# Field Communication Insider

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.**

## Logix 3800 from Flowserve

The Logix 3800 from Flowserve is the digital positioner choice for applications that require a balance between technological sophistication and long-lasting reliability in tough environments.

This high-precision positioner simplifies installation as well as offering greater robustness and consistency.

Compatible with linear and rotary valves and actuators, the Logix 3800, quick calibration and advanced diagnostic capabilities. Command and control can be done with 4-20 mA or with Fieldbus or HART.

**Learn more.**

## NEWS

### FieldComm Group Demonstrates Technology Advances at ACHEMA 2018

FieldComm Group conducted a demonstration of its digital integration technologies at the 2018 ACHEMA Fair in Frankfurt, Germany, June 11-15. A live display showed how FOUNDATION Fieldbus, HART, *Wireless*HART, HART-IP and Field Device Integration (FDI) solutions are helping transform process automation. **Read more.**

### Industry Organizations Report on Advanced Physical Layer for Industrial Ethernet

FieldComm Group, ODVA and PI presented on developments to Industrial Ethernet in hazardous applications at the 2018 ACHEMA Trade Fair and Congress in Frankfurt, Germany. **Read more.**

### Smart Industry Conference to Highlight Digital Transformation for Industry

FieldComm Group will participate in fourth annual Smart Industry Conference, to be held September 24-26, 2018, in Chicago, Illinois. **Read more.**

## TECHNOLOGY

### New website dedicated to benefits of FDI launched! – www.ask4fdi.com

FieldComm Group has established a new, dedicated website for automation industry stakeholders seeking to learn more about the Field Device Integration (FDI) standard. **Read more.**

### Latest Webinar Explains the Benefits and Value of *Wireless*HART and Path to IIoT

FieldComm Group's second webinar of its 2018 Webinar Series explained the role of *Wireless*HART in the new era of industrial automation. **Read more.**

### Latest Registered FOUNDATION Fieldbus and HART Products

The number of FOUNDATION Fieldbus and HART products registered by the FieldComm Group continues to grow. **Read more.**

## WIRELESSHART CORNER

### Optimizing Pharmaceutical Processes with *Wireless*HART Instrumentation

*Wireless*HART instrumentation can be used to cost-effectively and hygienically collect more data from the process and equipment to improve pharmaceutical operations. **Read more.**

## PRODUCTS

### New product news you might be interested in:

- ABB Electromagnetic Flowmeter Enables a More Measured World of Water

- Armstrong Offers Advanced Wireless Monitoring Solution for Steam Traps

- Emerson Wireless Pressure Gauge App Increases Convenience and Safety

- Moore Industries Offers Smart HART Dual Input Temperature Transmitters

### SIL 3 Capable SSX & SST Safety Isolators

Endress+Hauser is a leading supplier of industrial measurement and automation equipment. It has a comprehensive FOUNDATION Fieldbus and HART instrument portfolio covering flow, level, pressure, analysis, temperature and system components. Solutions and field-based services around field network engineering, asset management, calibration and maintenance ensure quick commissioning plus reliable, safe and economic operation of your plant. Our pioneering IIoT services and applications integrate seamlessly into existing plant technology, providing more added value.

**Learn more.**

### HART® multiplexer supports Emerson AMS

Avoid unnecessary downtime by providing a window into the health of intelligent field devices.

Phoenix Contact's Ethernet HART multiplexer now supports the ARCOM protocol, enabling connectivity with Emerson's AMS Device Manager asset management software. The Ethernet connection provides a quick and simple way to parameterize and monitor HART devices, and is an up-to-date replacement for commonly used serial RS-485 HART multiplexers.

**Read the press release**

## CALENDAR

## Upcoming Events

### North America

**Smart Industry**

Chicago, Illinois, USA
September 24-26, 2018
**» More Information**

**Emerson Exchange**

San Antonio, Texas, USA
October 1-5, 2018
**» More Information**

**Rockwell Automation Fair**

Philadelphia, Pennsylvania, USA
November 12-13, 2018
**» More Information**

### Europe, Middle East, Africa (EMEA)

**SPS Drives**

Nuremberg, Germany
November 27-29, 2018
**» More Information**

### India

**Mumbai Automation Expo**

Mumbai, India
August 29-September 1, 2018
**» More Information**

### Asia Pacific

**FDI Workshop**

Japan
October 26, 2018
**» More Information**

**M&C Show**

Osaka, Japan
November 7-9, 2018
**» More Information**

## SPONSORS

# FieldComm Group Demonstrates Technology Advances at ACHEMA 2018

Live display shows FOUNDATION Fieldbus, HART, *Wireless*HART, HART-IP and FDI are helping transform process automation

By FieldComm Group

Jul 24, 2018



FieldComm Group conducted a major demonstration of its digital integration technologies at the 2018 ACHEMA Fair in Frankfurt, Germany, June 11-15. The organization presented a live display showing how FOUNDATION Fieldbus, HART, *Wireless*HART, HART-IP and Field Device Integration (FDI) solutions are helping transform process automation. These technologies support the Industrial Internet of Things (IIoT), Industry 4.0 and related initiatives in the industrial sector.



ACHEMA is a leading worldwide trade fair and congress focused on chemical engineering, biotechnology and environmental protection. The event attracts attendees from different industrial market segments around the world.

FieldComm Group's exhibit (Hall 11, Stand E44) centered on a smart connected device ecosystem, which is designed to revolutionize various engineering and operational tasks in manufacturing plants. In particular, the display demonstrated the advantages of FDI technology for device integration based on the international IEC 61804 standard.



The ACHEMA exhibit also offered information on the advanced physical layer for Industrial Ethernet (commonly referred to as "APL"), which is intended for use in a wide range of critical process instrumentation applications.

FieldComm Group President and CEO Ted Masters commented, "ACHEMA is held every three years and showcases the latest innovations in industrial automation around the world. It is the ideal venue to present our ongoing developments in the areas of integration standards, network protocols, and digital transformation."

Masters added, "ACHEMA attendees learned how FieldComm Group technologies provide an easy and effective solution for managing information from intelligent field devices. This allows industrial end users to focus on how to best use their applications instead of worrying about how everything connects together. It also means reduced development costs for device and system suppliers."

Numerous FieldComm Group members participated in the ACHEMA demonstration. Leading automation system suppliers manned company kiosks intended to highlight the implementation of open and interoperable industrial communication standards.

For more information, please visit the *FieldComm Group* website.

# Industry Organizations Report on Advanced Physical Layer for Industrial Ethernet

FieldComm Group, ODVA and PI present on developments to Industrial Ethernet in hazardous applications

By FieldComm Group

Jul 24, 2018



A group of major automation industry organizations held a press conference at the 2018 ACHEMA Trade Fair and Congress in Frankfurt, Germany, to provide an update on developments around Industrial Ethernet intended to expand the use of EtherNet/IP™, HART-IP™ and PROFINET™ in hazardous location applications in the process industries.



FieldComm Group, ODVA and PI (Profibus & Profinet International) outlined current activities aimed at establishing an advanced physical layer for Ethernet (commonly referred to as "APL") that can be used to connect field devices in remote and hazardous plant locations. Representatives of leading instrumentation and controls suppliers joined the three organizations to provide a well-rounded perspective on the benefits of an advanced physical layer for end users, as well as discuss the actions being taken to complete the work needed to realize APL in process field devices.

FieldComm Group, ODVA and PI also announced the publication of a joint white paper titled "Ethernet to the Field," which lays out the vision and timeline for an Ethernet technology suitable for use in remote and hazardous areas. The organizations foresee that the first Ethernet-connected field devices for use in these applications will appear in 2022. To achieve this result, they are seeking to leverage the work currently underway in the IEEE 802.3cg Task Force, which is developing amendments to the IEEE 802.3 Ethernet standard for an Ethernet physical layer operating at 10 Mb/s over single-pair cable. Because of good progress on the specification for the long-reach solution (10BASE-T1L), it is planned that the IEEE 802.3 standard will include 10BASE-T1L by the end of 2019.



Experts participating in the APL project have already started on additional developments to define the requirements and develop the technology to achieve an Industrial Ethernet suitable for use in hazardous locations up to Zone 0, Division 1. To obtain the necessary approval, the experts are working closely with a certification body for intrinsic

safety to validate the developed Ex protection concepts and prepare for standardization in the IEC.

As part of their joint promotion of the APL and its potential adaptation to their respective industrial Ethernet networks, the organizations plan to provide future updates at venues relevant to end users in the process industries. This includes, but is not limited to, the 2018 NAMUR General Meeting, which will be held 8-9 November 8-9, 2018, in Bad-Neuenahr, Germany.

For future updates, please visit the News Page on the FieldComm Group website.

# CONTROL

**PROMOTING EXCELLENCE IN PROCESS AUTOMATION**

# Smart Industry Conference to Highlight Digital Transformation for Industry

FieldComm Group to participate in fourth annual Smart Industry Conference

By FieldComm Group

Jul 24, 2018



FieldComm Group will participate in fourth annual Smart Industry Conference, to be held September 24-26, 2018, in Chicago, Illinois. Aimed at accelerating digital transformation, the event will help attendees learn how the age of the Industrial Internet of Things (IIoT) and Industrie 4.0 will combine the benefits of the information technology (IT) market space with the practicality and execution of the operational technology (OT) space.

FieldComm Group will have a booth in the exhibition center, where it will share the latest news and information about its industry standards, including Field Device Integration (FDI), FOUNDATION Fieldbus, HART and *Wireless*HART.

Talon Petty, marketing & business development manager, encouraged Smart Industry Conference attendees to visit his organization's display. "FieldComm Group technologies have been a key enabler of digital transformation in the industrial sector for more than two decades," Petty said. "Our mission is to provide information models, protocols, and standards for connecting device information from instruments and sensors to automation systems and beyond. In particular, we help the process industries leverage existing investments to deliver value through data management technologies that connect instrument information from the plant floor to the executive office."

*For more information, please visit the Smart Industry Conference website.*

# New website dedicated to benefits of FDI launched! – www.ask4fdi.com

www.ask4fdi.com provides access to in-depth information tailored to the interests of suppliers and end users

By FieldComm Group

Jul 24, 2018



FieldComm Group has established a new, dedicated website for automation industry stakeholders seeking to learn more about the Field Device Integration (FDI) standard. Located at www.ask4fdi.com, the website provides access to in-depth information tailored to the interests of suppliers and end users.

FDI is an enabling technology that improves lifecycle cost and adds value through simplified device integration. Developed through a collaborative process of major industry foundations and suppliers, FDI brings standardization to the packaging and distribution of all the software and tools necessary to integrate a device with a host system.



FieldComm Group's Director Marketing, Paul Sereiko, believes the new site will be a valuable asset to help visitors get acquainted with the basics of FDI and the advantages it offers to the process industries. "FDI is a key standard for industrial organizations seeking a common platform to integrate and configure field devices that work on different protocols from different manufacturers, and thus we believe it deserves a web portal of its own."

Sereiko added, "End users will benefit from visiting the "Purchasing Requests" section where they can download sample documents that can be used to "ASK 4 FDI" in products offered by their instrumentation vendors. Suppliers will benefit from complete information about FDI Device Packages and other development resources. We will be adding new content regularly, so visitors should bookmark this site and check back often."

The roots of FDI technology date back to the 1980s, when Device Descriptions (DDs) first became popular. As both device and system technology became increasingly complex, DDs and the tools used to create them evolved to incorporate more and more sophisticated features. The Windows-based FDT/DTM architecture diverged from text-based Electronic Device Description Language (EDDL) designs.

Control system suppliers generally support one architecture or the other, whereas device vendors are forced to support multiple protocols. End users began demanding a single solution as procurement, configuration and maintenance costs escalated. So, in 2007, the FDI standardization project was launched to carefully shape convergence of the FDT/DTM and EDDL architectures.

In 2011, a non-profit organization, the FDI Cooperation LLC, was created to manage the standardization process for a converged device integration technology. In 2015, after being standardized as IEC 62769-1, the FDI Cooperation transferred ownership, management and enhancement of the FDI standard to FieldComm Group and PROFIBUS & PROFINET International.

*For more information, please visit the new FDI website.*

# Latest Webinar Explains the Benefits and Value of *Wireless*HART and Path to IIoT

Webinar now available on-demand

By FieldComm Group

Jul 24, 2018



Wireless networks and sensors are used in a wide range of process industry applications, usually at dramatically lower costs compared to traditional wired alternatives and with reduced engineering and installation time. Many users are receiving significant value and easier project justification by selecting wireless solutions.

FieldComm Group's second webinar of its 2018 Webinar Series explained the role of *Wireless*HART in the new era of industrial automation. Registrants learned how the technology offers important operational and business advantages for industrial organizations while creating an expandable infrastructure that facilitates a path to the Industrial Internet of Things (IIoT).

Presented on Tuesday, July 24, the latest webinar featured a *Wireless*HART supplier panel that included Phillippe Moock, Armstrong; Daniel Nazimek, Endress+Hauser; Garrett Schmidt, Phoenix Contact; and Eric Rotvold and Emily Saopraseuth, Emerson. The panelists discussed how *Wireless*HART solutions help improve plant reliability, lower energy costs and enhance safety. With a reported +36,000 installed networks worldwide, users are reaping the benefits and value of this simple, reliable and secure wireless solution.

Specific webinar topics included:

- How *Wireless*HART solutions significantly reduce operational costs and +50% of project cost
- How *Wireless*HART applications solve users' measurement challenges, including monitoring tank farms, steam traps, safety areas and more
- How *Wireless*HART installations are simple, reliable, secure and low-risk
- How planned *Wireless*HART technology enhancements will provide even more value

This webinar and others are available for on-demand viewing at the FieldComm Group website at fieldcommgroup.org/education/webinars.

*For more information or to register for future webinars, please visit the Webinar Registration Page on the FieldComm Group website.*

# Latest Registered F<small>OUNDATION</small> Fieldbus and HART Products

The number of F<small>OUNDATION</small> Fieldbus and HART products registered by the FieldComm Group continues to grow.

By FieldComm Group

Jul 25, 2018



| New Registered Devices | | | |
|---|---|---|---|
| **Protocol** | **Manufacturer** | **Type** | **Model/Device Name** |
| F<small>OUNDATION</small> Fieldbus | ABB Automation Products GmbH | Vortex/Swirl Flow Meter | FSV/FSS 430/450 |
| F<small>OUNDATION</small> Fieldbus | Honeywell Industrial Automation & Control | FMCW Radar Level Meter | SmartLine RM77 |
| HART | INOR Process AB | Temperature Transmitter | IPAQ C530/R530 (X) |
| HART | JUMO GmbH & Co. KG | Temperature Transmitter | JUMO dTRANS T08 37 |
| HART | JUMO GmbH & Co. KG | Temperature Transmitter | JUMO dTRANS T08 13 |
| HART | Micro Motion Inc. | Flowmeter | 5700 with Intrinsically Safe Outputs |
| HART | MISTRAS Group Inc. | Wireless Remote Thickness Tracker | CALIPERAY |
| HART | OTIS Instruments | Wireless Gas Analyzer | OTIS 7543-6 W-HRT |

| Protocol | Manufacturer | Type | Model/Device Name |
|---|---|---|---|
| HART | Shanghai RockSensor Automation Co. Ltd. | Pressure Transmitter | RP1000 |
| FOUNDATION Fieldbus | Supcon Group Co. Ltd. | Fieldbus Spur Protector | FSP100 Series |
| FOUNDATION Fieldbus | Supcon Group Co. Ltd. | 2 Segment Fieldbus Power Supply With Redundant Base | AM712-P Module with MB734 Redundant Base |
| **Updated Registered Devices** | | | |

| Protocol | Manufacturer | Type | Model/Device Name |
|---|---|---|---|
| FOUNDATION Fieldbus | Emerson | Coriolis Mass Flow/Density Viscosity Transmitter | MVD 2700 |
| FOUNDATION Fieldbus | Endress + Hauser | 2-Wire Vortex Flowmeter | Prowirl 200 |
| HART | Honeywell International | Pressure Transmitter | ST 700 |
| FOUNDATION Fieldbus | TopWorx Inc. | Discrete Valve Controller | TopWorx D2-FF |
| **Updated Electronic Device Description (EDD)** | | | |

| Protocol | Manufacturer | Type | Model/Device Name |
|---|---|---|---|
| FOUNDATION Fieldbus | Brooks Instrument | Brooks Fieldbus Transmitter | Brooks SLA Series Fieldbus |
| FOUNDATION Fieldbus | KROHNE Messtechnik | Coriolis Mass Flowmeter | OptiMASS MFC400 |
| FOUNDATION Fieldbus | Pepperl+Fuchs GmbH | Temperature Multiplexer | F2D0-TI-Ex8.FF |
| FOUNDATION Fieldbus | Pepperl+Fuchs GmbH | Multi-Input/Output Device | D0-MIO-Ex12.FF |

# Optimizing Pharmaceutical Processes with *Wireless*HART Instrumentation

*Wireless*HART can be used to cost-effectively, hygienically collect more data to improve pharmaceutical operations

By FieldComm Group

Jul 24, 2018



Pharmaceutical companies are under the same pressures as many other industries to improve operations, produce associated documentation, ensure quality products, reduce maintenance and other operating costs, and maintain a safe facility. One way to accomplish these objectives is via an Industrial Internet of Things (IIoT) strategy using a digital ecosystem to monitor processes and assets, analyze the data, and take steps to improve and optimize equipment operation and processes.

In many cases, *Wireless*HART instrumentation can be used to cost-effectively and hygienically collect more data from the process and equipment to improve pharmaceutical operations.

## Background

*Wireless*HART is an open standard supported by hundreds of companies through the independent FieldComm Group. A *Wireless*HART installation typically includes:

- One or more wireless instruments

- A gateway to receive wireless signals from up to 100 instruments

- A wired connection – such as Ethernet or Modbus – for the gateway to send data to a host system

- Analytical software to turn the data into actionable information

No wiring, cables, conduit or power supplies are needed because each *Wireless*HART instrument contains a power module. The wireless system can operate completely independent of the plant's control system – for example, with a connection to an asset management or data analytic system. The control system can also have access to the data, if so desired.

## Mobile Monitoring Applications

When multiple wireless instruments are involved, they form a mesh network, where signals from one instrument are relayed by other instruments until they reach the gateway. This allows the *Wireless*HART signals to bypass obstacles, cover greater distances, and provide network redundancy if one instrument fails. The mesh network also makes it possible to monitor mobile equipment.

Monitoring temperature of a mobile or portable skid or tank is very difficult with wired instrumentation, but it is a simple matter for *Wireless*HART, even if the mobile equipment is being moved through several different areas or floors of a building. With wireless, if a portable process tank is moved to a refrigerated area, the temperature in the tank can still be monitored to ensure there are no excursions.

## Cleanability Requirements

Cleanability is especially critical in clean rooms. *Wireless*HART instrumentation for measuring temperature, pressure and humidity eliminates the need for making wall penetrations, which could require recertification of the clean room. Plus, clean rooms may require recertification if a door is left open too long. A wireless device can easily be installed to monitor whether a clean room door is open or closed.

## Retrofitting Processes

*Wireless*HART monitoring systems can also be retrofitted on plant equipment such as steam traps, pumps, pressure relief valves and similar devices. Key areas include refrigeration units and their support systems to detect a pending failure so corrective action can protect the final product.

For example, a dedicated *Wireless*HART monitoring system for steam traps can be purchased for a fraction of the cost of a traditional system, and plant personnel can install it themselves. And once the first wireless system is installed with its gateway and mesh network, additional dedicated equipment monitoring systems can be installed at an even lower cost because they will simply join the existing network.

Finally, *Wireless*HART instruments can also be retrofitted on existing processes to provide control systems with additional parameters. Because the instruments provide a HART-compatible signal, the gateway can make the information available to any legacy control system using standard HART data protocols.

## Conclusion

Recent developments in hardware and analytical software have made it possible to employ wireless equipment monitoring systems for a fraction of the cost of a wired solution, bringing the benefits of automation to production processes as well as supporting utilities.

# ABB Electromagnetic Flowmeter Enables a More Measured World of Water

The AquaMaster improves management of potable water distribution networks

By FieldComm Group

Jul 24, 2018



ABB's AquaMaster electromagnetic flowmeter has been designed to improve the management of potable water distribution networks. Its features are targeted to the industry's specific requirements, ranging from a total water management solution for revenue (billing) applications, district metering and water distribution to leakage management and irrigation.

With the AquaMaster solution, flowrate information can be sent via GSM/SMS or GPRS/WITS enabling operators to pinpoint difficult, small, slow leaks, virtually as they happen and providing the opportunity to rectify them quickly.

*For more information, please visit the ABB website.*

# Armstrong Offers Advanced Wireless Monitoring Solution for Steam Traps

Armstrong Intelligent Monitoring 5700 series efficiently monitors and evaluates steam trap operation.

By FieldComm Group

Jul 24, 2018

The steam trap is more than a century old but still heavily used in process automation. When the main purpose is to remove condensate out of the system as quickly as it collects, monitoring them has long been a manual process that can be sporadic and time consuming, and presents an inherent safety risk.

Armstrong Intelligent Monitoring (AIM®) 5700 series is a wireless monitoring technology that efficiently monitors and evaluates steam trap operation.

The AIM 5700 series can accurately detect potential issues such as plugged and blow-thru steam traps, which can result in failed equipment, loss of product, and safety concerns. Without any integration to external software, immediate failure notification from the AIM 5700 series helps identify the root cause to increase efficiency, reduce energy consumption, and avoid unplanned downtime.

Using a non-intrusive, patented waveguide clamped directly on the pipe ahead of the steam trap, combined with *Wireless*HART, the AIM 5700 series is the ideal solution for 24/7 monitoring that enables you to tackle the challenges of effective steam trap management:

- Identifying a failure – What, when, and where?
- Evaluating the scope – How big of an impact?
- Measuring the impact – Value of the tangible and intangible losses

*For more information, please visit the Armstrong website*

# Emerson Wireless Pressure Gauge App Increases Convenience and Safety

IIoT application delivers field data from a fleet of wireless pressure gauges

By FieldComm Group

Jul 24, 2018



Emerson's new Plantweb Insight application for wireless pressure gauges displays data in an easy-to-understand dashboard for maintenance leads and instrumentation and electrical personnel. An entire suite of Plantweb Insight applications collectively helps users quickly make sense of plant data and drive overall enterprise profitability.

This Industrial Internet of Things (IIoT) application delivers field data from a fleet of wireless pressure gauges as frequently as once per minute. By keeping operators updated on changing conditions remotely, the app allows personnel to make fewer manual rounds and minimize their exposure to hazardous areas.

The gauge itself, the industry's first *Wireless*HART pressure gauge, utilizes industry-proven Rosemount pressure sensor technology to deliver reliable pressure readings. It provides up to 150x overpressure protection compared to traditional gauges using bourdon tube technology, and two layers of process isolation for a safer field environment. The gauge, which has a 10-year life, also reduces maintenance costs by eliminating common weak points found in mechanical gauges.

The new application is the latest addition to Emerson's Plantweb™ digital ecosystem, a scalable portfolio of technologies, software, and services that take advantage of IIoT innovations to extend the benefits of automation beyond process control to the entire enterprise, improving operations, strengthening decision-making, and institutionalizing best-practices.

For more information, please visit the Emerson website.

# Moore Industries Offers Smart HART Dual Input Temperature Transmitters

Transmitters feature durability, reliability and new features

By FieldComm Group

Jul 24, 2018



The THZ3 and TDZ3 mark the next generation of Smart HART temperature transmitters from Moore Industries. They feature our industry-leading durability and reliability combined with new features that increase usability and functionality including a new dual sensor input.

These transmitters provide an isolated and linear 4-20mA output proportional to input and configure easily to accept a direct signal input from a wide array of sensors and analog devices. You can build custom curves with up to 128 points for non-standard or special inputs.

## Dual Input

Dual sensor input means that you get backup and fail-over protection because the transmitters allow either of the sensors or inputs to be designated as the primary measurement and the secondary input acting as a backup sensor in case of primary sensor failure. Unlike other dual input transmitters the THZ3 and TDZ3 offer auto-recovery after a fail-over event by automatically re-designating the new sensor as the PV without operator intervention. More dual input features:

- Average and Differential measurement
- High-Select and Low-Select
- Dynamic Variable Mapping

## Advanced Control and Monitoring

The THZ3 and TDZ3 come with Device Intelligence, a series of features for smarter control and monitoring including sensor drift, corrosion detection, smart range alarms and a high availability option.

*For more information, please visit the Moore Industries website.*