

PROFINEWS

PROFINET and PROFIBUS News for North America

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6 Reasons to Give PROFIBUS PA Another Look

<http://profinews.us/2014/06/6-reasons-profibus-pa/>

Fieldbus systems have a proven track record that goes back to the early 1990's, and PROFIBUS has been at the forefront. These systems are deployed throughout the industrial automation landscape in the automotive, machinery manufacturing, food & beverage, pharmaceutical and chemical industries. Somewhere in the region of 50 million PROFIBUS nodes are currently installed in the field. They ensure reliable process data transport, simplify engineering design and installation, and play a key role during ongoing operation.

[CLICK HERE TO READ THE WHITE PAPER](#)



6 Reasons to Give PROFIBUS PA Another Look

PROFIBUS PA has been used in process automation for more than 10 years. Around 7.5 million field devices already communicate using PROFIBUS PA links, generating significant value-add for users. Device power and process data as well as device status signals and diagnostic data are delivered via the bus cables.

Tech Tip: Which Switch for PROFINET

<http://profinews.us/2014/06/tech-tip-which-switch-for-profinet/>

Should you use a managed switch or an unmanaged switch with PROFINET? Yes. Yes, you should use either a managed or an unmanaged Ethernet switch with PROFINET.

Unmanaged Switches

An unmanaged switch has no built-in intelligence except to send incoming Ethernet frames out the correct port – the port to which the destination device is connected. And only that port. For diagnostics it has LEDs. Each port has an LED indicating that there is Ethernet traffic. There is no way to tell



how much bandwidth is being consumed. There is no way to tell if there are lots of re-tries. You can buy such a switch at Best Buy. There is a 5-port Linksys switch on bestbuy.com for \$33.99. It meets the minimum requirements for PROFINET; that is, it's a 100Mbps full-duplex Ethernet switch. It also includes the QoS (Quality of Service) feature that is recommended for PROFINET. Since PROFINET frames are automatically marked with a priority higher than TCP/IP frames, a PROFINET frame gets a head start if a TCP/IP frame and PROFINET frame arrive at the same time. The PROFINET frame gets sent out first.

Managed Switches

A managed switch adds intelligence that an unmanaged switch does not have. A number of IT protocols are useful with managed switches including SNMP (Simple Network Management Protocol), LLDP (Link Layer Discovery Protocol), and IGMP (Internet Group Management Protocol). Let's dispense with IGMP right off the bat – PROFINET does not need it. Protocols that multicast their real-time IO data do need it. PROFINET unicasts. SNMP and LLDP are specialized protocols for retrieving data that switches save. For example, if you think it is important to be alerted if there are an excessive number of re-tries, SNMP can help. If you want to see what bandwidth utilization is in real-time, SNMP can help. LLDP allows software to extract the network topology. LLDP also enables one of the wow-factors of PROFINET: replacing a device with no software tools needed and no switches to set. You can see how that is done in this [MinutePROFINET video](#) and watch it being done in [this video](#) from our PROFINET one-day training classes.

There is a saying that goes:

“You will either use a managed switch... or wish you had.”

A managed switch provides information that can help prevent downtime and speed troubleshooting when the line does go down. The more expensive downtime is in your facility, the more important it is to invest in a managed switch. It is an investment. Managed switches cost more. But the incremental cost is trivial compared to the cost of downtime. Up to now, you probably think this topic covers standalone Ethernet switches. That is true. But managed switches are also contained within PROFINET devices. So the same kind of diagnostic information you can extract from a standalone switch can be extracted from a switch in a PROFINET device.

You can use an OPC-SNMP server to read information from a managed switch and display it and alarm it in an HMI. It's wonderful that the information can be seen in an HMI, but what if you want the controller to take some action as a result of diagnostic information? PROFINET does that.

PROFINET Switches

An Ethernet switch can also be a PROFINET device! The switch will look like IO to the PLC. This means the switch will have a GSD file just like any other PROFINET device. And the GSD file will define what diagnostic information can be read. For example, if a device is unplugged from a switch port, the PLC logic can execute an appropriate action. This is even more valuable if the switch is an MRP device (Media Redundancy Protocol). Here's a one-minute refresher on redundancy:

If the switch reports a failure in the ring, the PLC can alarm it and act on it. In fact, it can pinpoint where the break in the ring is, simplifying the maintenance response. Many vendors supply Ethernet switches that are also PROFINET IO devices, including Cisco, Siemens, Moxa, Phoenix Contact, Harting, and Hirschmann.

With PROFINET you can use an unmanaged switch, a managed switch, or a switch that is also PROFINET IO. It's good to have options. But, even though you can, don't use an unmanaged switch unless you can afford... the downtime.

Tech Tip: Installing PROFIBUS Terminators

<http://profinews.us/2014/06/all-power-to-the-terminators/>

Training, installation and design guru Andy Verwer provides more essential information for installing PROFIBUS networks correctly and efficiently. Good training can really help, he says.

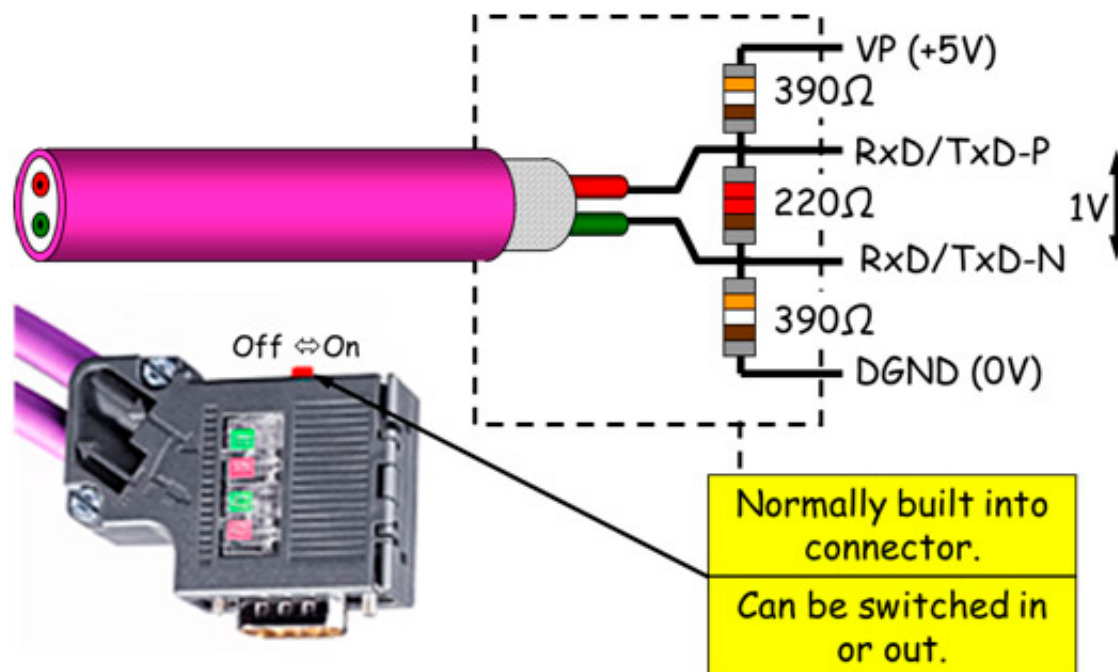
It is widely known that PROFIBUS cabling must be properly “terminated” in order to stop reflections on the cable that can corrupt telegrams and give bad communication, or even worse, give intermittent problems.

The terms “terminated” and “terminator” refer to resistor networks that are placed at the ends of the cable to absorb the energy of the signal and so avoid any reflections.

Termination is not unique to PROFIBUS

Any high speed or long cabling is subject to reflections. However, it is only really a problem with high frequency signals and/or longer cable lengths.

On PROFIBUS DP (RS485 wiring) we use a simple network of three resistors that is powered by a 5V supply. The resistors are normally in the



they can be in the device itself.

connector, but

The resistor values are chosen to match the characteristic impedance of the PROFIBUS cable (nominally 150?) and the 5V power produces a bias across the wires of about 1V which gives immunity to up to 0.5V of interference or pickup on each wire.

Don't succumb to "general ignorance"

There are many problems that can occur caused by general ignorance of the rules for where and how to apply terminations.

The rules for termination are very simple:

1. Each segment should be terminated at the two ends and nowhere else.
2. The terminations must be powered at all times.

A segment here means a section of cable that is isolated from other sections by repeaters, fiber optics or other such devices.

Common problems

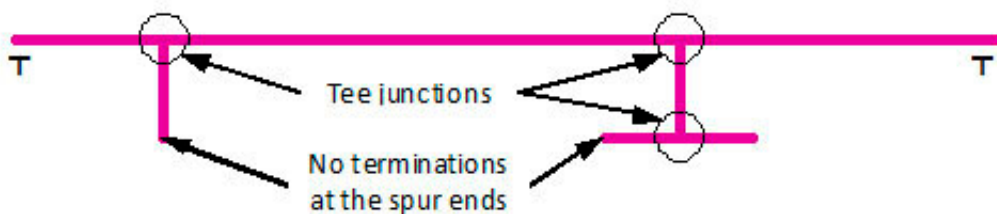
We will have a quick look at one or two problems that are commonly seen. Firstly, it is not unusual to see resistors incorrectly switched on in the devices. This will give additional termination, which could be in the middle of the segment or even give double termination at the end. Either will cause significant reflections.

Another more subtle misunderstanding involves what are called spur lines or stub lines. This is where a Tee junction is used to branch off the main segment line. Spur lines are generally to be avoided in high-speed networks, but short spurs can be used at lower speeds.

Unfortunately each Tee junction that is introduced in a segment gives us another cable end.

The rule says terminate at the "two" ends, but now we have more than two. These spur lines, if used must not be terminated.

Never have more than two terminations on a segment. Better still, avoid using spurs!



Power issues

A more subtle problem occurs with the power to the terminators. If the last device on our segment is powered down or unplugged (for example when isolating a drive, or replacing a device), the missing

power on the termination network will cause reflections and also the 1V bias giving noise immunity will disappear.

An example of this last problem was recently found on a wind turbine installation. The turbine employed a PROFIBUS network to communicate with sensors and actuators in the turbine head where the blades are mounted. This turbine was showing occasional control system errors which caused the generator to fail fairly regularly.

To locate the problem the engineers lowered the mast and did a check on the system. The checks were carried out by connecting an engineer's panel to the end of the PROFIBUS cable. Upon checking the system each time no problems were found.

So the engineer's panel was unplugged and the turbine raised again to operational position. Unfortunately the problems continued. What was going on?

Well the engineer's panel was supplying the power to the terminator at the segment end, but of course only when it was connected. As soon as the panel was unplugged they had an unpowered terminator.

This was actually easily solved by introducing a separate active terminator which was permanently powered and independent of the engineer's panel.

Good training helps

There are many ways that the simple installation rules can be misunderstood or incorrectly applied. Certified installation training is available from accredited PI training centers across the world and this one-day course helps to avoid problems caused by incorrect design, layout and installation. Further details can be found [HERE](#) for North America.



Andy Verwer is director of Verwer Training & Consultancy Ltd, Technical Officer for the UK PROFIBUS Group and a leading member of the PROFIBUS International working groups for training, installation and design. Andy has over 40 years of experience in automation and control systems across a wide range of industries, and he delivers training worldwide. Further details [HERE](#).

Introducing: Online Forums at PI North America

<http://profinews.us/2014/06/introducing-online-forums-at-pi-north-america/>

Got a burning PROFIBUS or PROFINET question? Ask it on the new Forums at us.profinet.com!

Moderated by the PROFIBUS and PROFINET experts at the PROFI Interface Center in Johnson City, TN, and supervised by us here at PI North America, the Forums will provide a centralized location to find answers. Aren't sure how many devices per PROFIBUS segment? Trying to understand naming convention in PROFINET? Looking for a specific piece of documentation that you can't seem to find? These are the types of questions we are prepared to answer for any and all users of the technologies.

[GO TO THE PROFIBUS FORUM](#)

[GO TO THE PROFINET FORUM](#)

Training Class Update (Issue 66)

<http://profinews.us/2014/06/training-class-update-66/>

This will be a record year for PI North America, with respect to our one-day training classes. Average attendance for 2014 at our PROFINET classes is **up 25% this year**.

What's driving this interest?

Students range from End-Users, to OEMs, to Systems Integrators. But in addition to that, more Vendor companies are informing their customers about the classes. And why wouldn't they?

- It's a free class
- With very little commercial content (i.e. not a sales pitch)
- Students can earn 5.5 Professional Development Hours
- Lunch is included
- The content is basic enough for a beginner but thorough enough for a seasoned user

Interest plus engagement

Not only is interest piqued (pun intended) but engagement has also peaked. Students are asking questions like:

1. For the different protocols at Layer 7 of the ISO/OSI model (Application Layer), do each of them (i.e. does PROFINET) use it's own port number?
2. Do I need a managed switch for Simple Device Replacement?
3. What about PROFINET performance over wireless?

Join PI North America for a [PROFINET Training Class](#) in any of the following cities.

City	Date
Vancouver, BC	7/29/14
Nashville, TN	9/9/14
Las Vegas, NV	10/9/14
Detroit, MI	10/22/14
Portland, OR	11/4/14
Salt Lake City, UT	11/18/14
San Jose, CA	12/4/14

Register now, space is limited.

(Answers: 1. Yes it does, but it's only needed for TCP/IP communications, not Real-Time; 2. LLDP is

needed for Simple Device Replacement, which is typically a feature of managed switches; 3. It depends on a lot of factors, come to a class to find out!)

Certified Training Classes (Issue 66)

<http://profinews.us/2014/06/certified-training-classes-issue-66/>

Ever wonder what goes on in a PROFItch Certified Network Engineer (CNE) class?

While the courses all last 5 days, the agendas are quite different for PROFIBUS DP, PA, and PROFINET.



PROFIBUS DP:

- PROFIBUS Overview
- Network Setup & Debug
- Telegrams Overview
- PROFIBUS Bus Monitor & Debugging
- New Features/Profiles

The PROFIBUS DP class has additional emphasis on setup and troubleshooting of PROFIBUS DP networks. The PA portion of the DP class is a demonstration of the technology and tools without the “hands-on” experience of using PA.

PROFIBUS DP/PA:

- PROFIBUS DP and DP-V1 Review
- Manchester Bus Powered (MBP) Transmission technology
- DP/PA Couplers and Links
- Network Components
- Parameters and Profiles
- Engineering Tools

The PROFIBUS DP/PA class offers less trouble shooting and debugging of DP, devoting more time for “hands-on” setup of PA instruments and networks in addition to using PA Engineering tools. Attendees

who pass the practical and written exams for both PROFIBUS classes are eligible for the PROFIBUS Network Engineer Certificate. Participants opting for the DP/PA class will receive a PROFIBUS PA Engineer Certificate as well.

PROFINET:

- Ethernet Basics
- Network Infrastructure
- PROFINET Overview
- PROFINET IO
- Ethereal / Wireshark
- ProfinetCommander
- PROFINET GSDML
- Additional Features

Register for [Certified Training](#) at the [PI North America](#) website.

Member News: Softing Acquisitions

<http://profineews.us/2014/06/member-news-softing-acquisitions/>

- *Softing acquires the Industrial Communication product portfolio of Trebing + Himstedt*
- *Softing to acquire Online Development Inc. (OLDI) in Knoxville, TN*



Softing, a leading provider of industrial communication technologies and products for network diagnostics took over the Industrial Communication product portfolio Industrial Communication of Trebing + Himstedt on May 1st, 2014.

Through this acquisition, Softing complements the existing product range, particularly in the area of network diagnostics. Among others, the acquired program includes products for monitoring industrial networks. These products enable specifically the users of PROFIBUS, PROFINET, and Industrial Ethernet to realize state-of-the-art Asset Management solutions for maximizing the availability of their manufacturing facilities.

Softing also announced the acquisition of Online Development Inc. (OLDI), an original design manufacturer (ODM) that designs and builds industrial products for leading factory automation companies. OLDI will operate as an entity under Softing North America.

“OLDI’s 25 years of experience in developing factory automation modules and Softing’s industrial communications expertise offer customers a powerful combination of market-leading products and product development capabilities,” said Dr. Wolfgang Trier, CEO of Softing AG. “Moreover, with this acquisition, we can handle everything from device-level I/O to enterprise-wide communications.”

“Softing’s software development and communications products are a great fit with OLDI’s product development skills in computing, communications and I/O modules,” said Ron Monday, CEO of OLDI. “OLDI will continue as an ODM, developing products for market leading companies under their brands.”

OLDI’s headquarters will remain in Knoxville, TN/USA. OLDI-branded products will continue to be sold and supported with current channel partners.

[SOFTING](#)

Social Media Update (Issue 66)

<http://profinews.us/2014/06/social-media-update-66/>

What are Application Profiles? Check out the latest MinutePROFINET video to find out:

Twitter Update

Activity over on Twitter has been picking up with more 'retweets' and 'favorites' in recent weeks. Join in the conversation by including @AllThingsPROFI in your messages. Here's one in particular:

Five Things You Should Tell Your Boss about PROFINET: <http://owl.li/wxB0B>



PROFIblog

[Managed switches or unmanaged switches for PROFINET?](#) That is the latest question answered by our resident PROFINET expert, Carl Henning over on the PROFIBlog.

World News (Issue 66)

<http://profinews.us/2014/06/world-news-issue-66/>

News from Chile, the Middle East, and the UK this month. Chile now has a Regional PI Association, PI Middle East participated in a trade show in Saudi Arabia, and the UK has their annual conference this month.

CHILE



Chile became the latest Regional PI Association (RPA). Rodrigo Pinto, leader of the PICC and PITC RP Ingenieria in Chile, is the new Chilean Chairman. He sees huge demand for a local RPA to support and market PI technologies in the Spanish-speaking Latin American countries. Rodrigo began his association with PI as a member of PI North America.

SAUDI ARABIA

ASM attended the recent Metal & Steel Saudi Arabia in Riyadh, the leading B2B gathering in the Gulf



region for steel, steel fabrication and metallurgy industry. They've also been busy with various courses, including PROFIBUS troubleshooting seminars at Al Shuqaiq, and at SWCC in Abha. [MIDDLE EAST](#)

UK



The UK PROFIBUS Group has issued an invitation to their next Conference, to

be held on 23-24 June 2015 at The Stratford Manor Hotel, Stratford-upon-Avon. [MORE HERE](#). The two-day conference is designed for engineers, managers and indeed anyone concerned with implementing fieldbus and/or industrial Ethernet technologies, and will concentrate on the real issues of implementation, maintenance and management of PROFIBUS and PROFINET systems. A Call for Papers is [HERE](#). [UK](#)

New Products (Issue 66)

<http://profinews.us/2014/06/new-products-issue-66/>

New Products:

New multi-master IO, a weight processor with PROFIBUS, automation computer with PROFINET, a fail-safe high-end controller, cabling, and PROFIsafe modules are some of this issue's new products. Click the headlines below for more details.



[Ultra-compact Multiprotocol I/O Modules](#)

Turck presents the first ultra-compact, digital block-I/O modules of the new TBEN-S (Small) series. The fully potted IP67 modules are only 32 mm slim and 144 mm short and allow the assembly directly on the machine.



[Weight Processor with PROFIBUS DP Connectivity](#)

Hardy Process Solutions has announced the release of a PROFIBUS DP communications option for its field-proven HI 6500 series of weight processors. The Hi 6500 series has a big, bright multi-channel display and delivers fast, high-resolution weight readings.



[Embedded Automation Computer with PROFINET](#)

Advantech Industrial Automation Group releases the UNO-2362G Embedded Automation Computer with an AMD G-series dual core processor, daisy chain network capabilities, as well as the new iDoor technology. Modules for the iDoor system include PROFINET, among others.



[Failsafe High-End Controller](#)

The Siemens Industry Automation Division is expanding its new Simatic S7-1500 generation of controllers with the most powerful failsafe CPU so far - the Simatic S7-1518F. The new failsafe CPU is suitable for high-end standard and safety-related applications in machine and plant automation.



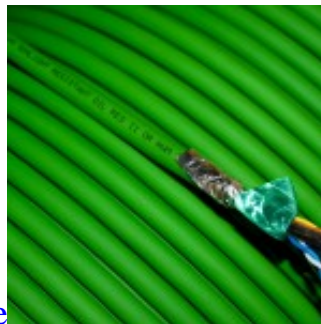
[New 8-Channel Current or Voltage Input Modules](#)

Acromag has expanded its BusWorks® XT Series of Ethernet I/O modules with XT1210 and XT1220 models that provide an 8-channel interface for analog voltage or current input signals for PROFINET, or peer-to-peer communication. Differential inputs have superior noise rejection for reliable measurements when radio frequency or electromagnetic interference is present.

[Fast and Compact Controller in a Robust Housing](#)



The new AXC 1050 controller from Phoenix Contact's Axiocontrol range provides excellent performance and easy usage. It is particularly suited for installation in harsh industrial settings. A range of communication protocols are available, including PROFINET.



[PROFINET Cabling Now Available](#)

The trusted Quabbin® and DataMax® branded cables offer a variety of PROFINET solutions. Whether your application requires Type A, B or C we have you covered. Our PROFINET cables also come standard with PLTC/ITC (Power Limited Tray Cable/Instrumentation Tray Cable) ratings.



[PROFIsafe Integration with a Simple Module](#)

The IXXAT Safe T100 offers device manufacturers an easy way to control safe I/O signals using a safe field bus protocol. The module meets the SIL3 safety requirement level as defined by IEC 61508 and Performance Level PL_e / Category 4 in IEC 13849-1.

Ultra-compact Multiprotocol I/O Modules

<http://profinews.us/2014/06/ultra-compact-multiprotocol-io-modules/>

The 32 mm slim TBEN-S modules from Turck can be operated automatically in Profinet, Modbus TCP or EtherNet/IP thanks to the multiprotocol communication

Turck presents the first ultra-compact, digital block-I/O modules of the new TBEN-S (Small) series. The fully potted IP67 modules are only 32 mm slim and 144 mm short and allow the assembly directly on the machine. With their extended temperature range from -40 °C to +70 °C degrees, the devices are highly versatile in application. Despite the compact design every TBEN-S module can be operated without



additional gateways in each of the three systems Profinet, Modbus TCP or EtherNet/IP. Thanks to the utilized Turck multiprotocol technology in this series, the devices recognize the used protocol automatically by listening the communication during the start-up phase. An integrated switch allows the use of the devices in line topology.

The TBEN-S modules will be available in five variants in the fourth quarter: each with four digital inputs and outputs, eight digital inputs with module diagnostics, eight digital inputs with channel diagnostics, eight digital outputs as well as eight universal digital inputs and outputs. The outputs switch a current of up to 2 A. Each output channel is continuously monitored by the integrated diagnostic system with circular buffer, which simplifies troubleshooting and reduces downtimes significantly. The internal web server, which can be used to display diagnostics in plain text, also contributes to this. The web page has been set up following the concept of "Responsive Design" so that a smartphone can also be used for easy diagnosis.

[TURCK](#)

Hardy Process Solutions adds PROFIBUS DP connectivity

<http://profinews.us/2014/06/hardy-process-solutions-adds-profibus-dp-connectivity/>

Hardy Process Solutions has announced the release of a PROFIBUS DP communications option for its field-proven HI 6500 series of weight processors. The HI 6500 series has a big, bright multi-channel display and delivers fast, high-resolution weight readings.

Weight processors are used as front ends to control systems or standalone for all types of general industrial weighing applications. Operating blind or with a display, they measure, condition and communicate weight without any need to control. The new HI 6500 PB is designed to support process weighing applications such as inventory management, batch, blending, filling, dispensing, and check weighing.



According to Karl Schwenkmeyer, General Manager, "The new HI 6500 PB series sets the standard for meeting the process weighing needs for a low-cost, fast, high-resolution PROFIBUS weight processor." The HI 6500 series is designed to meet the application needs of diverse industries, such as food processing, chemical and petrochemical and general manufacturing automation.

Process instrumentation can help improve processes and achieve operational excellence in the four major areas of the supply chain:

1. STOCK ? accurate weight and level measurement/monitoring
2. MAKE ? adaptable weight & rate material feed measurement/control
3. PACK ? for robust rate & weight feed measurement/control
4. SHIP ? off-the-shelf static and dynamic check weighing solutions

[Hardy Process Solutions](#)

Advantech Launces Embedded Automation Computer

<http://profinews.us/2014/06/advantech-launces-embedded-automation-computer/>

Advantech Industrial Automation Group releases the UNO-2362G Embedded Automation Computer with an AMD G-series dual core processor, daisy chain network capabilities, as well as the new iDoor technology.

The daisy chain technology allows users to connect to and configure multiple Advantech ADAM modules to create star networks without the need to use a network switch.

Advantech's new iDoor technology is a new modular way of adding functions to the UNO-2362G. Modules for the iDoor system include PROFINET, among others. Also available, expansion and storage; digital and analog I/O; WAN, MAN, and LAN communications with Wi-Fi, GPS, GPRS, and LTE as well as ancillary modules such as temperature, brightness, smart meters and others.



The UNO-2362G has enhanced 3D graphical performance with an AMD G-series T40E dual core processor, 2GB DDR3 RAM (upgradeable to 4GB RAM), and an AMD Radeon HD6250 GPU which supports H.264, VC-1, MPEG2, WMV, and DivX. There are also two display outputs (DisplayPort and HDMI) which can run two monitors, four USB 2.0 ports, one mini-PCI socket and two Gigabit LAN ports.

The UNO-2362G supports WebAccess 7.2 management software with IPV6 support, SUSIAccess, and Advantech DiagAnywhere software applications.

[Advantech](http://www.advantech.com)

Failsafe high-end controller

<http://profinews.us/2014/06/failsafe-high-end-controller/>

- *Most powerful failsafe CPU Simatic S7-1518F*
- *For high-end standard and safety-related applications*
- *Standardized engineering with Step 7 Safety Advanced V13*
- *Certified for functional safety*

The Siemens Industry Automation Division is expanding its new Simatic S7-1500 generation of controllers with the most powerful failsafe CPU so far - the Simatic S7-1518F. The new failsafe CPU is suitable for high-end standard and safety-related applications in machine and plant automation. The Simatic S7-1516F CPU also supplements the range of failsafe CPUs. In the Step 7 Safety Advanced V13 engineering tool, users create their programs by using the same engineering and operating concept for both standard and safety-related tasks. Data consistency functions automatically synchronize standard and safety-related program sections.



Simatic S7-1518F for high-end applications features a 10 MB (megabyte) user memory and has four communication interfaces: a Profinet interface with a 2-port switch for communication with the field level, two Profinet interfaces and one Profibus interface. The high performance and large memory allow connection of up to 128 drive axes and their isochronous operation in the range of 250 microseconds. The CPU 1518F has a bit performance of 1 nanosecond.

The new S7-151xF failsafe controllers are certified to EN 61508 (2010) for functional safety and are suitable for use in safety-relevant applications up to SIL 3 according to IEC 62061 and PL e according to ISO 13849. For IT security an additional password protection has been set up for F-configuration and F-program.

Migration tools are available for the conversion of existing failsafe automation based on Simatic S7300F/400F to the latest controller technology with Simatic S7-151xF: from the Distributed Safety V5.4 engineering tool, for example, to the TIA Portal with Step 7 Safety Advanced V13.

[SIEMENS](http://www.siemens.com)

New 8-Channel Ethernet Modules Provide a Reliable Interface for Analog Current or Voltage Inputs

<http://profinews.us/2014/06/new-8-channel-ethernet-modules-provide-a-reliable-interface-for-analog-current-or-voltage-inputs/>

Acromag expands their line of Ethernet I/O modules to include differential analog input units for reliable measurements regardless of noisy signals or network traffic.

Acromag has expanded its BusWorks® XT Series of Ethernet I/O modules with XT1210 and XT1220 models that provide an 8-channel interface for analog voltage or current input signals for PROFINET, or peer-to-peer communication. Differential inputs have superior noise rejection for reliable measurements when radio frequency or electromagnetic interference is present. Internal software helps



eliminate the effects of network traffic loads for more reliable messaging. The sleek design features dual Ethernet ports, removable front-facing terminal blocks, and DIN rail power bus support. Its convenient USB-to-PC connection makes configuration fast and simple with free Windows software. Suitable for use in harsh environments, all modules operate from -40 to 70°C with high voltage isolation, surge protection, and CE approval. UL/cUL Class 1 Division 2 Zone 2 hazardous location approval is pending. All units are available at \$495 USD each.

“We continue to develop the BusWorks XT Series to provide even greater versatility, adding analog input modules alongside our current line of digital I/O,” explained Don Lupo, process group sales and marketing director. “The use of differential inputs and Innovasic’s PriorityChannel™ technology greatly increase reliability by eliminating the risks of signal interference and network congestion.”

The XT1210 model accepts current inputs of 0-20mA, 4-20mA, ± 20 mA DC, or 0-20 amps AC with an optional toroid sensor. The XT1220 accommodates ± 5 V, ± 10 V, 0-5V, or 0-10V DC input ranges. All units run off a 12- 32V DC power source (2.8W) at the terminals or through an integrated power connector bussed along the DIN rail that can provide primary or redundant power. Several versions offers a choice of Ethernet/IP, Profinet, or Modbus TCP/IP protocols with peer-to-peer i2o® communication support. Dual 10/100 Ethernet ports allow daisy-chaining units together to simplify cabling and minimize the network switches required, reducing overall system costs.

For more dependable communication, BusWorks XT units employ Innovasic PriorityChannel technology which makes certain that critical data is received on time regardless of traffic on the network. PriorityChannel provides determinism at the device for consistent transmission of time-sensitive data with any of the Ethernet protocols.

Many other features add greater flexibility and performance. High input impedance reduces loading on voltage loops. The configuration software enables use of sample averaging on a per-channel basis. For reliability, operation and diagnostic LEDs offer visual status updates and aide in trouble-shooting.

Acromag has designed and manufactured measurement and control products for more than 50 years. With a headquarters near Detroit, Michigan and a global network of sales representatives and distributors, Acromag products are sold worldwide. They offer a complete line of industrial I/O products including process instruments, signal conditioning equipment, data acquisition boards, distributed I/O modules, and network communication devices. Industries served include manufacturing, water services, power generation, mining, defense, and transportation.

[Acromag](#)

Fast compact controller in robust housing

<http://profinews.us/2014/06/fast-compact-controller-in-robust-housing/>

The new AXC 1050 controller from Phoenix Contact's Axioccontrol range provides excellent performance and easy usage. It is particularly suited for installation in harsh industrial settings.

For the construction of local stations, the I/O modules of the Axioline I/O system can be added on to the controller directly via the built-in Axiobus. The controller's Ethernet interfaces enable integration with existing networks and connection to other decentralized I/Os. A range of communication protocols are available for this including PROFINET.



Thanks to a built-in uninterruptible power supply (UPS), the Axioccontrol controller is particularly resilient against power outages. This means that if there is a power outage, applicative measures to ensure system availability can be instated. Designed for deployment in highly demanding environments, the special AXC 1050/XC mini-controller operates at an extended temperature range of -40 up to +60 °C.

[Phoenix Contact](#)

Profinet cable from Quabbin Wire and Cable, Inc.

<http://profinews.us/2014/06/profinet-cable-from-quabbin-wire-and-cable-inc/>

Quabbin® Wire & Cable produces a variety of electronic cables for numerous applications. These cables are constructed to exact industry specifications and standards with proprietary, high speed equipment resulting in the right cable at the right price. Our capability of long, continuous lengths provides superior lot traceability and consistency. Advanced real time process controls a step beyond industry norms monitor quality and consistency throughout the manufacturing cycle. This establishes a foundation of quality at the beginning of the cable supply chain and contributes to cost control by increasing assembly



yield and reducing rework and scrap.

The trusted Quabbin® and DataMax® branded cables offer a variety of PROFINET solutions. Whether your application requires Type A, B or C we have you covered. Our unique patented shield system combined with precision twisted pair construction ensures reliable continuous flexing and superior electrical performance, while a robust TPE jacket provides protection from hazards associated with heavy manufacturing. Our Profinet cables also come standard with PLTC/ITC (Power Limited Tray Cable/Instrumentation Tray Cable) ratings.

Other Quabbin Wire & Cable Applications:

- PROFINET
- Infocom
- Local area networks (LANS)
- Industrial LAN systems
- Telecommunications systems
- Control and Instrumentation
- Process control interconnect
- Computer peripherals
- Low capacitance data
- Point of sale equipment
- Sound and audio instrumentation
- Custom designed signaling applications
- Continuous Flex

- Harsh Environment
- Medical

[Quabbin](#)

IXXAT?Safe T100

<http://profinews.us/2014/06/ixxat%e2%80%88safe-t100/>

IXXAT?Safe T100 for the quick and simple module-based implementation of safe IO

The IXXAT Safe T100 offers device manufacturers an easy way to control safe I/O signals using a safe field bus protocol. The module meets the SIL3 safety requirement level as defined by IEC 61508 and



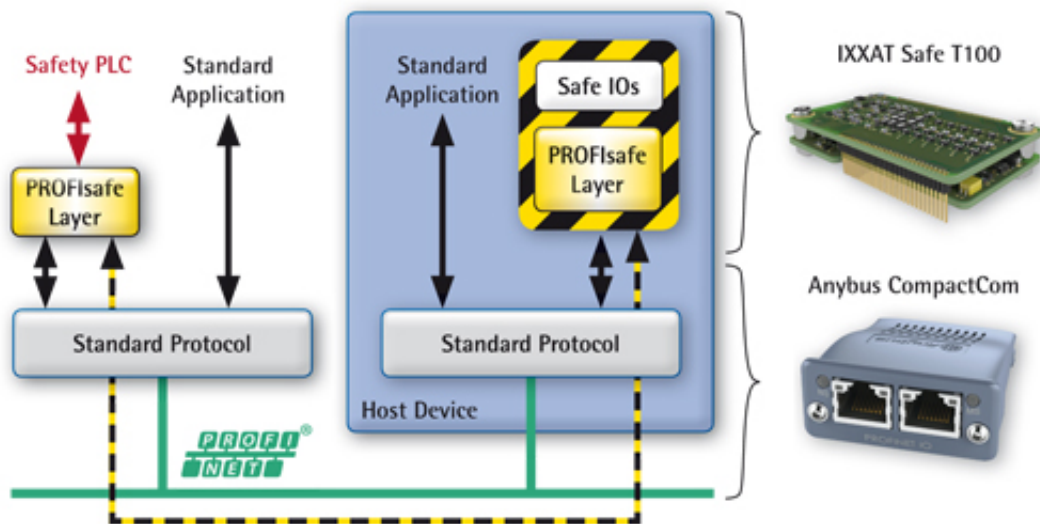
Performance Level PLe / Category 4 in IEC 13849-1.

It is used in customer devices together with a communication module of the [Anybus CompactCom series](#), which is used to implement the unsafe bus connection. Safety communications use the black channel principle through the Anybus CompactCom communication module. For PROFIsafe, for example, the communication module carries out the tasks of a PROFINET I/O device. The IXXAT Safe T100/PS implements the PROFIsafe layer and the safe control of three dual-channel inputs, as well as one dual-channel output.

The module's very compact dimension and flexible Safety I/O routing make it perfect for integration into customer-specific device solutions.

The IXXAT Safe T100 is currently available for PROFIsafe. Support for additional safety protocols (CIP Safety and FSoE) is in progress.

Black channel principle



Simple certification

For device certification, a comprehensive safety manual is provided. This describes all needed integration and verification steps to achieve the TÜV certification of IXXAT Safe T100-based end products with greatly reduced effort. Especially the clear separation of safety-relevant functions from the unsafe functions of the end device by the pre-certified IXXAT Safe T100 plug board is a great help in this situation.

Development kit

To evaluate the IXXAT Safe T100, a corresponding development kit is available as a reference implementation. It consists of a base board with a PROFINET I/O Anybus CompactCom communication module and a host CPU, along with an IXXAT Safe T100/PS with Safety I/O leads brought out.

The configuration of the Safety I/Os uses PROFINET/PROFIsafe and is supported by a special configuration tool, which can be integrated seamlessly into the Siemens Step7 toolchain, for example.

[IXXAT](#)