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North American Edition

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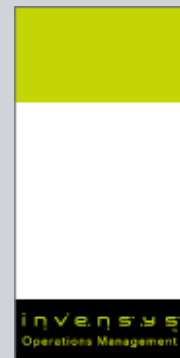


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IN THIS ISSUE

[GOOD PROGRESS AND BROADENING HORIZONS](#)

['ALL THINGS PROFINET' EXPANDS](#)

[TRAINING CLASS SUCCESS IN 2010](#)

[WEBINARS FOR DEVELOPERS](#)

[DEBUNKING THE MYTH:](#) an old piece of misinformation comes back to haunt us!

[WORLD NEWS:](#) Germany, Poland, India, Japan, UK, Netherlands

[TECHNOLOGY UPDATE:](#) Making Life Easier in Process Automation

[APPLICATIONS:](#) China / Automotive; Configuring HART over PROFIBUS

[PROFIpeople:](#) bringing you the 'who's who' of PROFIBUS and PROFINET

NEW PRODUCTS:

- [IP67 RATING FOR GATEWAY](#)
- [PLUG IS ALSO PROXY](#)
- [OVERLOAD RELAY FOR IO-LINK](#)
- [RJ45 IS QUICK TO CONNECT](#)
- [SINGLE DIAGNOSTIC PACKAGE FOR PROFINET AND PROFIBUS](#)

GENERAL NEWS

[GOOD PROGRESS AND BROADENING HORIZONS:](#)

"Welcome to another packed issue of PROFINEWS North America! With 2010 nearly over it is timely to look at the progress being made by PROFIBUS and PROFINET. In 2009 both technologies withstood the economic downturn well, and I believe that 2010 will show outstanding progress too. We will have to wait for the official figures but what I am sure of is that PROFIBUS and PROFINET are helping manufacturers everywhere defeat the downturn. For 2011, PI North America will continue its highly successful program of training classes, webinars, workshops and Certified Network Engineer Classes.




In 2011 these helped nearly 2000 engineers learn about PROFIBUS and PROFINET. We have no doubt that the courses are playing a major part in the success of our technologies in North America, which in turn is helping drive success worldwide. In 2011 we will continue to deliver great value. One aspect we have become very good at is listening to our customers, and our programs are subject to continuous improvement in response to feedback. We are preparing our 2011 programs now so keep checking the web site for [announcements](#). Thanks for your support in 2010".




NEW
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Continuous non-contact ultrasonic level measurement

Endress+Hauser 



PROFIBUS® DP and PA Cables In Stock


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Michael Bryant, Executive Director, PI North America

[Top](#)

'ALL THINGS PROFINET' EXPANDS: The new web site dedicated to PROFINET - www.allthingsprofinet.com - continues to be expanded. As well as new application stories about the successes of PROFINET, a completely new section devoted to PROFINET products from North American vendors has been added. All Things PROFINET is designed as a single entry point for prospective users and developers of Industrial Ethernet, particularly PROFINET products and systems. It answers the many 'how to' questions faced by newcomers and is structured so that different types of user can find a quick route to the information they need to understand how PROFINET benefits can be brought to life in real products and applications. Signposts for End Users, OEMs and Device Developers provide a logical route into and through the site, with 'job title' choices acting as the primary guide mechanism. Even IT managers have not been forgotten as they are often a key decision-player in choosing Industrial Ethernet solutions! [Check All Things PROFINET here.](#)



[Top](#)



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TRAINING CLASS SUCCESS IN 2010: PI North America experienced a record year for its training class program. The final class - at Detroit - ended with a bang when 120 people turned up. Total registrations for 2010 approached 2000 - a considerable success. As we move out of recession it's clear that companies are looking for every opportunity to improve their manufacturing and lower costs. PROFINET and PROFIBUS are world class ways to do this and our classes are an excellent way to find out what they can do for you. The 2011 schedule is due to be published soon - watch [this page for updates](#). Better yet, subscribe to [our RSS feed](#). Classes in 2010 were often over-booked, so early registration is advised.




[Top](#)

Other learning opportunities: The North American series of [Webinars](#) has been added to PI's international web site. Find them [here now](#) too as well as at www.us.profibus.com, with additional webinars about Energy Management, Industrial Wireless and Safety.

For full immersion in PROFINET and PROFIBUS technology, consider our 4-day Certified Network Engineer classes. These are held in conjunction with the PROFI Interface Center (PIC) in Johnson City, TN. Attendees who successfully complete the written and practical tests are rewarded with the title 'Certified Network Engineer'! They also earn 24 Professional Development Hours (PDH). Classes run Monday through Friday. There's one left in 2010 - [in December](#).



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[Top](#)

WEBINARS FOR DEVELOPERS: As well as ['All Things PROFINET'](#) there are other opportunities for developers to learn about PROFINET. If you are adding PROFINET to your products try our PROFINET Developer webinar series for instance. [The Rapid Way to PROFINET](#) begins with an overview of the development process and the types of tools available to accelerate your effort. The series continues with specific tool providers showcasing their solutions. PROFINET Development Kits from the PROFI Interface Center is the [first in that series](#).

[Top](#)

DEBUNKING THE MYTH: We've been amazed to find that an old myth about PROFINET has re-surfaced! And how!

There's an old document floating around that has been shown to potential PROFINET users. It argues that any standards-based solution that alters IEEE 802.3, bypasses or modifies the TCP/IP suite, and/or lacks an appropriate application layer is not 'standard'! Further, special chips are roundly condemned and non-COTS hardware should be avoided at all costs. Therefore, PROFINET is 'non-standard'! Along with most of the others, except ... you've guessed it - Ethernet/IP.



PROFINET does not modify IEEE 802.3 or modify the TCP/IP stack – it fully utilizes both for parameterization and IT communications. But the TCP/IP stack adds delays and jitter so when true real-time is needed PROFINET avoids it. Many IT protocols do the same. You can still use a standard Ethernet chip if you want ... and COTS hardware. As for the applications layer - we can all do http, email and the rest! It's what the protocol itself delivers that really matters.

We have no shame in dusting off our famous 'Pretty Polly, Sweet Sue and the White Knight' booklet, which points out the fallacies in their ancient argumentation, using a mix of fact and satire. You can [download it here](#) for the full myth-busting experience.

Remember: PROFINET passed 2,100,000 installed nodes at the end of 2009 and 2010 looks set to be a lot better than 2009. Like PROFIBUS before it in the fieldbus market, PROFINET is set to become the world's favorite Industrial Ethernet very soon.

Market success ... isn't that the best definition of 'standard' there can be?

WORLD NEWS

GERMANY: Two PROFINET user workshops were held in October, together with a 'Meet the Experts' seminar. **POLAND:** INTEX has become the first PI Training Center in Poland. INTEX has been supporting users in Poland as a PI Competence Center since 2005. The first certified training classes are planned for the beginning of 2011. **INDIA:** The Indian PROFIBUS, PROFINET Association (IPA) now has 18 active members. IPA participated in the Automation 2010 Fair in Mumbai in September with its own booth. A conference, held to present PROFIBUS and PROFINET, was attended by about 140 delegates and IPA won an award (left) for the 'best technology presentation'.

JAPAN: Japanese PROFIBUS Organization (JPO) moved to a new location in August. It has a PROFIBUS test



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laboratory facility, plus a small seminar room. Pictured (right) at the new test facility is JPO's Motoyoshi-san. [UK](#): A



class on the configuration and deployment of industrial wireless networks is being held at the MMU PI Competence Center in November, in conjunction with Daconi Wireless. [NETHERLANDS](#): The web pages of the newly-renamed PI Netherlands have just gone live at www.profibus.nl. Uniquely, they are fully integrated into the main international PI web site and feature extensive Dutch translations of PI resources.

[Top](#)

TECHNOLOGY UPDATE

MAKING LIFE EASIER IN PROCESS AUTOMATION:

With PROFIBUS, the use of manufacturer-specific description files means that users have to replace a process field device with an identical one. The recent introduction of PROFIBUS PA Device Profile 3.02 changes all this, as a new field device can now automatically assume the device version of an older device without interruption to the process. The replacement device thus presents itself to the control system as its predecessor, even though it may be 10 years more advanced. This brings valuable benefits. During a subsequent planned shutdown, the new functionality can be integrated by updating the description file. The same applies to the integration of an EDD or a DTM during a device replacement. It is also possible with Device Profile 3.02 for a new device to assume the functionality of several predecessor versions.



Device Profile 3.02 has recently undergone tests at BIS Prozesstechnik in Frankfurt, where one of the world's largest multi-vendor fieldbus test installations (see above) is installed. The laboratory is also a test center for EMC and actuator technology (SIL, CE, TA-Luft), a PI Competence Center (PICC) for PROFIBUS, and a Fieldbus Foundation Center of Excellence.

In the Profile 3.02 tests, two scenarios were considered: first, the replacement of an existing device while the process was running and, second, the display of status signals according to NE 107. Two field devices – a Samson actuator and an Endress+Hauser head transmitter – were tested in combination with five different control systems from Siemens, ABB, and Schneider. Three types of segment coupler were included in the tests.

To start, a PA device assembly was configured and commissioned for each control system. Each was then replaced with a newer version. The cyclic transfer of measured values and the status of the measured value were monitored. The tests also included the mapping of specific diagnostic information onto four standardized categories according to NAMUR Recommendation 107. Different error scenarios were simulated. All tests were successfully passed.

Profile 3.02 can also handle faster uploading of parameters for optimizing transmission times. Different quantities of data must be transferred depending on the life cycle phase. Thus, a portion of

the parameters must be adapted during commissioning, another portion during subsequent maintenance activities, and a large portion during device replacement. Depending on the functionality of the device, it is not unusual to deal with 300 parameters. The new PA Profile 3.02 optimizes the transfer by grouping parameters. This allows the transfer times to be reduced many times over (5- to 10-fold, depending on the data quantity). These functions are not yet available in devices so further testing will be carried out later.

[Top](#)

APPLICATIONS

CHINA / AUTOMOTIVE : As the fourth biggest passenger-car seller in China, Chery Automobile China, is enjoying great success. It is upgrading its transfer press line and increasing throughput by adopting state-of-the-art safety systems. PROFINET with integrated PROFIsafe is being used for automating the feeders between the individual press stages, based on Siemens SIMATIC safety products. PROFINET IRT is employed to enable virtual real-time communication within the system and to synchronize the feeders within one millisecond. CBE 20 communication processors with integrated ERTEC chips ensure that the SINAMICS converters respond equally quickly. PROFIsafe meets the strict European safety requirements of SIL 3 (Safety Integrity Level 3). The PROFINET bus architecture is open and can be enhanced at any time. No separate bus structures or cable systems are required for the safety-specific functions or for the drive synchronization. Thanks to the uniform bus structure of the system controller, drives and peripheral systems, Chery is able to reap considerable savings. The whole system runs on a single platform, resulting in significant cost reductions for engineering, commissioning, maintenance and ongoing production. It has helped Chery increase throughput by 15% compared with manual systems.

CONFIGURING HART OVER PROFIBUS: A large number of 4-20mA transmitters are compatible with the HART protocol and in some cases are connected to the control system via PROFIBUS networked remote I/O. A remote I/O can diagnose whether the 4-20mA HART signal is within its limits - i.e. locate a wire break - however it does not in itself allow any real connectivity to the device. In the absence of a HART multiplexer, these devices are only configurable using a handheld communicator or a HART modem. Unlike PROFIBUS PA instruments that can be viewed in multidrop mode, this necessitates connecting to each device separately in order to set the desired parameters. The result is that the user must go into the field to do a job that can otherwise be undertaken from the control room. The problem can be resolved however if the HART bypass capability of the remote I/O station such as STAHL IS1 is utilized. This is a commonly unused capability of HART devices. Gateways such as Endress+Hauser's Fieldgate FXA720 in combination with Fieldcare from E+H facilitate such a process and can be connected to the internet allowing communication with the HART devices over a PROFIBUS network from any location in the world. For fuller details email info@profibus.ie

[Top](#)

PROFpeople - the 'who's who' of PROFIBUS and PROFINET

DOLF VAN EENDENBERG: PI North America is one of 27 Regional PI Associations (RPAs). Because so much of automation knows no borders, we thought we should introduce some of the other RPAs. You might have a plant or a

customer in that area. First up is Dolf van Eendenberg who heads the RPA in the Netherlands and Belgium. Having two countries operating as an alliance brings benefits to both, says Dolf, because costs and efforts can be shared. A former Siemens sales engineer, Dolf has been a full-time employee of the Dutch and Belgian RPA since 2001 and is supported by part-time secretaries in each country. Membership in the Netherlands is now approaching 100 and in Belgium it's over 50 which, for small countries, is a significant achievement. That's because we operate as a fully professional organization, says Dolf. RPA activities include an annual 'PROFIBUS, PROFINET & IO-Link Day', which in 2010 attracted 200 attendees. "This is one of our best events," says Dolf. The focus is on neutral speakers delivering benefits-oriented presentations - a key requirement today because many plants have lost many of their technical skills. Other events include industry fairs. "These are important because they allow us to target fieldbus 'newbies', he says. "Even now, there are many people who don't know about PROFIBUS and PROFINET." In process automation he estimates that 80% of users don't use fieldbus at all, so "there's lots of work still to do". Dolf has just helped complete a special section of the main PI web site where many PI resources can be accessed in the Dutch language. Find this at www.profibus.nl



[Top](#)

NEW PRODUCTS

IP67 RATING FOR GATEWAY: netBRICK is an IP67 rated gateway designed to provide industrial network connectivity in harsh environments. Each unit utilizes M12 connectors for connectivity to leading industrial automation networks including PROFIBUS and PROFINET. Each supported protocol conversion is pre-programmed, making the mapping of I/O straightforward. netBRICK can be a Slave or Master. It's enclosed in a durable plastic housing that can withstand long term effects like warping. The gateway is secured with lockdown screws and can be mounted inside or outside a cabinet installation, indoors or outdoors. [HILSCHER](#)



[Top](#)

PLUG IS ALSO PROXY: This device, essentially a plug and socket housing, integrates any PROFIBUS DP Slave into a PROFINET network. It operates as a PROFINET IO-Device and maps the process data from the DP slave to a PROFINET-enabled device. The automatic generation of the GSDML-file makes integration in the controller's configuration tool effortless. It is powered from the PROFIBUS cable and is a simple way to keep existing PROFIBUS devices operational on networks being upgraded to PROFINET. [HILSCHER](#)



[Top](#)

OVERLOAD RELAY FOR IO-LINK: The communication-capable electronic overload relay 3RB24 for IO-Link completes the Sirius modular system for overload relays and supports the assembly of load feeders for current ratings up to 820A. The IO-Link standard allows for the read-out of current values, diagnostics and locally set parameters as well as their transmission to a higher-level controller. As part of the Sirius modular system and in combination with contactors the overload relay can also be used with direct, reversing and star-delta starters. [SIEMENS](#)



[Top](#)

RJ45 IS QUICK TO CONNECT: The PNO Guideline specifies AWG22 wires for configuring PROFINET topologies. These new RJ45 plug connectors with Quickon fast connection technology for PROFINET allow four AWG22 wires to be quickly and reliably connected. Assembly requires no tools - wires are simply inserted into the flap, cut off, and then contacted by pressing down the flap. The connectors come pre-assembled so no small parts can get lost. [PHOENIX CONTACT](#)



[Top](#)

SINGLE DIAGNOSTIC PACKAGE FOR PROFINET AND PROFIBUS: This new software package enables PROFIBUS and PROFINET networks to be monitored with one package. The concept consists of a web-based software tool and a network access point which is available for fixed installation or for mobile use. Intuitive handling, protocol-independent diagnostics and uniform displays make using the package really simple. An automatic alert allows short reaction times in case of failures. Diagnostic information is available directly or can be integrated into higher-level applications via OPC. The package will be presented at SPS/IPC/DRIVES in November. [TREBING + HIMSTEDT](#)



[Top](#)

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