Industrial Technologies Corp., Siemens, and Turck. These companies provided live demonstrations of their products and solutions at a Microfair, giving seminar participants the chance to discuss face to face with the experts.

The PROFIBUS/PROFINET multivendor demo was introduced. This showed the wireless integration of PROFIBUS-DP/PA into PROFINET, also the integration of different products and protocols. The live engineering of an IO-System was demonstrated along with PROFINET's web diagnostic functions and remote services.



High interest at the Microfair.

The seminar had three parts; news and market updates on PROFIBUS/PROFINET; a PROFIBUS Block, with presentations on installations and best practices; and a PROFINET Block with presentations on innovative Industrial Ethernet solutions as well as the new features available. Due to the Participation of Presidium Controls it was also possible to present various application examples from the local Cebu area. Bernd Lieberth, President of the Regional PROFIBUS/PROFINET Association, presented the latest news, including the world sales figures. PROFIBUS increased its installed base by 3.6 Mio nodes in 2014, which means the total installed base is now in excess of 47.4 Mio nodes. PROFINET also grew, from 5.8 Mio nodes last year in 2013 to 7.6 Mio nodes in 2014. Bernd Lieberth also introduced the Reference Story out of Mexico in the automotive industry which showed the strength and clear advantages of PROFINET with an installed system of 10.000 nodes on a PROFINET network.

Mr Jopriz Zamora (Presidium Controls) presented best practice applications and training services for the local Cebu area.

The day ended with presentations on PROFINET by Bernd Lieberth. With PROFINET, PI has developed a comprehensive Industrial Ethernet networking standard from the experience gained from PROFIBUS. The result is open and manufacturer-neutral. PROFINET meets all of the requirements for using Ethernet at all levels, and in all automation applications. It is flexible, reliable, and robust in any industrial

environment. PROFINET offers new possibilities too, such as redundancy, shared device, intelligent devices, wireless connectivity, and much more.

The seminar in Cebu is part of a continuing seminar series in ASEAN countries. Bernd Lieberth said: “We achieved a high participation rate thanks to the support of our local members, who helped us with the organization during the event. We will continue our seminar series this year. We will keep you posted on our webpage www.sea.profinet.com.



Members supported this Event

That was also the last seminar of our President Bernd Lieberth (4th from left), the new man leading the PROFIBUS/PROFINET Association is Mr. Jorey Guzman (2nd from right) who will continue the activities of the Association in South East Asia from May 2015 onwards.

PROFIBUS UK's Two-day June Conference Gains Momentum

Where better to be in the UK in June than historic Stratford-upon-Avon, enjoying the delights of Shakespeare's town while learning about the latest developments of PROFIBUS and PROFINET? The conference runs 23 through 24 June 2015,

The UK's Conference with workshops and table top exhibition is designed for engineers, managers and indeed anyone concerned with implementing fieldbus and/or industrial Ethernet technologies.

There will be two keynote addresses, one from PI Chairman Karsten Schneider unveiling interesting new information about the future of the technologies; another from Simon Keogh, General Manager at Siemens Factory Automation & Control who will discuss Industry 4.0, focusing on the requirements to be met before the factories of the future can become a reality.

Well-known PROFIBUS author James Powell will also be there to launch the 2nd edition of his popular book "Catching the Process Fieldbus" and will have with him few signed copies to give away to conference delegates.

The event will concentrate on the real issues of implementation, maintenance and management of PROFIBUS and PROFINET systems and will cover latest developments in the technology for factory and process automation including safety, motion control, wireless implementations, integration with MES and of course, the Industrial Internet of Things and Factory of the Future.

More information about the conference can be found [online](#).

Enjoy these photos from last year's conference (click to enlarge and start slideshow):

PROCENTEC Offers PROFIBUS and PROFINET Network Audits

PROCENTEC has qualified engineers who can check the quality of your PROFIBUS or PROFINET network through a comprehensive network audit. PROCENTEC offers network audits to have a full health check-up of your PROFIBUS or PROFINET network. This is an extremely effective and fast way of preventing downtime within your installation. You will be continually assured of a reliable, high-quality and up-to-date network.

To ensure the continuity of your installation remains guaranteed, it is essential to check the quality of your PROFIBUS or PROFINET network by qualified engineers. PROCENTEC's network audit gives an insight into all the problem areas within your PROFIBUS or PROFINET installation. Utilizing our ProfiTrace and Netilities advanced maintenance tools, we complete an expert on-site analysis of your installation. These innovative tools enable our engineers to check the quality of your network within a few hours, after which you receive an extensive report with specific recommendations.

Your benefits:

- Ensures a continually reliable, high-quality and up-to-date network
- Reduces downtime and high costs
- Reliable advice from qualified engineers
- Detailed report with specific recommendations
- Breakdowns can be quickly repaired thanks to advanced maintenance tools
- Network repairs completed after the audit, by our qualified engineers

For more information about our support services, please visit the website of [PROCENTEC](#).

Softing PROFIBUS Tester in Action



A significant number of end-users and manufacturers that run PROFIBUS networks have standardized on Softing's reliable diagnostic toolset. One example is one of the largest retail store chains in the US. Recently, this retail chain has decided to upgrade its existing fleet of PROFIBUS testers to a newer version under a trade-up program offered by Softing.

A significant portion of retailer's revenue is generated by online orders through the retailer's web site. The shipping and handling for online orders is executed by one of the retailer's shipping facilities. The packaging of the goods into cardboard boxes is handled by a complex automated system with peripheral sensors and actuators that are networked over PROFIBUS to high-speed controllers.

Typically, PROFIBUS is a very robust communications protocol. However, the retailer's experienced engineering team is aware that over time every network system will need maintenance work to avoid the occurrence of intermittent communication issues based on poor electrical signal quality levels. The retailer's engineering team identified Softing's PROFIBUS Tester as the best-in-class tool that more than satisfied their requirements.

PROFIBUS Tester

Currently, Softing offers several PROFIBUS Testers.

The PROFIBUS Tester 4 is an excellent PROFIBUS Diagnostic tool that requires an external power supply. The tester analyzes and evaluates the signal quality of each connected node as well as the data communication between the nodes.

The PROFIBUS Tester 5 includes all diagnostic features of the Tester 4. The Tester 5 is specifically designed for mobile operations. The test tool has an internal battery that will power the tester for up-to 7 hours of full operation without the need for an additional power supply.

In addition, the graphical color display presents the test results in a clear, easy-to-understand manner. In case a test result requires further explanation a user can consult the included context-sensitive help system for a comprehensive explanation of the observed test results.

Connect any of these two indispensable tools directly to the network and immediately start diagnosing the network. In stand-alone mode, the test results are stored within the tester and can be uploaded at a later time to a computer for further analysis or to generate a full test report.

[Softing](#)

UNIGATE CM CAN/PROFINET Gateway from Deutschmann

On-board CAN Master



Figure: UNIGATE CM CAN and CANopen gateways from Deutschmann Automation comprise a CAN/CANopen Master interface (pictured: UNIGATE CM PROFINET)

CAN and CANopen gateways from Deutschmann Automation's UNIGATE CM series feature an on-board CAN Master. Thereby, they can be used both, to connect CAN and CANopen networks with other protocols and to integrate CAN devices into any fieldbus or Ethernet environment.

The gateways for DIN rail installation are available for a wide range of fieldbuses and Industrial Ethernet standards. In addition to CAN models, there are models for Modbus TCP, Profibus DP, MPI, DeviceNet, EtherCAT, EtherNet/IP, and PROFINET. Furthermore, the devices are now optionally available with eight integrated, freely configurable I/O. Users can define each I/O as an input or output and apply their individual switching logic. The integrated I/O are configured via the same script that handles the protocol conversion and which can be programmed without special programming or fieldbus knowledge simply by means of Deutschmann's free-of-charge Protocol Developer tool. The script is one of the special advantages of Deutschmann's UNIGATE products – it converts the terminal device protocols and can be used to emulate complex protocols and to buffer and process data. Thereby, users no longer need to adapt the terminal device firmware. Furthermore, it supports integration of customer-specific commands, linking of functions to time or event-based triggers, and visualization of all data and statuses in the bus. Deutschmann offers to fit UNIGATE CM converters – just like all UNIGATE products – with OEM brand labels.

[Deutschmann](#)

Anybus CompactCom 40-series Certified for PROFINET 2.31

The new Anybus CompactCom 40-series from HMS Industrial Networks has passed certification for PROFINET Version 2.31, certified for use with the highest conformance class (C) as well as the highest netload class (III).

The Anybus CompactCom 40-series provides industrial devices with multi-network connectivity with a specific focus on industrial Ethernet. It is especially suitable for



high-end industrial applications with high performance demands and is available in chip, brick and module formats.

The 40-series solution for PROFINET enables very fast communication between the host device and PROFINET (process data latency is less than 15µs through the module) and supports PROFINET RT Class 1 and 3. It comes with an integrated PROFINET IRT Ethernet switch and supports PROFINET functions such as MRP (Media Redundancy Protocol), Clock-Synchronous Operation, Fast Start Up, and PROFIenergy.

CompactCom is also equipped with a black channel interface enabling PROFI-safe communication. When used in combination with the IXXAT Safe T100 safety module, HMS can therefore offer a complete communication solution for functional safety.

Ready for Industrial Internet of Things

Apart from supporting advanced PROFINET functionality, the CompactCom 40-series also provides users with powerful IT functions running simultaneously with the PROFINET real-time functions. IT functionality includes, for example, a socket interface giving the possibility to send a complete Ethernet frame (up to 1500 bytes), built-in web pages, file system, and firmware upgrade via FTP etc.

The 40-series also comes with security functions such as mandatory software signatures to prevent unauthorized software to be downloaded to the product, and encryption is used to prevent illicit copying.

CompactCom PROFINET is available in versions for regular copper cabling as well as for fiber optics.

Early adopter of PROFINET 2.31

“The fact that the CompactCom 40-series now conforms to the latest PROFINET standards shows that we continue to be at the forefront when it comes to PROFINET connectivity,” comments Leif Malmberg, Product Line Manager for embedded products at HMS. “PROFINET is an advanced network which puts very high demands on industrial devices, so it is a good proof-of-concept that the CompactCom 40-series lives up to PI’s latest demands.” (PI=PROFIBUS and PROFINET International)

One development project gives access to any other network

By implementing the CompactCom 40-series, users get connectivity to EtherCAT, POWERLINK, EtherNet/IP, Modbus-TCP, CC-Link, PROFINET, and PROFIBUS. Since the release in 2014, the 40-series technology has been evaluated and certified by the network organizations. This means that device manufacturers who implement Anybus CompactCom 40-series will have a pre-certified network interface, speeding up the certification process for their products.

[HMS Industrial Networks](#)

New Multi-Channel PROFINET IO Weight Transmitter from LAUMAS



LAUMAS extends its range of weight transmitters for PC-PLC, offering the new TLM8 PROFINET IO, with Slave PROFINET IO port, graphic display, and 8 independent reading channels for load cells. The TLM8 transmitter offers the benefits and performance of an advanced digital weighing system even using analog load cells.

Details:

- Mounting: Omega/DIN rail for back panel or IP67 junction box
- Analog output 16bit
- RS485 serial port for Modbus RTU
- Slave PROFINET IO port.

Among the most innovative features:

- RS485 (Modbus RTU)/fieldbus transmission of the divisions for the 8 independent reading channels.
- TEST key: direct access to the diagnostic functions with graphically display of the current load distribution on each active channel with archive backups: storing, retrieving, printing.
- Digital equalization: the instrument allows to equalize the connected load cells response in a fast and reliable over time avoiding use of junction boxes with trimmer.
- Significant events archive (zeroing, calibration, equalization, alarms): storing, retrieving, printing.
- Automatic diagnostics: the instrument is designed to store the percentage value of load distribution for each channel. The diagnostic function makes comparisons between the recorded values and if a significant variation between the values is detected during normal operation, the instrument displays an alarm alternating with the weight value. Depending on the weighing system type it's possible to perform:

- Load diagnostics: load distribution control in constant barycenter systems (e.g. liquids silo).
- Diagnostics on zero: check on load cells drift state (for example, silo, weighbridge, platforms)

Internationally recognized certifications:

- UL Recognized Component - United States and Canada
- Customs Union Certification - Russian Federation standards
- OIML R76:2006 (European Directive 2009/23/EC (NAWI))

[LAUMAS](#)

Moxa Multiport Secure Router Firmware Upgrade Adds Powerful New Features

New EDR-810 Firmware Lets Network Administrators Implement Firewall Security Without Time-Consuming Re-Configuring of Network Subnets

Moxa, a global innovator in the Industrial Internet of Things (IIoT), announced a free firmware update for its EDR-810 industrial 10-port (including 2 Gigabit ports) secure router. The new firmware makes the already advanced, simple-to-deploy unit even more useful with new support for transparent (bridge mode) firewall functionality and the providing of real-time event notification.

Richard Wood, Moxa's Product Marketing Manager for Industrial Ethernet Infrastructure, explains: "The addition of transparent firewall support allows forward-thinking network administrators to introduce firewall protection to critical equipment in automation networks and to perform deep packet inspection on incoming data without the need for configuring separate subnets. It is like a set in place security appliance."

Over the past five years, industrial automation networks have become more interconnected and network security is now an extremely high priority. Deploying a transparent firewall configuration is valuable when downtime makes it impossible for an industrial automation network to be reconfigured.

To monitor industrial networks more efficiently, the firmware upgrade also includes comprehensive VPN/firewall/DoS (Denial of Service) event logs and SNMP traps for real-time event notification or historical analysis. This feature generates an audit trail of messages to help determine what types of traffic have been permitted or denied on the network, or which users have accessed various network resources.

Moxa EDR-810 Secure Router

The Moxa EDR-810 is a highly integrated industrial multiport secure router with Firewall/NAT/VPN and



managed Layer 2 switch functions. It is designed for Ethernet

security

applications in sensitive remote control or monitoring networks, and provides an electronic security perimeter for the protection of critical cyber assets such as pumping/treatment systems in water stations, DCS systems in oil and gas applications, and PLC/SCADA systems in factory automation.

The EDR-810's "WAN Routing Quick Setting" provides an easy 4-step method for users to set up WAN and LAN ports to create a routing function. The "Quick Automation Profile" function gives engineers a simple way to configure the firewall filtering function with general automation protocols, including EtherNet/IP, Modbus TCP, EtherCAT, FOUNDATION Fieldbus, and PROFINET. Users can easily create a secure Ethernet network from a user-friendly web UI with a single click, and the EDR-810 is capable of performing deep Modbus TCP packet inspection. Wide temperature models that operate reliably in hazardous, -40 to 75°C environments, are also available.

The free EDR-810 firmware is available on Moxa's website at http://www.moxa.com/support/search_result.aspx?type=soft&prod_id=920&type_id=4.

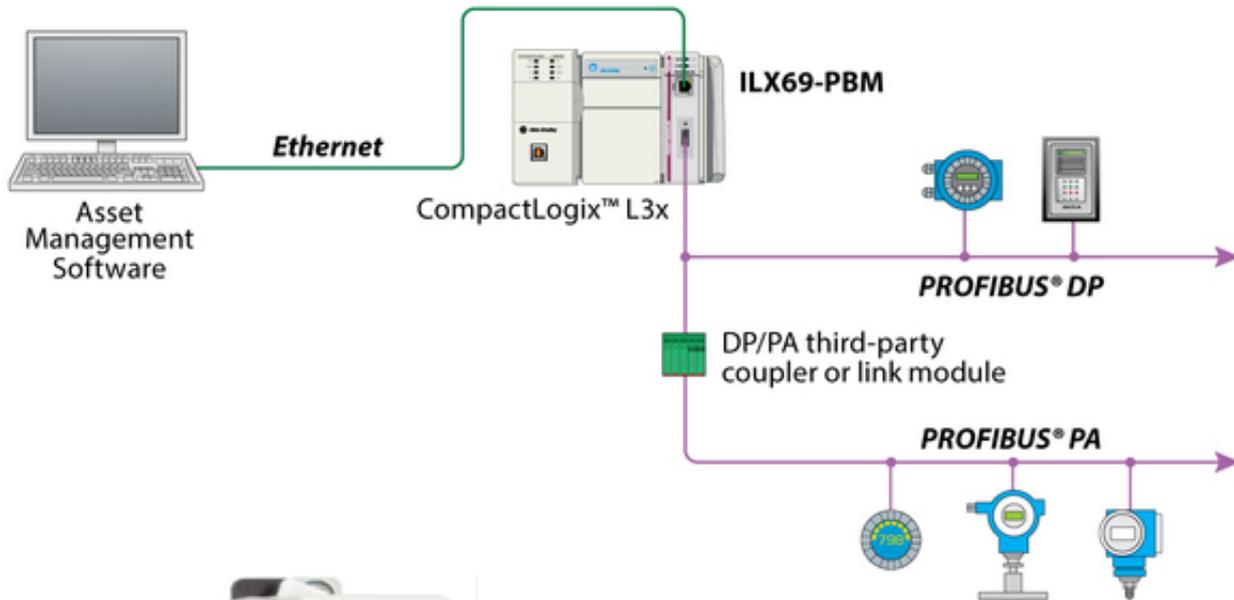
[Moxa](#)

In-Chassis PROFIBUS Interface at the Cost of a Gateway



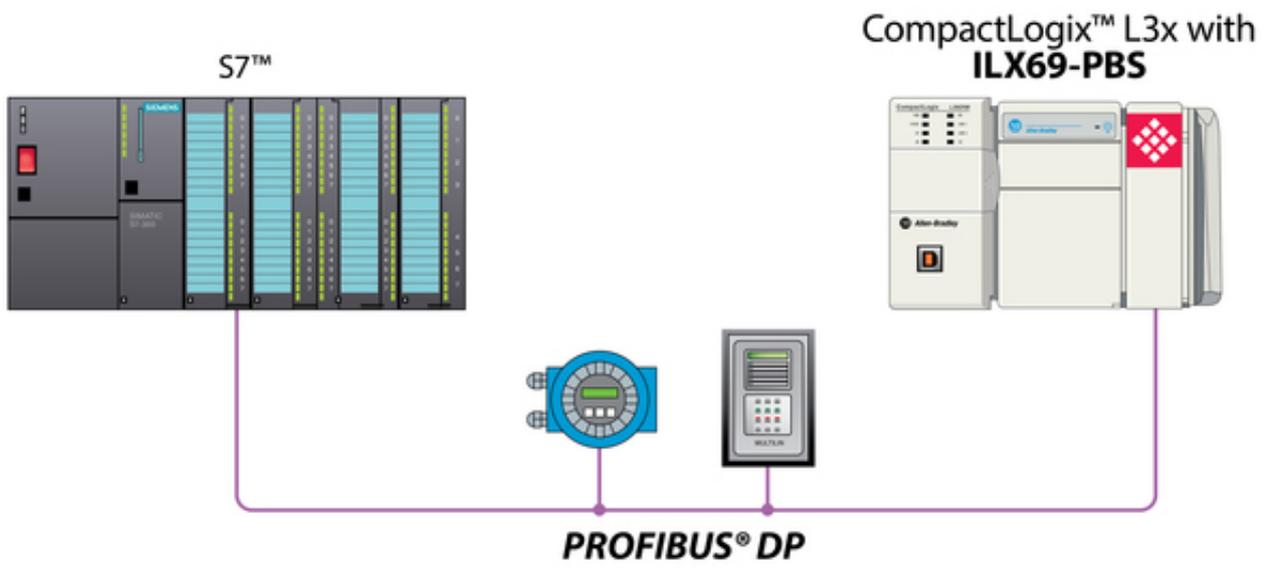
If you need the convenience and functionality of an in-chassis PROFIBUS interface at the cost of a gateway, then ProSoft Technology's new PROFIBUS DPV1 Master and Slave modules for CompactLogix™ give you just that. The Master module's features include:

- AOI: The module integrates with RSLogix™ 5000 using a sample Add-On Instruction, which reduces its configuration time.
- Autoscan: This feature helps reduce configuration and startup times by scanning the PROFIBUS network and uploading the slave devices' addresses and configuration information so the user doesn't have to manually input the information.
- ComDTM: The module enables asset-management software to remotely configure, commission, maintain and diagnose your fieldbus devices over their entire lifecycle.
- SD card: Allows the user to store configuration files, which can be used for disaster recovery.



Slave Features:

- Ethernet port allows remote configuration and maintenance
- Supports both I/O control and messaging
- Explicit ladder logic CIP message blocks provide slave status diagnostic data and acyclic messaging
- Module appears to the CompactLogix controller as a standard I/O module allowing it to be configured via RSLogix™ 5000
- Equipped with a diagnostic interface and rotary switches for setting of the bus address



[ProSoft Technology](#)

Second Generation Wired Mobile Panels for Automation

- New Simatic HMI Mobile Panels with enhanced performance, flexibility, convenience and quality
- Brilliant seven or nine inch widescreen display with 40 percent greater area
- Novel emergency stop button for safe automation
- Compact connection box for small machines with a small footprint

The new generation of mobile operation and monitoring panels from Siemens offers improvements in performance, flexibility, convenience and quality as compared with the previous range. Second-generation wired Simatic HMI Mobile Panels feature a brilliant seven or nine inch 16 million color widescreen display with a 16:9 aspect ratio capable of presenting even highly complex and detailed images of processes and plant clearly. Other highlights include the unique illuminated emergency stop button, the flexible options for integration into safety applications and a compact connection box that can be mounted directly on the cabinet. The new IP65 operator panels can be used across a wide range of temperatures (from 0 to 45°C), are dust-tight and resistant to chemical action and incorporate splashwater protection. The panels, which offer combined key and touch operation, are integrated into the automation solution via Profinet and configured using the Simatic WinCC engineering tool in the TIA Portal and a novel Style Editor.



The second-generation Simatic HMI Mobile Panels feature a robust industrial design capable of withstanding falls from a height of up to 1.2 meters and offer all of the functionality and performance of the Simatic HMI Comfort Panels. It is possible to configure operating screens for both static and mobile applications and then add mobile specifics, for example. Some 40 percent larger in area, the widescreen-format display produces a needle-sharp, bright and detailed image. It is fully dimmable too, meaning that it can be adapted easily to different environments.

Models that include a stop/emergency shutdown button include a novel button illumination feature that becomes active only when the mobile operator panel is connected to a safety circuit. Now users need just the one panel version for automation with straightforward stop and safe emergency shutdown functions.

The new compact connection box takes up only a third of the space of its predecessor and can be mounted directly on the cabinet, which is particularly advantageous for small machines with a small footprint. The connection box is simply bolted onto the outside of the cabinet door and then fully wired up from the inside. Robust connecting cables from two to 25 meters in length ensure the operator always has adequate freedom to move around. The new mobile panels also include a maintenance-free energy storage system that keeps them operational for five minutes with no power supply in case the operator needs to move between connection boxes, for example.

Ease of use has been improved as compared with previous models too. For example the three-stage

acknowledgment button on the panel handle now has two clear tactile feedback points.

[Siemens](#)

Compact Advanced Controllers Combine Small Size with High Performance

- Particularly compact Simatic S7-1511C and S7-1512C
- CPU plus inputs and outputs in one enclosure
- Technology functions such as metering, measuring, and positioning already integrated into hardware
- Rounds off advanced controller portfolio
- Engineering via updated TIA Portal V13 Service Pack 1

Siemens is expanding its portfolio of advanced controllers in the Simatic S7-1500 family with the addition of two particularly compact controllers. Simatic S7-1511C and S7-1512C combine CPU (including front display) with inputs and outputs in one enclosure. The compact design means that Simatic S7-1511C with 32 digital IO ports is just 85 millimeters wide and Simatic S7-1512C with 64 digital IO connections only 110 millimeters wide. Both models can be expanded to include additional connections using signal modules if required. Key technology functions such as metering, measuring, and positioning are already integrated into the hardware. The new Siemens controllers are suitable primarily for compact designs, such as those used in series production machines. Other benefits for customers include the low cost compared with modular controllers with processing units and easier storage or warehousing.



The new advanced controllers from Siemens are small in size but big in performance. Simatic S7-1511C has a bit performance of 60ns; the equivalent performance for the somewhat larger Simatic S7-1512C is 48ns. Just by switching from older generations of controllers, users therefore benefit from the large range of functions in the high-performance hardware. For integrating into networks, both models have a Profinet connection with two ports and an integrated Web server.

Simatic S7-1511C and S7-1512C engineering is through the TIA Portal. Siemens has updated the TIA Portal V13 with Service Pack 1. The latest version offers high-performance functions such as variant management. Automatic address adjustment and option handling – centrally, locally, and via networks – open up new opportunities for machine manufacturers to design modular and expandable machines. Other advantages include the clear potential cost savings in the manufacture, commissioning, and documentation of machinery.

Background

Since the launch of the new Simatic S7-1500 generation of controllers in 2012, Siemens has systematically expanded its controller portfolio. The new compact range provides users with a total of fourteen S7-1500 central processing units (of which 6 have Safety Integrated) for a huge variety of

applications – from small series production machines to complex plant with significant requirements in terms of speed and deterministics. At the SPS IPC Drives 2014 trade fair, Siemens also presented for the first time a software controller based on the Simatic S7-1500 for use in PC-based automation. The S7-1500 software controller based on Simatic S7-1500 PLC is available for Simatic industrial PCs. It runs independently of Windows and is therefore available for a wide variety of systems. An overview of the complete range of automation controllers can be accessed at siemens.com/simatic-controller.

[Siemens](http://siemens.com)

Synchronous Reluctance Technology Increases Energy Efficiency and Dynamic Response

- Integrated Drive System (IDS) comprising Simotics reluctance motors and Sinamics converters for cost-effective, efficient plant operation
- High levels of efficiency in full and partial load range
- High dynamic response and speed consistency for precise control
- Output range from 5.5 to 30 kilowatts (kW)

Siemens is extending its portfolio of Integrated Drive Systems (IDS) with a new drive series featuring synchronous reluctance technology, characterized by very high levels of efficiency. Reluctance motors and converters are specially designed to work together as an Integrated Drive System, enabling particularly efficient operation. Predefined parameters in the form of a code on the motor type plate simplify the commissioning process.



The Simotics reluctance motors with an aluminum or gray cast-iron enclosure cover an output range from 5.5 to 30 kW, achieving high levels of efficiency in full and partial load range.

The new drive series is based on the proven Simotics 1LE1 motor platform, and is designed to interoperate with the Sinamics G120 converters. The Simotics reluctance motors cover an output range from 5.5 to 30 kW and are available either with an aluminum enclosure for general operating conditions (Simotics GP) or with a gray cast-iron enclosure for more aggressive operating conditions (Simotics SD). The synchronous principle means that the speed remains constant, and sensorless vector control ensures optimum performance. Both features enhance the controllability of the drive system. Ramp-up times are short thanks to the motor's low inherent moment of inertia combined with the vector control. The low losses in the rotor result in a high thermal utilization of the motor. In terms of its design and handling, the motor is similar to the 1LE1 asynchronous motors.

The Sinamics G120 standard converter incorporates vector control designed specifically for reluctance motors. The identification of the pole positions prevents jerking movements of the drive on activation, while a flying restart enables synchronization with the running motor. As part of the Totally Integrated Automation (TIA) concept, the drive series is integrated into the automation environment via Profibus and Profinet interfaces.

The reluctance technology is used in process engineering with pumps, fans, compressors, mixers and centrifuges, in materials handling applications, and in the mechanical engineering sector.

The Simotics reluctance motors with an aluminum or gray cast-iron enclosure cover an output range from 5.5 to 30 kW, achieving high levels of efficiency in full and partial load range.

[Siemens](#)

Safety Meets Ex i: One Module, Twice the Safety

A new 4-channel digital input module integrates functional safety and intrinsic safety into one single I/O module of the WAGO-I/O-SYSTEM 750.

Approved for a wide variety of applications: with its fieldbus-independent design that features finely modular components, the WAGO-I/O-SYSTEM readily meets all the requirements made of distributed fieldbus systems. The system's modularity is also reflected in its support of numerous fieldbus systems. Depending on the application, it is possible to choose between fieldbus couplers and controllers (PLC) for different protocols. With 400+ digital, analog and specialty I/O modules, the WAGO-I/O-SYSTEM 750 offers scalable performance and high integration density with an unbeatable price/performance



ratio.

Just 24 mm wide but with guaranteed safety: The 750-663 for PROFIsafe applications is used when safety of personnel is called for in hazardous Zones 0 and 1. This 4-channel digital module is installed in the WAGO-I/O-SYSTEM 750 together with the classic automation components in Zone 2. The four intrinsically safe inputs with functional safety can be used for safety functions up to “SIL 3” and “Cat. 4 PLe.” Despite the combined features, the requirements for users during commissioning remain the same: The safety interface for the new 4-channel digital input module is identical to that for a pure safety I/O module from WAGO.

The input data for the 750-663, together with the other process data, is transferred using PROFIsafe protocols V1 and V2 on one fieldbus line. Inputs are continually monitored for cross circuits and voltage supply from separate sources. Different settings can be made in the I/O module using the WAGO-I/O-CHECK configuration software, such as the operating mode, activating and de-activating of test pulses and discrepancy and filter times. Fieldbus technology for hazardous areas is particularly vital to both process (grain/coal mills, bio-gas/cement plants) and power industries (gas/oil production facilities).

[WAGO](#)

HARTING preLink: Installation Technology with Process Reliability

Robust connection technology / Basis for reliable data streams

Robust and easy to install connection technology – involving only a few separate and simple, quick and reliable to install even under extreme conditions - forms the basis for reliable data streams. This requirements profile derived from practice leads to the concept of the preLink® connectors from the HARTING Technology Group, where the connector face and wiring range consist of two mutually compatible sub-assemblies.



The wiring range is implemented by the preLink termination block that accepts up to eight conductors and can be connected up in one work step with the preLink assembly tool. This simple and speedy assembly procedure remains the same for all preLink products. Thanks to the feedback from the assembly pliers, fitters can be sure that the wiring up has been performed properly. This also makes preLink fault-resilient.

Besides the already available preLink RJ45 jacks, the preLink RJ45 connector with IP20 type suffix and the Han® PushPull in accordance with V.14 (PROFINET and AIDA conformant) are now available.

preLink RJ45 connectors in IP20 are especially suitable for the connection of devices in the field. Data capture terminals, controllers or WLAN access points can be connected up quickly and securely with preLink.

The preLink range is rounded off by M12 connectors D-coded for Fast Ethernet (100Mbit/s) and X-coded for Gigabit Ethernet or 10GB.

[HARTING](#)

Balluff Expands its SmartLight Product Family

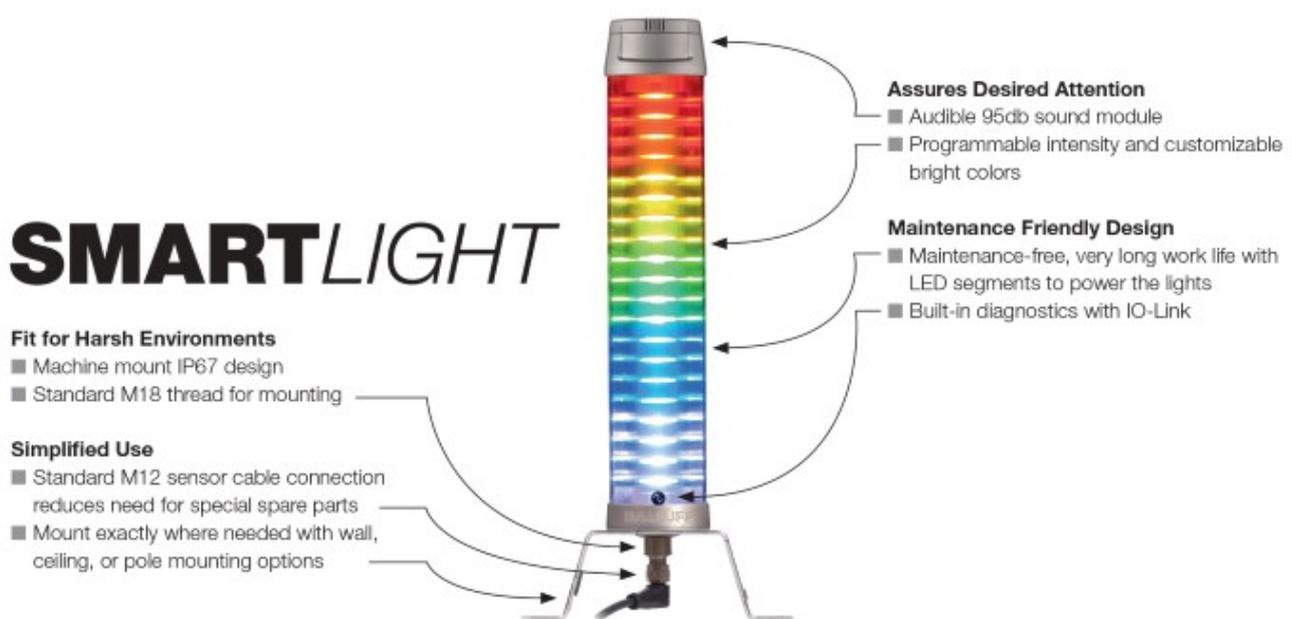
The future of stack light and production visualization is here

Balluff is pleased to announce the expansion of its innovative SmartLight product family. SmartLight is the industry's first, all LED tower light. It is a fully programmable multi-purpose light that offers up to 3 modes of operations: stack light, level indicator, and run light.

The SmartLight's modes of operations can be switched on-demand based on programmed conditions to provide process feedback such as cell operation status, tank fill levels or operator progress along an assembly line, or even to alarm un-safe conditions. To further enhance the functionality, SmartLights have an option for a 95dB buzzer.

"The enhanced portfolio of the SmartLights shows Balluff's ongoing commitment to focused innovation to solve our customer's problems," says Tom Rosenberg, Director of Marketing at Balluff, Inc. "We are seeing tremendous demand for SmartLights and impressive creative uses of it in areas of process feedback to error proofing to efficiency improvements. We are confident that with this expansion of multiple models we will see more and more unique uses of the SmartLight," he added.

The SmartLight is available in 3 models; 1-, 3- and 5-segment with a buzzer option for each model type. Each segment of a SmartLight consists of multiple LEDs and can be programmed for user selectable colors and brightness levels -- ensuring desired attention in the plant.



"SmartLights are designed to reduce complexity and enhance ease of use on the plant floor", says Shishir Rege, Marketing Manager at Balluff Inc. "As each segment of the SmartLight is programmable, a

1-segment SmartLight can be used instead of a 3 or 5 color generic stack light and you never have to worry about spares for individual color lights to power up the stack light."

SmartLight utilizes IO-Link technology, making it adaptable to any major network or field-bus such as PROFINET and PROFIBUS. All configuration and programming for the SmartLight is done in the controller or the PLC. Balluff offers Add-On-Instructions or Function Blocks for ease of programming the SmartLight. It also uses a standard M12 sensor cable for connection.

[Balluff](#)

PROFIBUS Diagnosis for Everyone - Smart Monitoring - Integrated Monitoring

The intelligent PROFIBUS measuring point



iPBMA, a non-reactive measuring point and active bus termination which also provides Profibus analysis.

The intelligent Profibus measuring point iPBMA satisfies the requirement for a non-reactive Profibus measuring point together with simplified network monitoring. Network stability can thus be analyzed automatically and easily without requiring any in-depth Profibus knowledge. iPBMA analyzes and continuously evaluates logical and physical network parameters. The telegram traffic is checked for logically correct operation while at the same time making sure that the signal shape lies within its pre-defined range.

The status is displayed optically by means of an LED color change at the measuring point. This makes it possible for any deterioration in the quality of the communication to be detected at an early stage by simple analysis and allows troubleshooting to be carried out. Measuring points should be installed at the start and the end of each Profibus segment.

The switchable terminating resistor provides for active and reliable Profibus network termination. Pre-switched network components can be replaced, turned off or removed without any effects on the Profibus communication. The sub-D socket allows a non-reactive connection of appropriate diagnostic tools (e.g. PROFI-TM Professional, PROFtest II and PB-INSpektor) without any interruptions to plant operation.

[Indu-Sol](#)
