

PROFINEWS

PROFIBUS & PROFINET news from around the world

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Simple PROFINET Integration for Futureproof Added Value

by Carl Henning - Friday, April 01, 2016

<http://profinews.com/2016/04/simple-profinet-integration-for-futureproof-added-value/>

“What should I do, there are so many features and different ways for integrating PROFINET; it seems to be complicated.” I’ve heard this sometimes from device vendors after their first, cursory look at the PROFINET technology.

But after an investigation of some minutes for a deeper look they stated:

“The selection of the right integration platform with the appropriate scope of functions for our PROFINET device naturally deserves attention to meet our customers’ demands.”

However, this is the only way to create devices that are optimized in terms of both functionality and cost, enabling the manufacturer to integrate unique selling points that bring further benefits for the end user.

That is not complexity; it is a luxury.

PROFINET offers value-added functions such as parallel TCP/IP communication, large configuration limits, and high speed. The diagnostics are best-in-class, topology views enable uncomplicated documentation, and error location is facilitated. There are also some seemingly unimpressive features like the mandatory support of Identification & Maintenance that reduce downtime for end users.

Thanks to the usage of standard Ethernet all possible integration platforms support PROFINET:

- Standard Ethernet controllers
- PROFINET protocol ASICs
- FPGAs
- Hardware chips with PROFINET support
- Modules
- Gateways

The technology providers naturally provide support on the basis of requirements and boundary conditions provided by device manufacturers. Based on this, they gave the input for the new guideline "[Recommendation for Design and Implementation of PROFINET Devices.](#)"

This document guides users through the process from initial questions to market launch of a product. It addresses technological aspects as well as organizational issues such as certification and marketing. And it is enriched with practical tips and information.

However, the PI community can also tackle more extensive innovations, such as those to be expected in the context of Industrie 4.0 and Industrial Internet of Things. Since it complies completely with the Ethernet Standards, PROFINET provides a first-class starting point from which to face the future. This is

especially true in the field of real-time Ethernet. Many innovations are to be expected in the future, from which PROFINET users will, of course, benefit.

Please visit us at the Hanover Fair 2016 (Hall 9, Booth D68) where we will be pleased to discuss the integration of PROFINET in your device



Xaver Schmidt
PI Factory Automation Marketing Group

Hannover Fair Preview

by Carl Henning - Friday, April 01, 2016

<http://profinews.com/2016/04/hanover-fair-preview/>

The PI (PROFIBUS & PROFINET International) booth at this year's Hannover Fair (April 25 - 29, 2016)



will feature the motto "PROFINET - The Backbone of Industrie 4.0."

Visitors

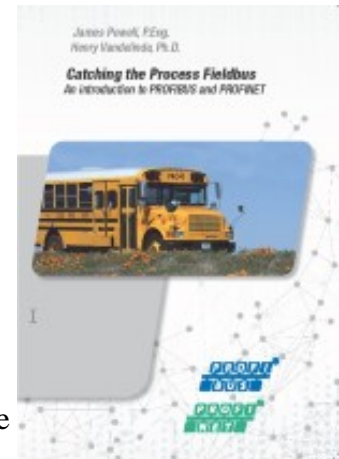
can experience currently available technologies for real-time communication and data networking in various presentations and hold discussions with experts on the spot. The booth of the PI Community (Hall 9, Booth D68) is situated directly on the "Automation & IT Tour." All you have to do is follow the red carpet.

The new PROFINET campaign on device variety is starting just in time for the Hannover Fair. PROFINET is now widely used in the automotive and other industries and is established worldwide throughout production automation and drive technology. Users need a variety of devices that offer PROFINET for their systems. Experts at the PI booth will show how PROFINET can be flexibly integrated in devices.

A live demonstration will be dedicated to process automation. New PROFINET devices will be shown in use. PROFINET field devices, such as encoders, recorders, and flow meters, will be directly integrated in the instrumentation and control system. New proxies show how the technologies of PI provide customers with investment protection for existing systems. For example, new gateways from PROFINET to PROFIBUS PA are available.

A new live demonstration of PROFIsafe consists of a combination of live applications and a device wall. The variety of PROFIsafe products for PROFIBUS and PROFINET, their interaction, and the practical application of safety-related communication between three F-hosts (Safety PLCs) of different manufacturers will be demonstrated. The functioning demo will show optical and electromechanical sensors, I/O modules, Safety PLCs, gateways, and drives.

IO-Link will showcase a new record of over 170 devices from more than 40 manufacturing companies.



This impressive product variety will give visitors to the booth a small glimpse

into the IO-Link devices available on the market.

The PI edition of Catching the Process Fieldbus is available at the booth and PI members receive a discount. The book, in a slightly different format, is also available as a [free download](#).

The PROFINEWS Editor will be available at the booth to interact with visitors and with Regional PI Association members. The PROFINEWS Editor is also the Deputy Director of PI North America.

Hanover Fair Partner Country: USA



John B. Emerson, U.S. Ambassador to the Federal Republic of Germany speaking at the Hanover Fair Preview

President Obama will speak at the Opening Ceremony and the largest contingent of US companies, research institutions, and state and regional economic development organizations will be there.

Dr. Peter Wittig, German ambassador to the United States noted: “Having the USA as the featured Partner Country will give us a golden opportunity to convey our dynamic business relations to the fullest while at the same time widening and deepening them.”

Tech Tip: Suite and Simple Network Management with PROFINET (Part 2)

by Carl Henning - Friday, April 01, 2016

<http://profinews.com/2016/04/tech-tip-suite-and-simple-network-management-with-profinet-part-2/>

In [Part One](#) of this series, we discussed how PROFINET leverages IT protocols such as Simple Network Management Protocol (SNMP), File Transfer Protocol (FTP) and Hyper Text Transfer Protocol (HTTP) to provide easy configuration and diagnostics over the network. Now in part two, we'll cover PROFINET device naming, PROFINET Discovery and Configuration Protocol (DCP), and Link Layer Discovery Protocol (LLDP). Finally, in part 3 we'll cover PROFINET application protocol features. All of these features show the 'simple' side of network management and ease of network troubleshooting when using PROFINET to make it the best and most comprehensive industrial protocol suite around.

A distinctive feature of PROFINET is that all devices are configured with device names in the engineering tool and then the name is assigned to the device by using Discovery and Configuration Protocol (DCP). Using a name makes it much easier to manage the devices on the system and really it's nothing new. Information Technology (IT) actually has used device names on computers and printers and network devices for years so they can be accessed when using Domain Name Services (DNS) instead of always trying to remember the Internet Protocol (IP) address. What was the IP address of the email server again please, the printer, etc.?

It really makes it easier when using descriptive device names such as "Filler-panel2". Now we have a device name, location, and could even put more details into the name for easy device recognition. One might say that it is more to remember (you can also just shorten the name), but that's where the PROFINET function 'DCP identify all' comes in and you can simply browse the network to find all of the available devices and get their related information (name, current IP Address, manufacturer info, and other info) at any time. The PROFINET IO controller (PLC) also uses DCP to automatically set the IP address on the devices at startup, making the device setup and startup process much faster.

LLDP is supported by default in all PROFINET devices. With LLDP, devices send a special "Hi neighbor" message out of each switch port on the device every few seconds to their neighbor stations. The message includes the device name, address info, port info, and more. This information gets stored and can be read out anytime with acyclic PROFINET read requests (mandatory) or optionally through standard SNMP (if supported) per our previous article. An advantage of this information being stored in the devices is that we can read the network topology and determine the health of the expected connections as well as network statistics like bandwidth utilization. This helps us quickly isolate and diagnose network faults. In conjunction with DCP, this gives us the ability to set station names automatically if needed via the PROFINET IO Controller.

DCP and LLDP also enable the use of "simple device replacement" without any engineering tools if desired for worry-free maintenance in case of a device failure and replacement. With this, an IO Controller can automatically set the names, if needed, upon initial power up or replacement device connections. Simple commissioning can thereby be achieved for quick and easy plant start up.

To describe how this works in layman's terms, let's say we had a device fail named "IO3" in our facility and we get a new one out of the box from the tool crib. The new device is going to come out of the box with an empty name and new Ethernet MAC address per the PROFINET standard. After connecting the device to the network the PROFINET IO controller can't find "IO3". However, in a few seconds the neighboring station will send the new device an LLDP message. Again, let's say the neighbor device is named "Switch" and the cable is connected to "Port 4". So, the new device will then get what's called a LLDP alias name (since it doesn't have a valid name yet.) of "Switch.P4". Now the IO controller can also try to find the device via the LLDP Alias name as another try. Once found the device is then issued its actual name "IO3", the startup process completes and the device comes back online. Now that's simple! No extra tools or configuration steps were needed for the replacement device.

Let's step through that process:

<https://www.youtube.com/embed/qFXyAam2EZQ>

In conclusion, PROFINET has the most collective and comprehensive diagnostics suite available of any Industrial Ethernet protocol and its focus is to be simple. This helps make it easy to manage your network, implement diagnostics in your applications, and keep downtime to a minimum.

We'll cover more about the PROFINET application diagnostic side of things in our next tech tip.

To learn more and see how simple it is firsthand, attend one of our [PROFINET Certified Network Engineer classes](#) (hands on) in the near future.

From the [PROFI Interface Center](#) in Johnson City, TN

Training (All US Classes Finalized)

by Carl Henning - Friday, April 01, 2016

<http://profinews.com/2016/04/training-all-us-classes-finalized/>

Global Training 2016

There are over **200** training classes remaining globally in 2016. Visit the [PI global training website](#) to filter by country, technology, and target student. In just April alone there will be training in: Germany, Italy, Dubai, the Netherlands, Ireland, United Kingdom, and France.

In this issue an IO-Link workshop in Italy is highlighted. In North America the training schedule is finalized for PROFINET free one-day training classes, PROFINET and PROFIBUS Certified Network Engineer classes, and PROFINET Developer classes.



Twelve [PROFINET one-day training classes](#) remain in the 2016 series with firm dates and venues set for all: Oklahoma City, Portland, Philadelphia, Cleveland, Milwaukee, Montreal, Boston, Houston, Detroit, Nashville, Cincinnati, and Jacksonville.

Course Evaluations for the first five classes have been very positive. Most students thought the class was just the right length. An overwhelming percentage felt the instructors' knowledge and question handling was "Outstanding." Some representative comments:

"Having the mix of instructors and video was great."

"I would recommend to others."

"Great intro course."

"Great information. I have never had a PROFINET project, but it seems like the technology is superior."

"Learned more than I expected. Thank you!"

"Just to the point."

“Thank you for putting the class together. It is very informative.”

[Certified Network Engineer classes](#) for PROFINET and PROFIBUS are scheduled, as are [Developer Classes](#).

Every seat was filled at the PROFINET one-day training class in Greenville, SC:

Italy IO-Link Workshop

After the successful debut of the IO-Link user workshop last fall in Milan, the IO-Link community will be in Italy again in Piacenza on May 12th. The workshop will take place in the Piacenza Expo and will be held in Italian language. For visitors, the workshop is free of charge.

Our experts will teach you the basics of the IO-Link technology and use real-world examples to show you how easy it is to carry out configuration, PLC integration, device replacement, and much more. Throughout the user workshop you will have the opportunity to talk to our experts and clarify all important issues. Take advantage of breaks to visit our microfair and learn about the offers of individual manufacturers.

For further information and registration please go to <http://www.iolinkworkshop.it/>

Developing a PROFINET Product

by Carl Henning - Friday, April 01, 2016

<http://profinews.com/2016/04/developing-a-profinet-product/>


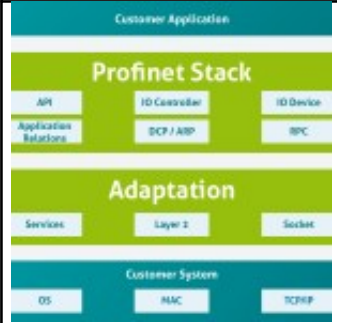
There are so many choices of ways to add PROFINET to an automation device that it is difficult to know where to start. Where to start depends on the type of product, its existing design, quantity expected, and time to market needed.




For a product with an existing Ethernet controller, a PROFINET software stack can be added. This can be written from scratch by reading the spec (not recommended) or buying a stack from one of the many stack providers. For a product being designed from the ground up, there are choices depending on expected quantity and time to market. In decreasing order of complexity, the choices are:

1. Chip
2. Standard Ethernet controller plus stack
3. Board/module
4. External gateway

This order holds true for both *decreasing* expected sales quantity and time to market (complexity). On the other hand, this ordering represents *increasing* cost to implement. All the choices can be accomplished to support PROFINET *and* other networks.

Maybe it's less confusing with a table instead of words:

| | Technology | Cost | Complexity |
|---|--------------------------------------|------|------------|
|  | Chip (ASIC or FPGA) | \$ | ++++ |
|  | Standard Ethernet controller + stack | \$\$ | +++ |

| | Technology | Cost | | Complexity |
|---|-------------------|-------------|---|-------------------|
|  | | | | |
|  | Board/module | \$\$\$ | | ++ |
|  | Gateway | \$\$\$\$ | + | |

Whichever way you go, note that PROFINET products must be certified. For details, view the 19-minute webinar “[A Guide to PROFINET Product Certification](#).” If you are uncertain if certification is required for your product, the deciding factor is: “Does it need a GSD file?” If it does, the product must be certified. (The GSD file, written in XML, defines the unique parameters, values, and alarms for your product.)

There are no administrative hoops to jump through. Unlike some other Industrial Ethernets, there is no contract to sign or royalties to pay.

There are many resources to help you in adding PROFINET to your product:

- Webinar “[The Rapid Way to PROFINET](#).” It presents the PROFINET Product Design Cycle.
- [Developer classes](#). Class attendance is limited to a single company and is regularly scheduled after PROFINET Certified Network Engineer classes in Johnson City, TN. They can also be held at your facility. In either case, they are tailored to your situation.
- Guideline. “Recommendation for Design and Implementation of PROFINET Devices.” See the [article](#) announcing this new resource.

PI North America and other Regional PI Associations and PI Competence Centers like the PROFI Interface Center are happy to help anyone who is developing a PROFINET product. PI members have access to additional resources.

For PI members:

All PROFINET devices must be certification tested in a PI Test Lab. [LINK](#) Wouldn't it be helpful to run the tests that the lab runs at your own facility before going to the lab? Members can... by downloading

the PROFINET IO Test Bundle. This bundle contains

- RT-Tester
- IRT-Tester
- TEDCheck
- Security Level 1 Tester
- Test Specification PN IO devices
- PROFINET Specification
- all PROFINET-relevant Guidelines
- Test cases for all RT-/IRT-/Security Level 1- tests,
- GSDML specification
- GSD-Checker

Other tools available to members on the [international website](#) include:

PROFINET GSD Checker

Use the Checker to check a GSD file, display contents in a table view, check the file validity, and edit with the built-in XML Editor (or call an external XML editor). Sample GSD files are included as a starting point.

PROFINET GSDML Upgrade Tool

If you need to upgrade an existing GSD file to a higher GSDML version, this tool automates the process substantially.

PROFIdrive PROFINET Profile Tester

It supports the development of PROFINET IO devices with PROFIdrive or Encoder Profile application interfaces. Use it to prepare for PROFIdrive certification and also as a test tool to run self-programmed test scripts.

Once you get the lab test results, you can apply for a PROFINET Certificate. Members get a discount on the cost of the certificate.

Now it's time to market your product. PI can help with that too. Place your product in the online product guide and announce it in PROFINETS with a circulation of 225,000.

Guideline for Developing a PROFINET Product

by Carl Henning - Friday, April 01, 2016

<http://profinews.com/2016/04/the-easy-way-to-profinet/>

More and more device manufacturers want to expand their existing fieldbus connection options to include PROFINET or even replace these entirely with PROFINET. PI (PROFIBUS & PROFINET International) has published a new recommendation so that even beginners can easily get started with this process.



The "*Recommendation for Design and Implementation of PROFINET Devices*" addresses technological aspects as well as organizational issues such as certification and marketing. Although PROFINET is a proven, robust, and well-documented technology, a few questions naturally arise especially in the run-up to implementation, such as what is the implementation process, how does one get started, and what are the differences, e.g., compared to PROFIBUS.

The new PI recommendation guides users through this process from initial questions to market launch of a product. Recommendations on further guidelines and specifications are listed for each topic. Included are sections on diagnostic concepts, identification and maintenance (I&M), isochronous communication (IRT), and industry-specific requirements.

The document is enriched with practical tips and information. For example, a variety of information is also included on mechanics, i.e., which housings, connectors, and cables should be used. A major focus is on the GSD section and the application profiles. The recommendations are supplemented by detailed explanations of PROFIsafe, PROFIdrive, and PROFIenergy.

[Download the Guideline](#)

PROFINET Controller and Device Integration

by Carl Henning - Friday, April 01, 2016

<http://profinews.com/2016/04/profinet-controller-and-device-integration/>

The PN Driver for controllers: the right solution for PROFINET controller integration

The PROFINET Driver is suitable for simple applications, e.g. individual PROFINET lines in which the machines are not networked with one another. Because the PROFINET Driver is shipped as source code, proprietary solutions can be ported into various operating systems. Ready portings are contained in the delivery for Windows and Debian Linux.

The hardware configuration can be made comfortably and license-free via TIA Portal. However no engineering tool (such as TIA Portal, STEP 7) is necessary, since the application can be configured by means of an open XML interface.

The PN Driver supports PROFINET real-time (RT) and, when using a real-time operating system, achieves cycle times of as little as 1 ms.

Features overview:

- PROFINET Controller
- Cycle times to 32 ms on Windows and to 1 ms on a real-time operating system
- 16 devices for Windows, 128 devices for Debian Linux
- Fast Start Up
- Shared device
- License-free engineering with TIA Portal V13 SP1
- Option handling
- Automatic addressing
- Adaptation of device and Vendor ID
- Includes six standard examples for machine builder incl. C-Code and Step 7 V13 SP1 projects

ERTEC 200P Evaluation Kit: the right solution for PROFINET device integration

The new ERTEC 200P (Enhanced Real-Time Controller) sets new standards for the communication performance of PROFINET. Designed for cycle times as short as 31.25 μ s, the performance upgrade for PROFINET has been integrated into the ERTEC 200P. With its fast ARM 9 CPU and integrated IRT switch, field devices with the most demanding performance requirements are possible. The reduced chip size allows hassle-free integration into compact field devices. The CPU with clock frequency to 250 MHz allows integration of your own applications, eliminating the need for an external host CPU in many cases.

IO-Link: Did You Know

by Carl Henning - Friday, April 01, 2016

<http://profinews.com/2016/04/io-link-did-you-know-13/>

Did you know that IO-Link enables devices that were previously inconceivable?

IO-Link sets new standards for the design of input/output modules. Whether integrated in the control rack or as a fieldbus module, one and the same module can process a wide range of signals IO-Link masters can replace both binary and analog inputs and outputs. This facilitates spare parts management and enables flexible machine design. There is no longer a need for so many different types of modules.

In the case of IO-Link devices, several analog values or switching points, or combinations thereof, can be transmitted over a single 3-wire cable. This results in significant cost savings and allows manufacturers to eliminate exotic plug connectors. Smart sensors can thus transmit multiple process values along with diagnostic messages and parameters over the standard M12 plug connector. Furthermore, valve controls with IO-Link can control valves, query feedback information, and evaluate diagnostic information of the entire unit.

Smart rotary encoders with IO-Link can be set universally to the required number of pulses per revolution. This is programmed using IO-Link. As a result, solutions for a wide range of different applications are possible with a single rotary encoder type. IO-Link can also be used to transmit the absolute position value, which is used for process assurance.

Thanks to IO-Link, many new ideas are emerging for designing even smarter and more customer-friendly sensors and actuators.

[IO-Link](#)

Regional News - April 2016

by Michael Bowne - Friday, April 01, 2016

<http://profinews.com/2016/04/regional-news-issue-139/>

Italy

The Taste of Innovation with PROFIBUS & PROFINET

PROFIBUS and PROFINET Day Italy, the meeting dedicated to the latest technological developments in Industrial Communication, is returning for 2016. This year the stopovers of the Roadshow will be Alba (13th April), Florence (28th June), and Bari (9th November).



The first event will take place in the Alba countryside, an area well-known for its vineyards and cuisine. At the prestigious “Fontanafredda” wine cellar, PI Italia invites engineers, installers, and system integrators to discover the taste of innovation. Visitors will be able to meet important national experts, who will cover themes like Operating Excellence, Energy Efficiency, and Security. Moreover, important companies will share their experience with PROFIBUS & PROFINET applications.

A spectacular location, high-technology themes, prestigious speakers --all the ingredients for a tasty, unforgettable event.

Participation is *free of charge*. Register at the PI Italia website: www.profi-bus.it

IO-Link Workshop Coming to Piacenza on May 12th

After a successful IO-Link Workshop in Milan, Piacenza will be the venue for a new workshop on May 12th. See the details at the end of the [training article](#).

United Kingdom

2nd UK PROFIBUS / PROFINET / IO-Link Seminar Proves Great Success



"Speakers excellent and provided relevant knowledge without the company blurb!"

That was the comment from Kris Hardaker of United Utilities, reflecting the overall opinion of the nearly 70 delegates that registered for our PROFIBUS, PROFINET, and IO-Link seminar held on Feb 25th at the Manufacturing Technology Centre, Coventry.

The second event of its type in the UK, this free-to-attend seminar addressed the key practical issues arising from the use of digital communications technologies in automated manufacturing and process industry applications. It was supported by a table top exhibition of the latest products from 10 member companies, who were kept very busy in the breaks.

Covering the use of PROFIBUS, PROFINET, and IO-Link in key application areas such as pulp & paper, chemical, utilities, pharmaceutical, packaging, printing, electrical and electronics assembly, robotics, automotive engineering, mechanical handling and logistics, control systems and energy management, the seminar focused on the practical aspects of using these technologies, from system design and safety considerations through to maintenance and fault-finding.

Supported by demonstrations of the actual tools used in configuration and maintenance, these seminar are of great value to Designers, Production/System Engineers, Instrument Technicians/Engineers and C&I Engineers involved in design, operation and maintenance of modern automated factories and process plant.

New Products - April 2016

by Michael Bowne - Friday, April 01, 2016

<http://profinews.com/2016/04/new-products-issue-139/>

Click on a headline or picture below to learn more about the product.



[Flowmeters with PROFINET](#)

Bronkhorst High-Tech announces the availability of a PROFINET fieldbus interface on their mass flow meters and controllers for gases and liquids, as well as their digital pressure controllers. The wide range of digital metering and control devices can be applied in many different markets.



[Microsecond Accuracy](#)

A PROFIdrive controller with IRT functionality from **Hilscher** is now available. As a result, practically any (industrial) PC or any controller platform is able to speak PROFINET IRT and control time-critical drives. These applications are no longer reserved for dedicated NC controls.



[Significantly Increase Safe Outputs](#)

Now it's possible to easily increase in the number of safe outputs within a system by using **Murrelektronik's** combined solution: the modular Cube67 fieldbus system and the safe fieldbus module MVK Metal Safety. That saves spaces in the cabinet because safety relays are no longer necessary.



[Control System with Integrated Fieldbus Diagnostics](#)

With the new Active Field Distributor Simatic AFDiSD which features extended fieldbus diagnostics, **Siemens** is the first supplier to offer fully integrated and extended fieldbus diagnostics for PROFIBUS PA in the process control system Simatic PCS 7.



[Profinet Communication for Enhanced Environmental Conditions](#)

With its new CP 1604 EEC communication processor, **Siemens** is extending its offering for PC modules with Profinet technology to include a variant for enhanced environmental conditions. The CP can be used in rail applications, permitting a system to be approved in accordance with DIN EN 50155 / IEC 60571.



[Portfolio expansion for Basic Controllers](#)

Siemens has added a range of new modules and functions to the Simatic S7-1200 Basic Controllers. One of the new products, the Energy Meter module SM1238, precisely records energy flows. In addition, the Basic Controllers have also been enhanced with the new CPU 1212FC for failsafe applications in the

lower power range. The new release, version 4.2, now includes PROFINET Media Redundancy Protocol (MRP).



[Motion Control Integrated into Engineering Framework](#)

Siemens is launching a matched package for motion control applications on the market, comprising the Simatic Advanced Controller and the Sinamics servo drive system. The new Simatic S7-1500 T-CPU controller handles the control tasks. The new Sinamics V90 servo drive system with Profinet brings the required speed and precision into the machine.



[Small PROFIBUS Master Interface](#)

Softing presents PBpro USB, the world's smallest PROFIBUS master interface for PCs. It is so compact that it easily fits into a PROFIBUS connector housing. The PBpro USB has the size of a matchbox and can be easily stowed in any laptop bag - a convenient companion for mobile use.



[HMI with Codesys PLC and Profinet](#)

Turck is showcasing a new HMI series: the TX500 HMI PLCs with high-end touch displays and fast processors are ideal for use in small to medium-size machines which have processes that have to be controlled, operated and visualized locally. Each TX500 is equipped with a PROFINET master.



[IO-Link Ultrasonic Sensors for EX Areas](#)

Turck is expanding the high-end series of its RUU ultrasonic sensors with 3GD models for use in EX Zones 2 and 22. The new RUU/3GD sensors are provided with switching and analog output, as well as IO-Link interface. With ranges of 40, 130, 300 or 600 cm they are ideally suited for fill level applications in tanks or feeders.



[PLC Functionality for I/O Modules](#)

Turck is showcasing ARGEE – a simple PLC functionality for Turck's block I/O modules. ARGEE enables PLC functions to be programmed directly on the modules. In this way, simple controller functions can be outsourced to the I/O modules, thus relieving the workload on the central PLC. They can be used in PROFINET networks.



[Block I/O Module for Serial Interfaces](#)

Turck is now also offering a communication module with serial interfaces for its ultra-compact TBEN-S Ethernet block I/O series: the TBEN-S2-2COM module comes with two serial ports, which can be individually configured as RS232 or RS485 interfaces as required. The modules can also be run in PROFINET networks without any intervention required by the user.



[Factor 1 Sensors with IO-Link](#)

Turck is showcasing additional uprox3 factor 1 sensors: the BI20U-M30 cylindrical proximity switch offers a switching distance of 20 mm in all materials even with fully flush mounting. The BI20U-M30 is also available with IO-Link so that parameters such as switching distances, hysteresis, or off delay can be set individually.

PROFINETS

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