Amanda, *Field Communication Insider* is an e-newsletter featuring the latest news and developments in the application of HART, FOUNDATION Fieldbus and FDI technology around the world. To ensure that you continue to receive *Field Communication Insider,* please add control_enews@putman.net to your address book and subscribe here.

Put gas flow measurement on the bus

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In This Issue: FDI – Available Now!

The Field Device Integration (FDI) standard was developed through a collaboration between major industry foundations and suppliers to bring standardization to the packaging and distribution of all software and tools necessary to integrate a field device with a host system.

In recent years, field devices and the systems they connect to have become more powerful, as has the software required to maximize value creation from their use. Staying current with changing operating systems, asset management system versions, user interfaces and

Device Description (DD) releases is time-consuming and error prone. To get around this, FDI standardizes their interfaces so host systems need only one FDI Device Package per device type per protocol to successfully integrate each device.
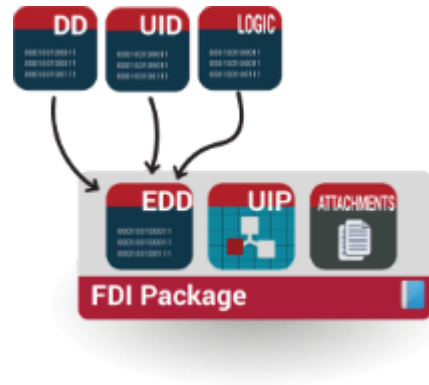
As an emerging industry standard, FDI is becoming readily available in the market. This important integration technology will bring standardization to device installation and configuration, with a single FDI Device Package containing all drivers, documentation and user interfaces to manage a field device.

Read more about FDI in this issue.

NEWS

FieldComm Group Holds Successful 2019 General Assembly

FieldComm Group held its 2019 General Assembly Meeting on Dec. 9-13 at the Westin Grand Berlin Hotel in Berlin, Germany.

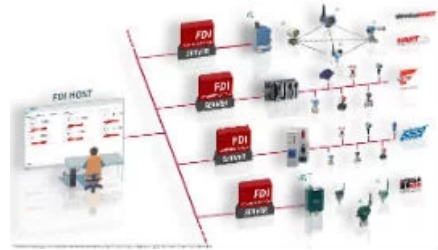READ MORE >

Are You "Plant of the Year" Material?

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TECHNOLOGY

FDI: Key to Intelligent Device Integration

For the "system of tomorrow" to operate reliably and effectively, industrial organizations must be able to easily integrate all elements of their facilities to take advantage of the digital data that automation protocols like FOUNDATION Fieldbus and HART (including *Wireless*HART) provide.
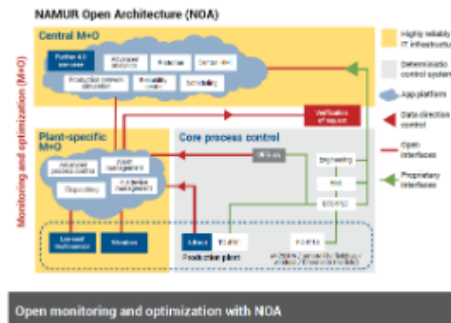
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Learn About the Latest Physical Layer Innovations

FieldComm Group is one of the industry organizations helping to drive the Advanced Physical Layer (APL) project, which focuses on an extension of the 10BASE-T1L Ethernet physical layer for process automation and instrumentation.

READ MORE

Learn How Open Systems Unlock Value

FieldComm Group's protocols and technologies form the base of the two latest openness and interoperability efforts because the use of FDI, FOUNDATION Fieldbus, *Wireless*HART and HART can provide often-stranded information to systems across the enterprise.

READ MORE

Latest Registered FOUNDATION Fieldbus and HART Products

The number of FOUNDATION Fieldbus and HART products registered by the FieldComm Group

New Registered Devices				
Protocol	FDI Device Package	Manufacturer	Type	Model/Device Name
HART	Yes	ABB Automation GmbH	Analytical Water Transmitter	AWT210
HART	No	ABB Automation GmbH	Analytical Water Transmitter	AWT420
HART	Yes	ABB Automation GmbH	Level Meter	LMT Magnetostrictive Level Transmitter
Foundation Fieldbus	No	ABB Automation Products GmbH	pH/Conductivity Analyzer	AWT210
Foundation Fieldbus	No	ABB Automation Products GmbH	Field Indicator	JDF300

continues to grow. Here's a list of the latest registered and updated products.

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APPLICATIONS
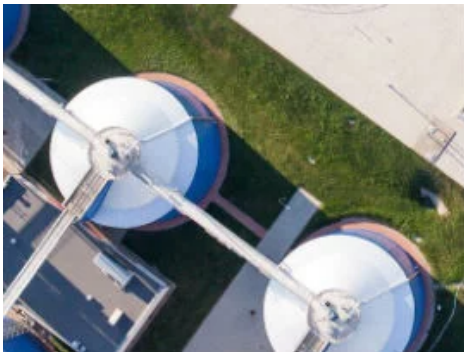
Process Sensing with *Wireless*HART Improves Plant Performance

An increasing number of industrial sites are turning to wireless technology to provide reliable process and asset monitoring. The key to a successful wireless implementation is executing a strategy where wireless sensors are used to acquire data from all parts of the plant at a reasonable cost.

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PRODUCTS

New product news you might be interested in:

- Emerson's AMS Wireless Vibration Monitor Simpli es Machine Health Analytics

- Moore Industries Accelerates Your HART Data to the Speed of Ethernet

- Full-featured HART Communicator Mobile App from ProComSol Now Available

- Softing Offers Mobile Enterprise Solution

- Yokogawa Has Innovative Approach to Detect Pump Cavitation

CALENDAR

North America

ARC Industry Forum

Orlando, USA
Feb. 3, 2020
» More Information

Europe

HART Fundamentals Workshop

Düsseldorf, Germany
March 16-17, 2020
» More Information

Device Integration: Writing EDD and FDI Package Workshop

Düsseldorf, Germany
March 18-20, 2020
» More Information

Asia Pacific

Working Group Meeting

Kuala Lumpur, Malaysia
Feb. 24, 2019
» More Information

Field Communication User Seminar 2020

Shinjuku-ku, Japan
March 12, 2020
» More Information

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FieldComm Group Holds Successful 2019 General Assembly

By FieldComm Group
Jan 20, 2020
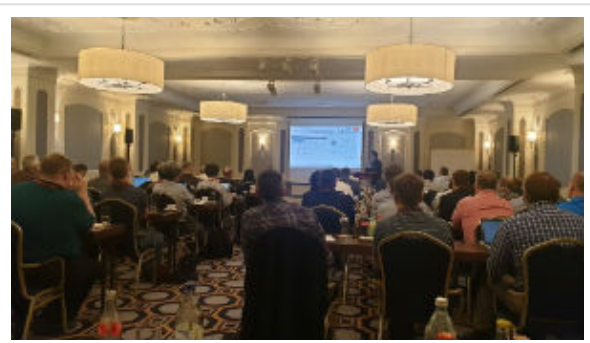
FieldComm Group held its 2019 General Assembly Meeting on Dec. 9-13 at the Westin Grand Berlin Hotel in Berlin, Germany. Attendees from all over the world gathered at the event to learn about the latest trends in digital transformation and meet one-on-one with recognized experts in FOUNDATION Fieldbus, HART, *Wireless*HART and FDI technologies.

The General Assembly included the organization's annual member meeting, German member meeting, four days of working group meetings, a "Build an FDI Device Package" workshop and FDI PlugFest, and two social gatherings.

FieldComm Group President and CEO Ted Masters noted the success of the 2019 General Assembly. "We were pleased with the strong turnout at this year's General Assembly, which indicates the importance of digitization initiatives to the global automation market," Masters said. "The process industries are at a critical point in their

adoption of digital open standards and a unified information model for field devices while building upon existing investments in the HART, FOUNDATION Fieldbus and FDI standards.

The General Assembly Working Group meetings provided an opportunity for marketing and technical professionals to meet over multiple days and contribute to the development of specifications, tooling, market education and the strategic direction of FieldComm Group.

The annual member meeting provided an update on the overall state of the organization, including the board of directors election and company financials.

The German member meeting enabled marketing and technical personnel of member companies to learn about relevant technology initiatives, industry needs, and upcoming trends and deliverables.

The Build an FDI Device Package workshop instructed participants on building a functioning basic FDI Device Package. The FDI PlugFest, jointly hosted by FieldComm Group and PROFIBUS/PROFINET International, focused on the interoperability of FDI Device Packages and FDI Host Systems being developed and released into the market.

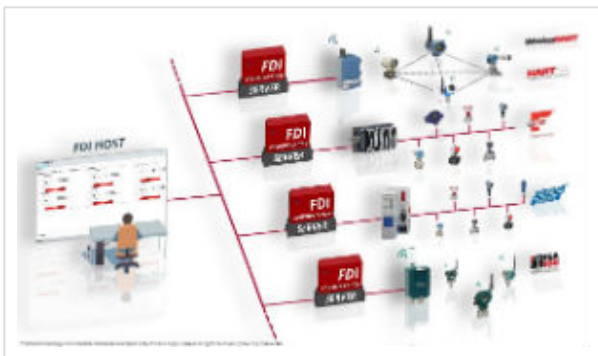For more information, please visit the FieldComm Group website.

Fieldbus

FDI: Key to Intelligent Device Integration

By FieldComm Group
Jan 20, 2020

As the process industries continue to go through a digital transformation, as evidenced by the emergence of the Industrial Internet of Things (IIoT) and Industrie 4.0, demand for integrated systems and components is rising dramatically.

For the "system of tomorrow" to operate reliably and effectively, industrial organizations must be able to easily integrate all elements of their facilities to take advantage of the digital data that automation protocols like FOUNDATION Fieldbus and HART (including *Wireless*HART) provide. They need a standardized way to integrate devices and systems in order to gain greater control over where and how they get their information.

Automation end users continue to look for efficiencies and cost savings at their plants through reduced life cycle costs, simplified ease of use, and most importantly, open systems. FDI's benefits are broad and applicable to various plant personnel disciplines.

For more information, please visit the FDI technology page at the FieldComm Group website.

Fieldbus

Learn About the Latest Physical Layer Innovations

By FieldComm Group
Jan 20, 2020

In process automation, end users employ several different physical layers. A two-wire twisted pair that transports a 4-20 mA analog signal with a superimposed digital signal at 1,200 bps is the physical layer for HART. The wire pairs in an H1 cable carrying a 31.25 kbps bitstream is the physical layer for FOUNDATION Fieldbus.

Domain-specific concepts like the NAMUR Open Architecture (NOA) or Open Process Automation (OPA) by the Open Process Automation Forum (OPAF) are currently attempting to simplify the construction, commissioning and operation of process plants. Broader use of wireless solutions, simplified field device integration and Ethernet to the field represent integral components of these concepts.

FieldComm Group is one of the industry organizations helping to drive the Advanced Physical Layer (APL) project, which focuses on an extension of the 10BASE-T1L Ethernet physical layer for process automation and instrumentation. Deployable in hazardous areas (Zones 0 and 1, Division 1), APL is based on the same two-wire cable as FOUNDATION Fieldbus H1, thus offering continuity to users.
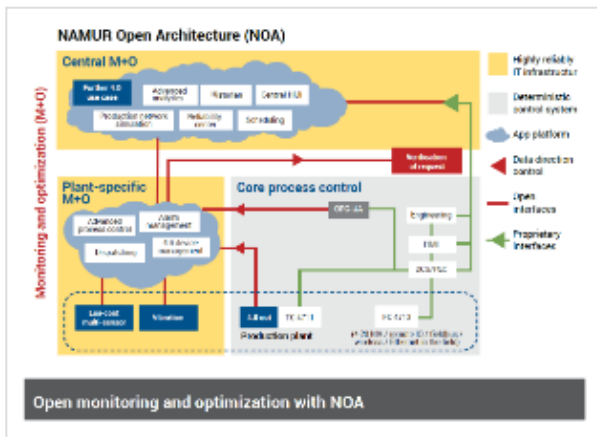
Read the full article.

CONTROL

Fieldbus

Learn How Open Systems Unlock Value

By FieldComm Group

Jan 20, 2020

FieldComm Group's protocols and technologies form the base of the two latest openness and interoperability efforts in the process industries. This is because the use of FDI, FOUNDATION Fieldbus, *Wireless*HART and HART can more easily provide long-sought, often-stranded information from field devices to systems across the enterprise, which is the ultimate goal of openness and interoperability.

FDI is the next step of device management. It provides a unified description and allows for field communication standard-independent device management using one tool. It separates device representation from the underlying communication technology and lays the groundwork for digital twin representation of the devices.

Offering these device models through the OPC Unified Architecture (OPC UA) makes them available, not only to control systems, but also to further applications as formulated by NAMUR, the international user association of automation technology in the process industries, and the Open Process Automation Forum (OPAF).

Read the full article.

Fieldbus

Latest Registered FOUNDATION Fieldbus and HART Products

By FieldComm Group
Jan 20, 2020

New Registered Devices				
Protocol	FDI Device Package	Manufacturer	Type	Model/Device Name
HART	No	Baumer	Induced Conductivity	AFI4/AFI5 CombiLyz
HART	No	Chongqing ChuanYi Automation Co. Ltd	Radar Level Transmitter	MPS
HART	No	Honeywell	Level Transmitter	SLN 700
HART	No	MTS Sensors	Level Transmitter	LPSIL
HART	No	EMIS	Vortex Flowmeter	EMIS-VIHR-200
HART	No	Magnetrol International	Level Transmitter	Eclipse Model 700 Level Transmitter
HART	No	CURTO	Temperature Transmitter	CT-PT4550
Updated Registered Devices				

Protocol	FDI Device Package	Manufacturer	Type	Model/Device Name
FOUNDATION Fieldbus	Yes	Schneider Electric	Absolute, Gauge and Differential Pressure Transmitters	IGP50S-F Premium Performance
FOUNDATION Fieldbus	Yes	Schneider Electric	Absolute, Gauge and Differential Pressure Transmitters	IGP10S-F Advanced Performance
FOUNDATION Fieldbus	Yes	Schneider Electric	Absolute, Gauge and Differential Pressure Transmitters	IAP50S-F Premium Performance
FOUNDATION Fieldbus	Yes	Schneider Electric	Absolute, Gauge and Differential Pressure Transmitters	IAP10S-F Advanced Performance
FOUNDATION Fieldbus	Yes	Schneider Electric	Absolute, Gauge and Differential Pressure Transmitters	IDP50S-F Premium Performance
FOUNDATION Fieldbus	Yes	Schneider Electric	Absolute, Gauge and Differential Pressure Transmitters	IDP10S-F Advanced Performance

Updated DD Files

Protocol	FDI Device Package	Manufacturer	Type	Model/Device Name
FOUNDATION Fieldbus	No	Yokogawa Electric Corp.	Temperature transmitter	YTA710
FOUNDATION Fieldbus	No	Yokogawa Electric Corp.	Temperature transmitter	YTA610
HART	No	CURTO	Valve positioner	CURTO-CU-DQD-0235
HART	Yes	Endress+Hauser	Temperature transmitter	iTEMP TMT72
HART	No	Rosemount	Radar Level Transmitter	5300 Series Guided Wave Radar

Fieldbus

Process Sensing with *Wireless*HART Improves Plant Performance

By FieldComm Group
Jan 20, 2020

Process industry plants are under pressure to increase production, make processes more efficient, reduce energy usage, cut maintenance costs, improve safety, and meet a host of government and industry regulations. To meet these requirements, plants must monitor all aspects of a process, acquire data from field devices, analyze the data to turn it into actionable information, and take steps to address problems.

However, many processing facilities are large, complex operations. Where do plant personnel start?

An increasing number of industrial sites are turning to wireless technology to provide reliable process and asset monitoring. The key to a successful wireless implementation is executing a strategy where wireless sensors are used to acquire data from all parts of the plant at a reasonable cost.

Many older, existing plants could benefit from adding many more measurement points, given the proven financial benefits. One reason they don't is that, in the past, these inputs would have to be wired from the sensing point, such as a pressure instrument installed at a pump, to a control and monitoring system. Adding this wiring to an existing facility usually is a very expensive undertaking because wired sensors require power, wiring to I/O systems, and additional I/O points at the control and monitoring system. Such modifications often require significant downtime, which isn't an option as many plants operate at or near full capacity.

*Wireless*HART sensors, on the other hand, have built-in power modules, so they don't require power wiring. And, being wireless, they don't require additional I/O capacity from the plant's control and monitoring systems. These sensors are connected through a plant-wide wireless mesh network to control and monitoring systems via a gateway. *Wireless*HART sensors allow points of measurement to be added at a fraction of the cost and time required for their wired equivalents, and sensors not requiring process penetrations can be installed without any downtime.

After a *Wireless*HART infrastructure is in place, adding more sensors is quick and inexpensive in a wide range of monitoring applications. By installing *Wireless*HART acoustic sensors, for example, plants quickly can identify steam traps failing open or closed, leaking, or working improperly. *Wireless*HART temperature sensors can be installed on cooling towers, with their measurements used in efficiency calculations to confirm whether fans are running at correct speeds. And, the sensors can be utilized to provide online turbine compartment temperatures to detect leakage of hot air, an inexpensive early detection strategy.

One of the great benefits of *Wireless*HART technology is that end users can install devices themselves in a fraction of the time it takes to wire an instrument. Many plants need to hire contractors for wired instrument installation because they do not have a big staff. It takes about an hour to install a wireless device, compared to two weeks to run wire and completely install a wired transmitter.

Installing wireless transmitters and analytics software in a plant improves efficiencies, finds problems, cuts maintenance costs, and extends the life of valuable equipment. While such a solution may be new to some industrial organizations, with the help of a wireless supplier and following basic procedures, a *Wireless*HART system can be installed at a reasonable price with a quick ROI.

For more information, please visit the HART technology page at the FieldComm Group website.

Vibration

Emerson's AMS Wireless Vibration Monitor Simplifies Machine Health Analytics

By FieldComm Group
Jan 20, 2020

Many organizations struggle with the complexity of translating vibration data into asset health insights. Emerson's AMS Wireless Vibration Monitor solves that problem by performing prescriptive analytics on vibration data to automatically identify and clarify failure modes and the most common problems in rotating assets.

The AMS Wireless Vibration monitor runs on a plant's existing *Wireless*HART® network and can be easily and quickly installed by plant personnel. Emerson's patented PeakVue™ Plus technology operates at the device to not only identify when and how assets will fail, but also why. Anyone in the plant—regardless of expertise—can quickly identify and prioritize common mechanical issues on rotating assets such as bearing defects, gear wear, under-lubrication, and pump cavitation.

Plants using Plantweb™ Optics can enable personnel to receive AMS Wireless Vibration Monitor alerts anytime and anywhere with a mobile device. The alert data can be quickly and easily aggregated with asset health information from other sensors and systems, providing a more complete picture of the organization's overall health.

For more information, please visit the Emerson website.

Industrial Ethernet

Moore Industries Accelerates Your HART Data to the Speed of Ethernet

By FieldComm Group

Jan 20, 2020

Timely knowledge about your process enables better decisions and faster preventive action. Now you can get the process detail that you need from your HART 5, 6 and 7 field devices to MODBUS/TCP and HART-IP based monitoring and control systems at the speed of Ethernet with the Moore Industries HES HART to Ethernet Gateway System.

Connect up to 64 Smart HART® devices to the HES and collect the Dynamic Variables and the Device Variables, along with diagnostic bits and bytes, from each device that helps deliver critical information needed to help you address process and device problems before they turn into unplanned downtime.

The HES is simple to configure over Ethernet using PACTware or other FDT-compliant host with supplied HES DTM. Its support of open industrial protocols enables you to take advantage of any Industrial Internet of Things (IIoT) initiatives that deliver your process data to your higher-level systems. Plus, you can view all of the HART data from connected field devices in read-only mode with any web browser via the HES' built-in web server or a MODBUS/TCP compliant host.

The new HES continues the Moore Industries reputation for rugged and reliable products that are designed and built to perform dependably year after year.
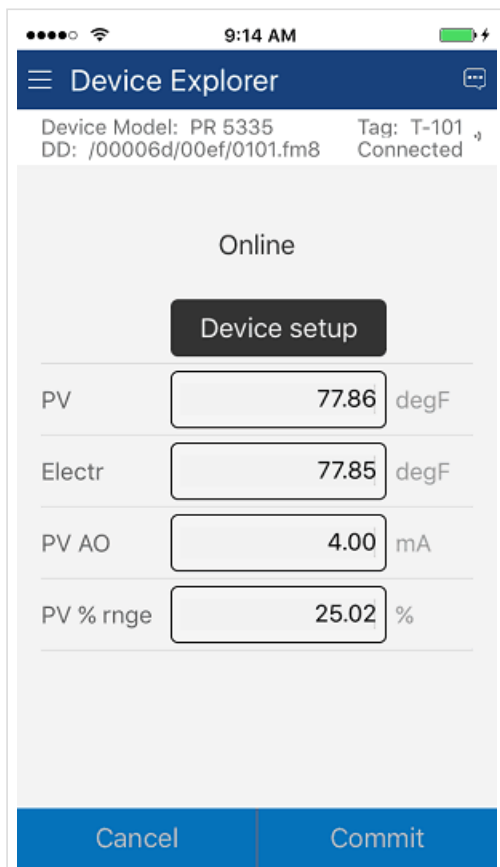
For more information, please visit the Moore Industries website.

CONTROL

Fieldbus

Full-featured HART Communicator Mobile App from ProComSol Now Available

By FieldComm Group

Jan 20, 2020

A full-featured HART Communicator App is now available for your Apple iPhone or iPad. Because the App uses the Device Descriptors (DDs) for the connected HART instrument, all instrument parameters, including Methods, are available to the user. The full DD library is also included.

For more information, please visit the ProComSol website.

Fieldbus

Softing Offers Mobile Enterprise Solution

By FieldComm Group
Jan 20, 2020

Modern process plants require digital, mobile, networked, and standardized solutions that make data from plants, machines and field devices easily accessible and streamline maintenance procedures for configuring, commissioning and troubleshooting the devices. This is where Softing's mobile interface mobiLink comes in. It provides access to the three most important communication protocols in process automation – HART, FOUNDATION Fieldbus and Profibus PA – via a single interface.

The connection to the mobile device can be made via USB or Bluetooth. With the newly available FDI Communication Server it is now possible to use mobiLink with FDI applications. The DevCom app for Android or Windows adds an application for device parameterization to the offering. A new version—mobiLink Power—will be available at the beginning of 2020. This will allow field devices to be supplied with power, which is obtained via the USB port. An external power supply for the field devices is no longer necessary.

For more information, please visit the Softing website.

CONTROL

Fieldbus

Yokogawa Has Innovative Approach to Detect Pump Cavitation

By FieldComm Group
Jan 20, 2020

Cavitation is a common cause of mechanical failure in liquid processes using pumps and valves. Existing cavitation detection systems monitor pumps and piping for abnormal sounds and vibrations. Cavitation may already be serious when the system detects abnormality of the piping. However, Yokogawa's detection system can detect cavitation in the pump more quickly and accurately by directly measuring weak pressure fluctuations caused by bubble collapse and collecting that information via FOUNDATION Fieldbus communication. Since the system detects cavitation at early stage before equipment's damage, users can properly maintain equipment according to actual conditions, reduce maintenance costs, and improve operational efficiency.

For more information, please visit the Yokogawa website.