

PROTECTING YOUR PROCESS

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EDITORIAL

Dear Reader,

■ In this edition, you will learn how Pepperl+Fuchs is strengthening its leading position in hazardous area interface technologies in the process automation industry.

The introduction of digital communication to process automation and the increasing importance of decentralized control units drive the hazardous area interfaces and related protection technologies into close proximity with the field-based process units.

As a result, enclosure and cabinet solutions for hazardous area installations become an important part of the automation unit.

Hazardous area protection can be provided by different methods depending on varying application requirements.

This newsletter provides you with an overview of the expanded system solutions that combine field-based interface technologies with hazardous area protection devices.



Hermann Best

*Director Business Unit
Systems and Solutions*

PRODUCT

Enclosures for Explo

From IS to purge to flameproof



■ What is the most efficient way to combine a safety control system with its intrinsically safe wiring level? How can I get instrumentation not designed for hazardous areas cost-efficiently into the harsh environment at my offshore drilling rig? Will a Remote I/O system fit into the narrow space I have for my Zone 1 application?

To all these questions, and many more, we can provide the answers. Pepperl+Fuchs offers all the components you need to make your application explosion-proof, environmentally resistant, and space efficient.

From the renowned conventional IS barriers of the K- and H-Systems through most versatile LB and FB

sion Protection



Remote I/O systems to the leading-edge technology fieldbus infrastructure FieldConnex®, here you will find the right solutions for connecting your intrinsically safe field devices.

On top of that, we offer the appropriate enclosures to install your control components in the most space-efficient, environmentally protected way. Further accessories such as power supplies, lighting, heating units, or marshalling terminals can be integrated as required. Besides, you will save time and money—the cabinet will be delivered to your application ready for plug-in and commissioning, fully tested, and in the right time frame.

Even if you need to integrate instrumentation which is not fit for explosion hazardous areas, our experienced project engineers will find the best solution from among our purge, flameproof, or increased safety enclosures for your requirements. From simple motor starters to the most complex control panels, we will design and manufacture the best system, all the way to comprehensive certification and documentation.

Thomas Kasten
*Product Marketing Manager
 Systems+Solutions*

■ **WEB INFO**
www.pepperl-fuchs.com/cabinet-solutions

APPLICATION

Refined

Signal conditioners in sugar production

■ With production running at 1 million tons a year, Suiker Unie, based in The Netherlands, is one of the largest sugar producers in Europe. Each year, its factory in Groningen alone produces a total of 450,000 tons of sugar of various types. During the high sugar season between September and January, a truck full of sugar beets is unloaded every two minutes, day and night. Before the end product emerges, three million tons of beets have to be washed, shred, boiled, and crystallized. Safe and efficient process control based on the reliable acquisition of measured data is a prerequisite for a smooth process flow and consistently high product quality across the widely diversified plant. The use of galvanically isolated signal conditioners prevents the unwanted ground loops and resulting transient currents that cause measurement errors.

Signal conditioners from Pepperl+Fuchs feature a wide range of functions for the acquisition, amplification, and conversion of temperatures, frequencies, and other analog and digital signals. Signal conversion is necessary to be able to centrally process the different field variables. Suiker Unie uses the universal KFD2-DWB-1.D rotation speed monitor to ensure the highest levels of reliability and availability for its conveyors, drum dryers, and centrifuges.

This approach means faults are detected as soon as they occur. Signal lines in the harsh process environment are constantly monitored for line breaks or short circuits. To reduce wiring and installation costs, power to the devices can be supplied via the Pepperl+Fuchs Power Rail.

The insert for the DIN mounting rail has integrated conductors that provide a 24 VDC supply to the rear of the signal conditioners. This enables line faults in the field circuit to be sent as collective error messages.

Andreas Grimsehl

*Product Marketing Manager
Interface Technology*



■ PRODUCT

Optimizing DCS-Related Interface Projects

H-System offers a wide range of interface modules

■ Decreasing costs and less effort during implementation of complex process automation projects—the H-System has guaranteed this for many years.

The isolated barriers and termination boards of the H-System for connecting field devices and DCS feature preassembled system cables and DCS-specific, tested termination boards. Now, Pepperl+Fuchs offers numerous new plug-and-play solutions for Yokogawa, Honeywell, Foxboro, and Triconex. All these termination boards are tested and certified by our partners.

Furthermore, additional modules are available:

- pulse evaluating unit
- universal temperature transmitter
- resistance barrier
- vibration barrier

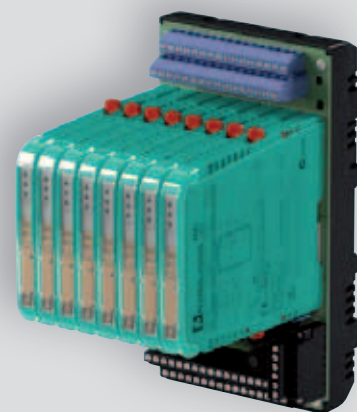
Many existing HiD barriers have been improved, e.g., transmitter power supplies and solenoid drivers.

Andreas Grimsehl

*Product Marketing Manager
Interface Technology*

■ WEB INFO

www.pepperl-fuchs.com/h-system-his



■ PRODUCT

The Separation Wall Makes the Difference

IS and non-IS circuits side by side

■ The new separation wall LB9182A is perfect for maintaining 50 mm clearance between intrinsically safe (IS) and other LB Remote I/O system circuits. Only the LB Remote I/O system allows you to mount IS circuits and non-IS circuits side by side on one backplane. This design gives you high planning flexibility and the most efficient usage of a Remote I/O system.

You can use every slot of the backplane independently from the circuit type. It does not matter whether you use screw terminals, front screw terminals, or spring terminals.

Direct measurements on terminal blocks are possible and diagnostic LEDs are in plain sight on the modules.

The wall features easy access to the module. Any maintenance tasks can be done quickly and effortlessly.

Learn why the LB Remote I/O is the most flexible system for Zone 2, Class I, Div. 2!

Irene Ruf

*Product Marketing Manager
Remote I/O Systems*

■ WEB INFO

www.pepperl-fuchs.com/separationwall



PRODUCT

WirelessHART® Adapter for Harsh Environments

For dust and gas hazardous areas

■ If wiring field devices is too expensive or just impossible in hazardous areas, the new *WirelessHART* Adapter WHA-ADP-F8B2-*A* is the best solution. The aluminum housing can be installed in Zone 1 and 21, Class I, Div. 1 based on the cCSAus/ATEX/IECEx certificate. The adapter is non-corrosive and very robust. The redundancy that this adapter offers increases plant availability as well as mesh network communication.

The network is self-healing and self-organizing. If a path fails, the network itself provides alternative routes without losing any information.



The *WirelessHART* Adapter is able to connect up to four 4 mA ... 20 mA or HART field devices and enhance them with HART information.

Additionally, the adapter provides diagnostic information from the field devices, leading to easy and fast maintenance as well as increased plant availability.

Irene Ruf

*Product Marketing Manager
Remote I/O Systems*

■ WEB INFO

www.pepperl-fuchs.com/WHA-ADP

PRODUCT

Portfolio Growth = Opportunities

VisuNet 900 Series adds 22" monitor

■ A 22" monitor has been recently added to the VisuNet 900 Series. Built to withstand high shock, vibration, and washdown (IP66 rated), this 22" monitor is certified for Class I, Div. 2 hazardous areas.

Encased in a rugged Type 4/4X stainless-steel or painted steel slim housing, with seams that are continuously welded and ground smooth. The robust enclosure design mitigates heat without the need for venting or cooling fans, making this one of the safest and most durable products on the market.

But what sets this monitor apart from the 15" and 19" monitors is its aspect ratio of 16:10. This gives the user higher resolution, and of course more real estate for viewing.

More features at a glance:

- Angled surfaces to prevent standing water
- Chemically resistant keyboards
- Fanless design
- Configurable as a KVM monitor, Remote Monitor, or PC.

Andrew LaMar

Marketing Coordinator

■ WEB INFO

www.pepperl-fuchs.com/hmi



MANAGEMENT NEWS

Leveraging Our Core Strength

Focused HMI products offer significant growth

■ In the fourth quarter of 2012, we announced the restructuring of the Business Unit Visualization+HMI Solutions. This restructuring will allow Pepperl+Fuchs to better position a portfolio and operations for the future. Since we entered the market in 2005, our competitive environment has evolved. So, to grow market share, we must respond.

Restructuring can bring uncertainty, but it also offers a lot more opportunities. Below are some of the key cornerstones governing our strategy:

1. We will provide a transparent process for establishing on-time delivery, flawless production execution, and the highest quality products.
2. The entire HMI product portfolio will be developed further—Pepperl+Fuchs will invest more in support infrastructure as well as R&D to provide the best solutions to your application requests.
3. The portfolio will focus on the oil & gas and the life sciences sectors, covering all hazardous area classifications.

Also, the production process will be streamlined. Creating a modular approach separates the production of components from the final assembly, enabling us to provide you with a customized solution in a quicker and more efficient way. This approach will drive faster throughput and a higher responsiveness to market demands.

As for Visualization & HMI solutions: Each unit will be available as a direct monitor, remote monitor, or full computer, regardless of industry sector or communication technology. We will focus on critical customer demands while leveraging operational efficiencies. We expect a significant improvement in the product development cycles and the suitability of the portfolio for our target markets.

The new HMI concept being implemented is an outstanding example of Pepperl+Fuchs' global collaborations. The first product release based on this concept is our VisuNet XT, a high-performance PC for the oil & gas industry, which will be available in the second quarter of 2013. The Zone 2, Class 2, Div. 2 rugged HMI version will run software that controls the drilling process on an open sea or land drilling rig.

Soon, a Zone 1 version will also be available for use primarily in the life science and oil & gas sectors. These examples show how the HMI portfolio from Pepperl+Fuchs delivers significant value to our customers. We understand what our customers need. As a global company, our HMI team is located all over the world and available to support you when you need us. We have taken action and are ready to provide you with the best solutions!

Jim Bolin

COO Process Automation

PRODUCT

Hydrostatic Pressure Sensors

With ceramic and piezoresistive cells

■ The new pressure sensors PPC-M51 and LHC-M51 are suitable for accurate absolute and gauge measurements

- of pressure in gases, steams, or liquids
- of level, volume, or mass measurements in liquids

Ceramic or metal process isolating diaphragm seals allow the sensors to work in temperatures up to 400 °C or pressure up to 413 bar.

Level, volume, and mass in any tank shape can be calculated based on a programmable characteristic curve that accounts for level, pressure, density of the medium, and gravitational constant.



The sensors can compensate for foam formation, agitators, screen fittings, and liquid gases. The intrinsically safe (Ex ia/IS) transmitters can be used in hazardous areas Zone 0 and 20 as well as in FM/CSA Class I, Div. 1 installations.

Martin Holdefer

*Business Development Manager
Field Devices*

■ WEB INFO
www.pepperl-fuchs.com/M51

KNOWLEDGE

Why Standards?

The importance of standards

■ A standard is a technical solution which codifies best practices and is usually state of the art. While standards are often unknown to the general public, they are one of the most important considerations in business. Standards are also an accepted way of doing things, and therefore help facilitate processes of all kinds. For this reason, they are well known and well respected among manufacturers around the world.

As a global player in the field of explosion-protected equipment, Pepperl+Fuchs applies international standards to its products and contributes in large part to the development of international standards, e.g., regarding explosive atmospheres.

Our engineers share their expertise with international experts in standards committee meetings. In these meetings, market standards evolve, laying the groundwork for our R&D activities and making industrial processes safer every day.

Günter Gabriel

Manager Standards+Certificates

■ APPLICATION

Process Quality under Control

Energy company ENI counts on fieldbus components

■ After construction of the plant in Sannazzaro dè Burgondi (Italy), production using the new Eni Slurry Technology (EST) is starting. Process quality is ensured with FOUNDATION™ Fieldbus and infrastructure components from Pepperl+Fuchs.

EST is an innovative process developed in Italy for converting waste materials from the refinery process into products of a much higher grade and ecologically sound materials. Its reliable architecture combines distributed control, safety technology, and fire protection in a single system. About 15,000 I/O signals are permanently wired. 5,500 fieldbus instruments run using 650 segments. The solution provided by control system supplier Yokogawa Italy allows the direct exchange of information within the architecture using a single redundant bus that connects all systems, control system

engineering, and protection equipment. Pepperl+Fuchs infrastructure components ensure that the FOUNDATION™ Fieldbus segments operate correctly.

Prewired Segment Protector junction boxes for Zone 2 connect the field devices. Intelligent units support the quick connection of field devices and their safety features; from short-circuit protection to a High-Power Trunk for the hazardous area. The Advanced Diagnostic Module (ADM) allows fast commissioning. ADM's Physical Layer Diagnostics enables earlier fault detection. Predictive maintenance increases plant availability.

Andreas Hennecke
Product Marketing Manager
Fieldbus Infrastructure



IMPRINT

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PRODUCT

New Guided Microwave

For use across industry

■ Level measurements remain precise and independent from material characteristics such as

- density or bulk weight
- conductivity
- dielectric constant
- process variables like temperature, pressure, condensation, and dust.

Conventional guided radar instruments are prone to measurement deviations in high pressure, steam, or gas phase applications. The new Pulscon LTC 5 x Series was designed in accordance with IEC 61508/

IEC 61511-1. The LTC 5 x features active gas phase compensation for accuracy and control. The sensors are available in plastic, aluminum, or stainless steel housings, with 4 mA ... 20 mA HART and PROFIBUS PA protocols for system integration.

Menu-guided setup reduces installation time and effort, and can be completed in six steps.

Martin Holdefer
Business Development Manager
Field Devices

NEWS

Easily APplicable

■ Get the new, user-interface simulation software app for your tablet PC. It shows how easy it is to program the 6000 Series purge and pressurization controller in English, German, and Chinese.

Dr. Michael Lupik
Business Development Manager
Purge+Pressurization Systems

■ **WEB INFO**
www.pepperl-fuchs.com/uic-app

SUDOKU

Fill this 9×9 grid with digits so that each column, each row, and each of the nine 3×3 sub-grids contain all of the digits from 1 to 9.

		7			9			
5						8	1	
		6	5	1		4		
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	4	1						8
			1			7		

NEWS

New Explosion Protection Manual

The explosion protection manual from Pepperl+Fuchs has been thoroughly revised and is now available as a series of brochures.

The manual contains detailed explanations and practical examples to help you familiarize yourself with the subject. It contains comprehensive information about the physical principles of explosion protection, every type of explosion protection precaution and the requirements of standards, legislation, and directives.

Special attention is paid to the design of intrinsically safe signal circuits and the installation of modern fieldbus networks in hazardous areas.

One brochure is dedicated to dust explosion protection, another to the requirements of non-electrical explosion protection.

Contact us for your printed copies of the brochures. It's worth keeping up to date, because the series will be extended to cover other topics and continuously be updated. Order your free copies today.

Andreas Hildebrandt

Manager Training and Committee Work

NEWS

Fieldbus in Action

Better protection made easy

Availability matters in process automation—particularly with fieldbus-based safety protocols.

Would you like to be protected from:

- Contact bounce caused by loose wires or work on live segments?
- Drifting and often hard-to-locate overload or ground fault conditions, e.g., caused by water ingress?

Or, would you like to learn more about:

- The status of surge protectors without manual checking?
- Water in junction boxes or instruments and how to find the water?
- The working condition of the control cabinet regarding temperature, humidity, etc.?

Technical white papers describe functions, concepts and benefits. Also, case studies with cost-benefit calculations show how to gain control over your fieldbus segment without engineering. Get your copy as a free download or in print today.

Andreas Hennecke

*Product Marketing Manager
Fieldbus Infrastructure*

WEB INFO

www.pepperl-fuchs.com/fieldbus-twp

EVENTS

HANOVER FAIR

April 8-12

Hanover, Germany

www.hannovermesse.de

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PROTECTING YOUR PROCESS



We've got you covered—no matter what kind of protection you need.

Paragliders trust the protection of their harness. You can trust the explosion safety of your plant with protection concepts and solutions developed over 60 years from Pepperl+Fuchs.

Our intrinsic safety barriers protect thousands of chemical, pharmaceutical, oil & gas, and other production plants against explosion hazards—but we have much more to offer: 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, and lighting, as well as emergency shutdown equipment and accessories.

With locations and partners all over the world, we are there, wherever and whenever you need us.