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***WirelessHART™*: From Technology to Products**

During the final months of 2009, NAMUR and the HART Communication Foundation conducted a field test at the BASF plant in Ludwigshafen, which has been actively supported by Pepperl+Fuchs. The result: *WirelessHART* was proven to be a sustainable technology that can be used in mobile and flexible applications.

Field test clears the way

The NAMUR recommendation NE124 defines the requirement for wireless communication in process automation. One of the stipulations is an open and interoperable standard that is supported by many vendors. Today, products based on only one standard – *WirelessHART* – are available. In order to seamlessly operate the network, all *WirelessHART* devices must be compatible and interoperable with each other. To ensure this, the HART Communication Foundation (HCF), NAMUR, and BASF teamed up with the leading manufacturers of *WirelessHART* products, including Pepperl+Fuchs, for a field test. With the help of BASF, NAMUR examined *WirelessHART* in terms of NE124. Pepperl+Fuchs took advantage of the test to determine how well our products conformed to the specification.

Pepperl+Fuchs took part in the field test with the *WirelessHART* Gateway and the *WirelessHART* Temperature Converter. The cooperation partner, Endress+Hauser, provided the *WirelessHART* Adapter, which will also be offered by Pepperl+Fuchs.

Strengths and weaknesses

The results of the field test were positive, but also revealed areas for improvement. The wireless communication and the security mechanisms proved to be extremely robust. However, there was some negative feedback regarding complete field device integration and plurality of battery solutions. As an improvement, BASF and NAMUR proposed a reduction in the amount of key performance indicators to enable easy network diagnostics instead of relying on vast amounts of statistics. Furthermore, the progress to eliminate all negative aspects is moving ahead at full speed.

Conclusion

Pepperl+Fuchs sees the result quite positively. The core technology is established, and the wireless communication between devices of different vendors works well. Therefore, there is no fundamental obstacle that would hinder the use of *WirelessHART*. HOST integration has to be improved, but can be realized today as Pepperl+Fuchs offers all necessary DTM and DD versions.

As a specialist in communication infrastructure, Pepperl+Fuchs offers three different *WirelessHART* devices: The *WirelessHART* Gateway is the central access point and manages the wireless network. Furthermore, it forms the interface to different wired bus systems. On the field device side the *WirelessHART* Temperature Converter for local temperature measurement and the *WirelessHART* Adapter for upgrading any 4...20 mA or HART capable field device are available.

About Pepperl+Fuchs

Pepperl+Fuchs is a leading developer and manufacturer of electronic sensors and components for the global automation market. For more than 60 years, our continuous innovation, high quality products, and steady growth have guaranteed us continued success.

One Company – Two Divisions

Pepperl+Fuchs – PROTECTING YOUR PROCESS

The **Process Automation Division** is a market leader in intrinsically safe explosion protection. We offer comprehensive, application-oriented system solutions, including customer-specific control cabinet solutions for the process industry. A large portfolio of components is available from our various product lines: isolated barriers, fieldbus infrastructure solutions, remote I/O systems, HART interface solutions, level measurement devices, purge and pressurization systems, industrial monitors and HMI solutions, power supplies, separator alarm systems for oil and petrol separators, signaling equipment, lighting as well as emergency shutdown equipment and accessories.

Pepperl+Fuchs – SENSING YOUR NEEDS

With the invention of the inductive proximity sensor in 1958, the company set an important milestone in the development of automation technology. Under the motto “Sensing your needs”, customers benefit from tailor-made sensor solutions for **factory automation**. The main target markets of the factory automation are machine and plant construction, the automotive industry, storage and material handling, printing and paper industry, packaging

technology, process equipment, door, gate and elevator construction, mobile equipment, renewable energies.

The division offers a wide product range of industrial sensors whether it's inductive, photoelectric or ultrasonic sensors, rotary encoders, identification systems, barcodes, code readers for data-matrix-codes and vision sensors.

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Fig. 1: Eye catcher



Fig. 2: *WirelessHART* product line from Pepperl+Fuchs



Fig. 3: *WirelessHART* applications: level measurement