



# PROTECTING YOUR PROCESS PRODUCT PORTFOLIO FOR PROCESS AUTOMATION



## Our Values, Our Goals, Our Focus – Your Benefit

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 made us your reliable partner.

The Process Automation Division is a market leader in intrinsically safe explosion protection components, offering a large selection of products available from various product lines.

As a preferred partner of industries such as oil and gas, chemistry, pharmaceuticals as well as power and utilities, we offer comprehensive, application-oriented system solutions, including customer-specific control cabinets and enclosures for the process automation industry.

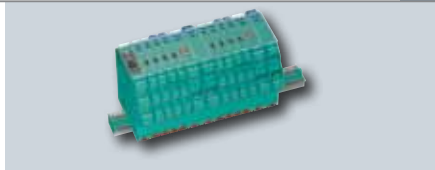
With a global sales and support organization, we are able to provide any plant with interface and network products for advanced process control.

Being actively involved in major technology associations, we are always at the leading edge of technology, providing innovative products that pave the way for increased efficiency and safety.

Pepperl+Fuchs –  
PROTECTING YOUR PROCESS

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Trusted Protection with K-System

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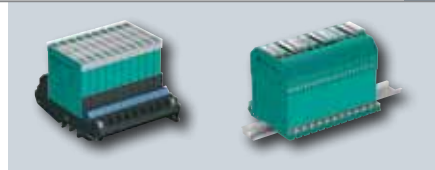
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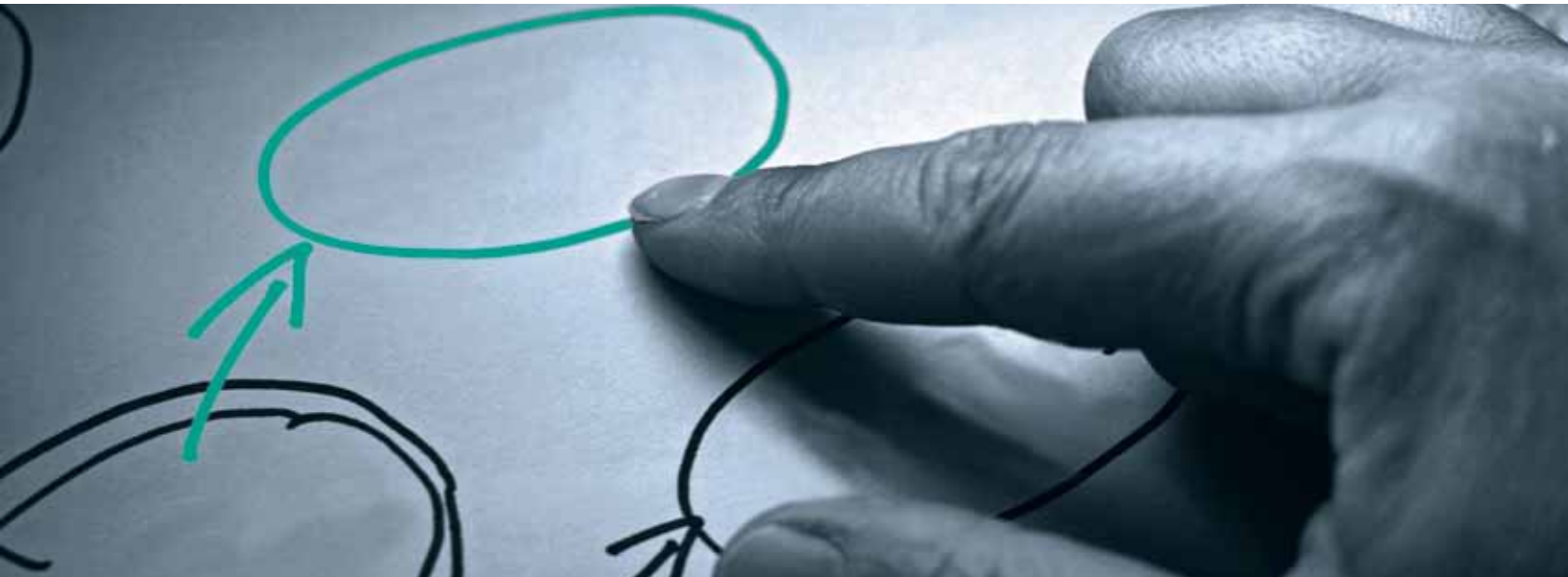
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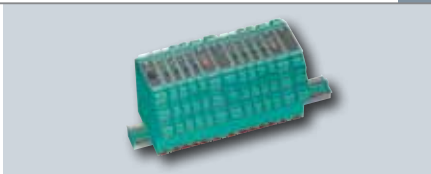


Unrelenting Current



**SIGNAL CONDITIONERS**

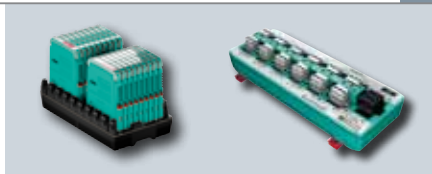
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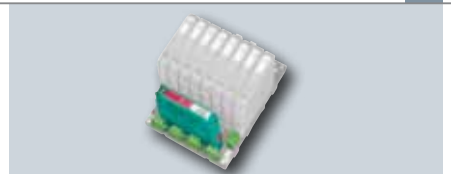
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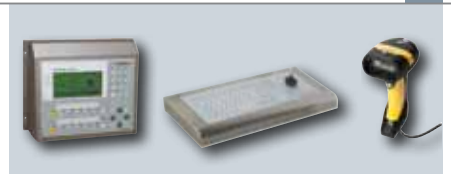
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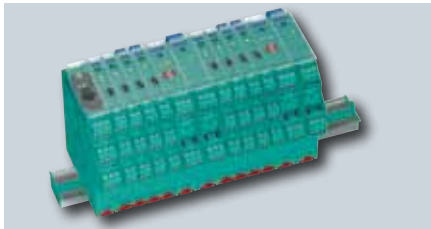
A Valuable Partner at Every Step Along the Way

## Trusted Protection with K-System

K-System isolated barriers guarantee safe, reliable, and efficient signal transmission between your field device and the control system. In addition to their inherent power limitation, these modules feature galvanic isolation between the signal loop and all other power loops. Pepperl+Fuchs offers the most complete range of products to meet all your application and installation requirements.



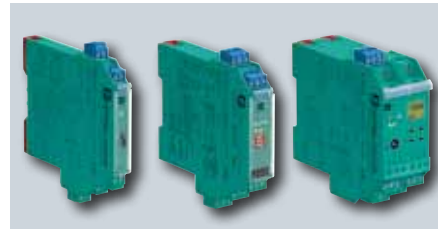
### K-SYSTEM



- DIN rail mounted system
- Supply and collective error messaging via Power Rail
- Comprehensive module portfolio and accessories

With more than 150 modules, K-System is the leading portfolio of isolated barriers for intrinsic safety applications. K-System is a full line of DIN rail-mounted isolators packed with features that make process control interface applications simple to design and easy to install.

### K-SYSTEM INTERFACE MODULES



- Digital and analog input/output modules
- Modern circuit design with low power dissipation
- SIL2 and SIL3 designs

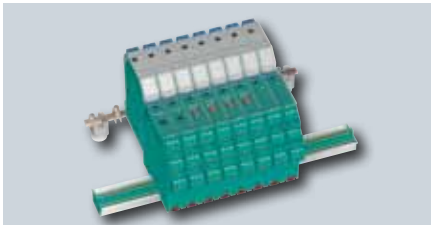
Depending on the functionality and application, K-System offers different housing widths. Because each module has the same features and benefits, interoperability between modules is guaranteed – all barriers can be combined on Power Rail for superior operation.



# DIVERSITY

*It's our wide selection of products that enables us to find the best solution for any situation.*

## THE K-SYSTEM OPTIONS



- Simplified installation on Power Rail or K-DUCT
- Increased availability with power supplies and Power Feeder for redundant powering of the modules
- Easy integration of surge suppression

Standard options like multiple channels, lead breakage monitoring, and removable terminals allow easy optimization with a single, uniform housing. One system provides galvanically isolated field circuits for hazardous and nonhazardous applications, SIL ratings, continuous monitoring, worldwide application and unmatched performance.

## K-SYSTEM CABINET AND ENCLOSURE SOLUTIONS



- Cabinet solutions built to your specific requirements
- Reduced installation and commissioning costs
- Engineering support for cabinet design

A wide range of cabinet solutions for interface, marshalling, or control room applications are supported. The full line of K-System interface components can be integrated into a cabinet or enclosure. This reduces commissioning time and up-front costs.

Learn more at:

[www.pepperl-fuchs.us/k-system](http://www.pepperl-fuchs.us/k-system)

## Trusted Protection with H-System

The H-System platform is the signal interface technology based on termination boards. System connectors on the termination board guarantee fast and reliable connection to the I/O cards of the automation control system.

Pre-assembled cables with multi-pin system connectors reduce the engineering effort and replace extensive manual point-to-point wiring. Simplified documentation and reduced danger of wiring faults minimize the time needed for commissioning.



### H-SYSTEM



- Compact design for space-saving installation
- Requires 30% less space than competitive systems
- Easy engineering – fast commissioning

The H-System represents a highly reliable system with redundant power supply and a DCS-specific connection with system cables.

### H-SYSTEM INTERFACE MODULES



- HiC – for single loop integrity
- HiD – for high channel density
- Wide product range offers a fit for almost every application

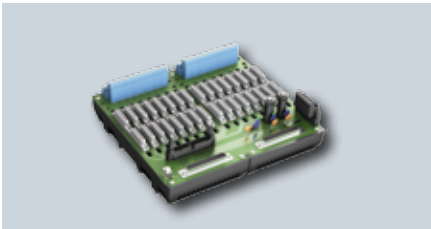
H-System isolated barriers have an unparalleled low power dissipation and allow quick and easy installation on the system termination boards.



# EXPERTISE

*It's our industry insight  
that leads to reliable,  
expert solutions.*

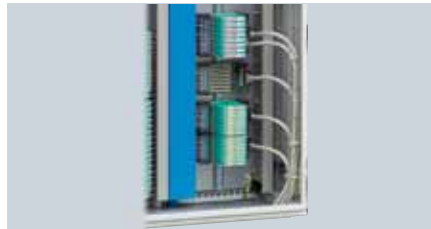
## H-SYSTEM TERMINATION BOARDS



- HiC for single loop integrity and great space saving, up to 30%
- At only 4.5 mm per channel, HiD termination boards provide high channel density
- Fault indication boards and HART communication boards for additional functionality

The H-System termination boards are designed for 8 or 16 interface modules and are installed on 35 mm DIN mounting rails.

## H-SYSTEM CABINET AND ENCLOSURE SOLUTIONS



- Tremendous versatility and cost savings
- Unique design options ensure the most cost-effective solution
- Global approvals for specific country applications are available

Multiple H-System motherboards can be packaged with other components, such as lightning or surge protection, for a custom solution. A custom-designed enclosure to match your DCS-specific application will reduce wiring and engineering.

Learn more at:

[www.pepperl-fuchs.us/h-system](http://www.pepperl-fuchs.us/h-system)

## Flexibility with Z-System and SB-System

Zener barriers are a cost-effective solution for providing an intrinsically safe interface with field devices located in the hazardous area. As part of the intrinsic safety barrier family, Pepperl+Fuchs offers two distinct zener barrier systems. The Z-System barriers are 12.5 mm wide and mount and ground directly to standard 35 mm DIN rail, while the SB-System barriers are the only termination board solution with pluggable modules available on the market. In addition to this wide product portfolio of housing and connection styles, we offer accessories for each application.

### SB-SYSTEM



- Pluggable zener barrier, 1- and 2-channel, with replaceable pre-fuse
- Termination boards for 1-, 6-, or 10-barrier modules
- Common potential equilization with multiple barrier boards

The SB-System zener barriers consist of termination boards with pluggable modules. Thus, the system offers the possibility of pre-wiring. The circuit that extends into the hazardous area is separated from the safe area circuit as long as the pluggable zener barrier is not inserted. The termination board can be installed on DIN rails.

### Z-SYSTEM



- 1-, 2-, and 3-channel versions
- Snap-on DIN rail ground/earth connection
- Replaceable fuse facilitates circuit loop checks and reduces installation cost and cabinet space

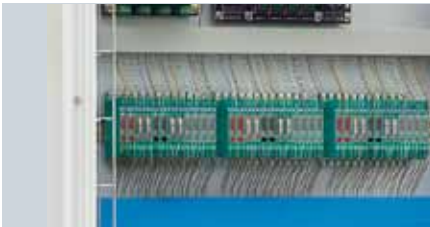
Z-System zener barriers are installed quickly and easily on DIN rail. Earthing/grounding is easily achieved via the mounting rail. An extensive product range is available for a full range of AC and DC applications.



*It's our genuine team spirit  
that promotes  
an open exchange  
of knowledge and trust.*

**COLLABORATION**

#### Z-SYSTEM ENCLOSURE SOLUTION



- Reduces engineering costs
- Custom-built to your specifications
- Incorporate multiple zener barriers in a single enclosure

Combine all of your zener barriers into a single enclosure to save even more on installation and reduced in-house engineering. Pepperl+Fuchs is more than just a hazardous location supplier, we put things together.

Learn more at:

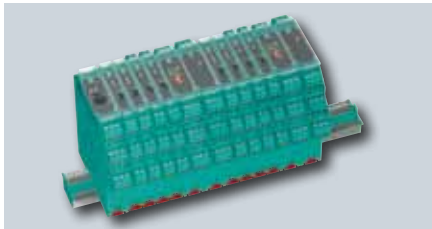
[www.pepperl-fuchs.us/zener](http://www.pepperl-fuchs.us/zener)

## Reliable Transmission with K-System

In order to facilitate efficient processing of today's multitude of measurement values, signals need to be converted to specific formats. In non-ex, general-purpose applications, signal conditioners allow the transmission of precise measurement values, isolation and the elimination of ground loops. Specific converters collect analog signals from a wide range of field instruments, such as thermocouples and RTDs, and transform them to standard signals, such as 2-10 V or 4-20 mA.



### K-SYSTEM



- Digital and analog input/output modules
- System features similar to widely used Isolated Barriers of the K-System
- Lead monitoring

The wide portfolio of available modules allows the best choice for any application.

### K-SYSTEM – KC- AND KF-MODULES



- Small, space-saving single-channel devices provide high signal integrity
- Signal converters, repeaters for temperature and standard signals
- SIL2 and SIL3 devices for safety applications
- Quick setup with DIP-switches or potentiometer

The small 12.5 mm devices guarantee the highest signal integrity due to their single channel concept. For higher channel, space-saving concepts, the 20 mm KF-Modules are the ideal solution.



# PROTECTION

*It's our products conforming with standards and certifications that protect processes and safeguard your investments.*

## K-SYSTEM – KF-MODULES



- Inputs for frequency, temperature, load cells or standard signals
- Graphical display for multiple units
- Setup with pushbuttons or PC
- Analog output and trip relays

The 40 mm wide, highly functional KF-Modules are the perfect choice when many functions are needed in one device. Many different input and output options are combined in these devices.

## CABINET AND ENCLOSURE SOLUTION



- SIL rated for safety instrumented systems
- Choose your own enclosure material
- Power Rail for easy wiring
- General-purpose installations

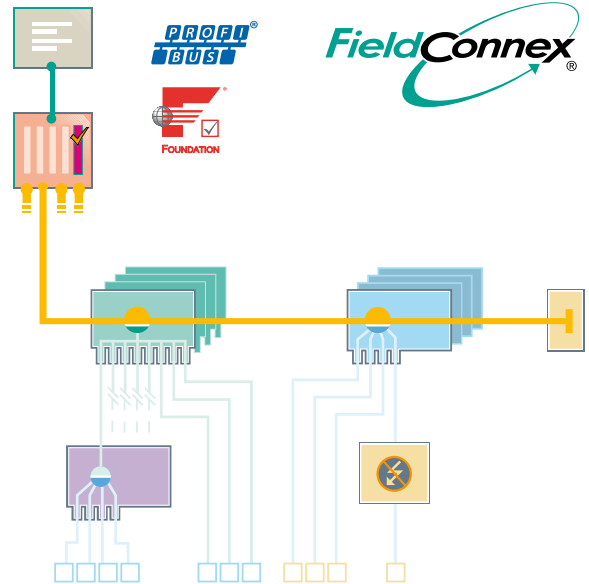
Signal conditioners improve processes and signal integrity and can be combined in a multitude of configurations. Enclosures are available in various sizes and strengths for a variety of temperature ranges, Type/IP ratings, and material construction.

Learn more at:

[www.pepperl-fuchs.us/signalconditioner](http://www.pepperl-fuchs.us/signalconditioner)

## FieldConnex® – Simplify Processes

FieldConnex is the fieldbus infrastructure of choice for FOUNDATION™ fieldbus H1 and PROFIBUS PA. Power supplies, installation technology, and process interfaces make the fieldbus physical layer a manageable asset. The High-Power Trunk concept, the process industry's de facto standard, maximizes the number of devices per segment and cable distances in any hazardous area. In combination, FieldConnex power supplies, FieldBarriers, and Segment Protectors enable the right explosion protection for your process plant – with their availability they support modern-day safety protocols.



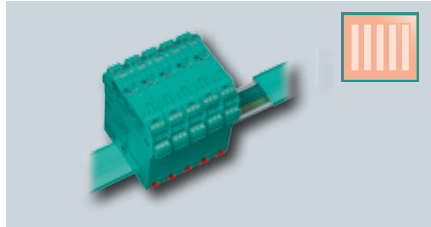
### POWER HUB



- Integration into any process control system
- All modules fully redundant
- Extremely low heat dissipation

The FieldConnex Power Hub is a modular power supply for FOUNDATION fieldbus H1 or transparent coupling of PROFIBUS PA segments to PROFIBUS DP.

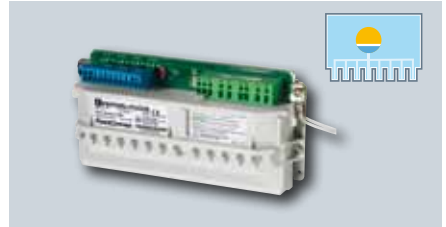
### POWER SUPPLIES AND POWER CONDITIONERS



- All-in-one housing
- Snap-on installation with Power Rail
- Extremely compact and energy-efficient design
- Sockets for easy attachment of test plugs

Only 20 mm wide, this power supply is the smallest available today with all functions in one housing.

### FIELDBARRIER



- Installation in Zone 1/Class I, Div. 2
- Devices in Zone 0/Class I, Div. 1
- Galvanic isolation, short-circuit protection, and intrinsic safety

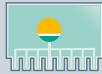
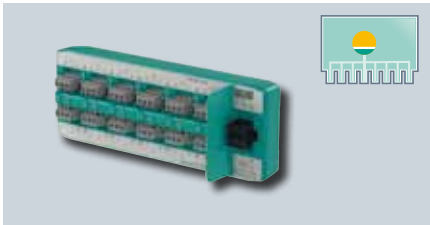
This original FieldBarrier, installed world-wide, powers more than 200,000 field devices with intrinsically safe outputs. To meet the unique needs of our customers, FieldBarriers are also offered in a modular Field Junction Box System, providing a custom solution for your application.

*It's our foresight  
that enables us to provide  
long-term success.*

# SUSTAINABILITY



## SEGMENT PROTECTOR



- Short-circuit protection
- Installation and devices in Zone 2/ Class I, Div. 2
- 4 to 12 outputs non-incendive (Ex nL) or intrinsically safe (Ex ic)

Segment Protectors increase fieldbus availability. Their recognition by the Fieldbus Foundation as the first-ever approved fieldbus coupler, confirms the reputation of FieldConnex. The segment protector features an excellent electronic design, and it can be delivered prewired in an enclosure – tailored to your specific requirements.

## FIELDBUS PROCESS INTERFACES



- Valve coupler for up to four low-power valves
- Up to 12 digital inputs

These specialized interface components allow full integration of I/O signals into any fieldbus infrastructure powered only by fieldbus. With modular I/Os for high-power applications, FieldConnex components serve every need.

## FIELDBUS SOLUTION FIELD JUNCTION BOX



- Certified for Division 1 and 2/ Zone 1/2/21/22
- Wide range of standard and customized configurations
- Guaranteed consistent superior quality

One or more Segment Protectors or FieldBarriers may be packaged together or combined with other components for a custom distribution panel. Enclosures are assembled in our approved panel shops according to international requirements and shipped ready to install.

Learn more at:

[www.fieldconnex.info](http://www.fieldconnex.info)

## Monitoring Fieldbus

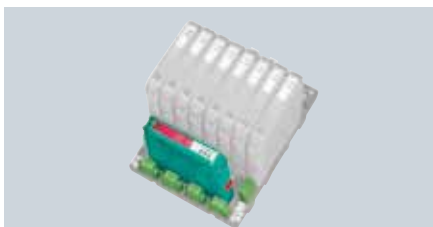
Fieldbus systems have never been easier to manage. Advanced Diagnostics provide insight into the physical layer. Three main activities are supported by diagnostics:

- Accelerated commissioning and segment validation through automated working procedures
- Efficient troubleshooting quickly pinpoints faults reducing commissioning or repair time
- Online alarming monitoring provides timely information before plant failure

Diagnostics enable proactive maintenance while the plant continues to perform at peak levels. The fieldbus infrastructure itself becomes a manageable asset.



### ADVANCED DIAGNOSTIC MODULE FOR THE FIELDCONNEX® POWER HUB



- Continuous monitoring of signal conditions
- Information on long-term changes using trend analysis
- Integration in any DCS

The Advanced Diagnostic Module plugs into the diagnostic slot of the Power Hub system and continuously monitors the health of your fieldbus network.



### THE INTERFACE BETWEEN THE HUMAN AND THE PHYSICAL LAYER



- Easy-to-use screens guide the user
- Online troubleshooting with clear text messages
- Oscilloscope function to diagnose complex scenarios

The Diagnostic Manager is available for PACTware or as a part of plant asset management systems such as Yokogawa's PRM® or Emerson's AMS® Suite. The same user interface for all plant assets simplifies life for operators and maintenance personnel. They can work on the fieldbus physical layer with the same user interface for all plant assets. This means reduced training and improved work performance.



# COMMUNICATION

*It's the exchange of knowledge  
that leads to solutions perfectly  
tailored to your processes.*

## MOBILE ADVANCED DIAGNOSTIC MODULE



- USB-port for laptop connection
- Sturdy transport case with all accessories
- Designed for the traveling professional

Local troubleshooting on site is no problem with mobile diagnostics. The module interfaces with any fieldbus segment and a laptop offering all the advanced diagnostic features of the stationary unit.

Learn more at:  
[www.pepperl-fuchs.us/adm](http://www.pepperl-fuchs.us/adm)

## Bus Interface for Legacy Signals and DCS or PLC Systems

Pepperl+Fuchs Remote I/O Systems are very cost-effective modular systems to connect a complete range of discrete and analog sensors and actuators to process control systems via a standard fieldbus.

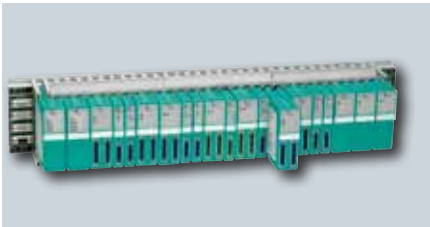
A variety of gateways are available to make use of different bus protocols. Additionally, the Remote I/O are rugged, reliable, and easy to handle.



Modbus



### LB REMOTE I/O FOR SAFE AREAS AND ZONE 2 OR CLASS I, DIV. 2



- Proven in-use redundancy for all major DCS systems
- Single-channel, high-integrity, and multi-channel compact I/O
- Maximum packing density for the minimum number of cabinets
- The same engineering in all hazardous areas
- IS I/O can be mounted right next to general-purpose I/O

### FB REMOTE I/O FOR ZONE 1



- Uses the same electronics as LB Remote I/O
- Rugged, encapsulated modules for hostile environments
- Hot swap modules without a hot work permit
- Maximum packing density
- Intrinsically safe or increased safety I/O

### RPI – REMOTE PROCESS INTERFACE FOR SAFE AREAS OR ZONE 2



- Simple, flexible DIN rail mounting using the Power Rail concept
- Easily combined with conventional I/O using K-System isolators
- Modular design with 1-4 channels in a single module

RPI is particularly suitable for combinations with K-System isolated barriers on the same Power Rail and also for plant retrofits using the existing wiring. Optional plug-in overvoltage protection is available.

The Remote I/O Systems are suited for green field sites as well as plant retrofits using the existing wiring. HART Communication is realized via the bus. Selected digital and analog output modules are available for SIL2 featuring a bus independent hardware shut down. Both systems are available with Ethernet option.



*It's our 60 years of experience  
that leads to efficient,  
reliable, and safe processes.*

**CONTINUITY**

## REMOTE I/O CABINET AND ENCLOSURE SOLUTIONS

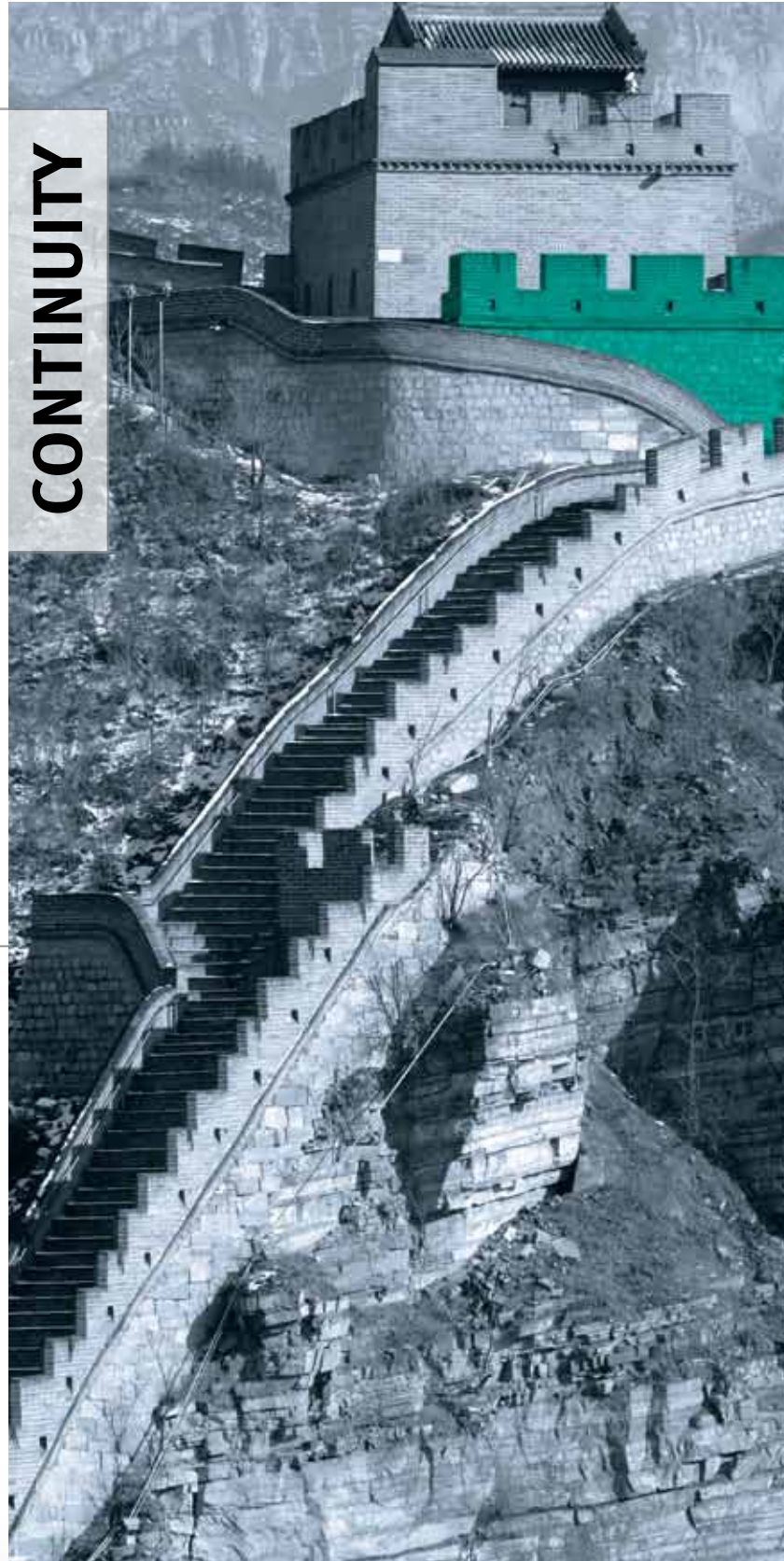


- Reduced engineering costs
- Certified for Class I Div. 2 and Zone 1/2/21/22
- Wide range of standard and customized configurations
- Guaranteed consistent superior quality

The Remote I/O Systems can be mounted together with other ATEX approved components in a variety of enclosures. Closely cooperating with our customers, our project engineers will offer standard or customized solutions that allow fast and easy installation on site.

Learn more at:

[www.pepperl-fuchs.us/rio](http://www.pepperl-fuchs.us/rio)

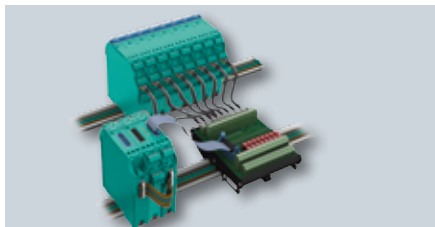


## The Online Connection to the Field

HART multiplexers provide digital access to the configuration and diagnostic data of your HART field devices without influencing the processing of measured values. The power of HART field devices already installed can be fully utilized to increase the value of your installation. Customer-specific transfer interfaces are provided that connect to your installed control systems. HART multiplexers are ideally suited for extension, modernization, and renovation of installations in process automation and are compatible with operating and asset management software (AMS, PDM, FieldCare, **PACT<sup>ware</sup>**).



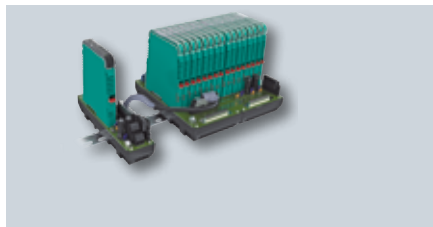
### K-SYSTEM HART MULTIPLEXER



- Master/slave system for up to 7,936 field devices
- Networking of up to 31 multiplexers via RS485
- Compact design, DIN rail mounting

The K-System HART Multiplexer works as a master/ slave system. Addresses up to 7,936 field devices with the maximum 15 connected HART Multiplexer slaves.

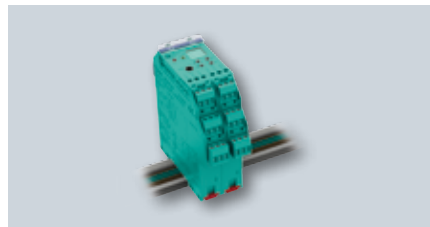
### H-SYSTEM HART MULTIPLEXER



- Stand-alone multiplexer for up to 992 field devices
- Networking of up to 31 multiplexers via RS485

Each H-System HART multiplexer provides communication to 32 HART devices. An RS485 network is built by multi-dropping the HiD mux 2700 multiplexers. With up to 31 multiplexers, a loop can be built with a maximum of 992 field instruments.

### HART LOOP CONVERTER



- Converts HART variables into analog signals
- Transmitter supply and passive input
- Three analog current outputs for different HART variables
- Up to four relay outputs

The HART Loop Converter is a single loop solution. Each HLC is able to power and communicate with one HART field device. It converts the HART information into analog and trip values.

Learn more at:

[www.pepperl-fuchs.us/hart-interface](http://www.pepperl-fuchs.us/hart-interface)



QUALITY

*It's our pursuit of excellence  
that enables us to provide  
superior products and services.*

**PACTware™ –  
MANUFACTURER- AND FIELDBUS-  
INDEPENDENT CONTROL INTERFACE**



- Fieldbus-independent operation of devices and systems
- Fast, efficient integration of devices
- Investment security due to shared use and continued development at **PACTware** member companies

With **PACTware**, you can engineer, commission, operate, and maintain the field devices and systems in your plant independent from supplier and communication protocol. In the operating phase, **PACTware** is used for process monitoring.

**PACTware** can be used in different locations: on the central engineering station, as local operation in the field, and in the workshop for hardware check.

## Realizing New Applications

*WirelessHART* is based on the well-known HART standard that is used by 20 million HART enabled field devices. Instead of the 4-20 mA current loop, it transmits the information over the air using a wireless mesh network. *WirelessHART* not only reduces installation efforts, it also enables completely new applications.

*WirelessHART* provides the same advantages as a wired HART communication system: remote parameter setting of field devices, monitoring of noncritical measurements and environmental data, and asset management.

# **WirelessHART**



### **WirelessHART GATEWAY**



- Serial RS485 and ethernet interface
- Modbus and HART protocol
- Redundant power supply

The *WirelessHART* Gateway is the core element of a wireless mesh network. It serves as the interface between the mesh network and the plant's process control or asset management.

### **WirelessHART FIELD DEVICE ADAPTER**



- Upgrade installed field devices with intelligence
- Battery powered
- Powers the transmitter
- Also operate as a router in larger installations

The *WirelessHART* Adapter can be connected directly to the interface of any field device. This can be a conventional 4-20 mA or an intelligent HART device.



# POWER

*It's our determination that gives  
us the power to provide  
outstanding customized solutions.*

## WirelessHART TEMPERATURE CONVERTER



- Dual-channel temperature converter
- Inputs for RTD and termocouples
- Battery powered
- LED and pushbuttons for status and setup

The *WirelessHART* Temperature Converter offers two terminals to connect RTD or TC temperature sensors. It is designed to transfer measurements directly to the network.

Learn more at:

[www.pepperl-fuchs.us/wirelesshart](http://www.pepperl-fuchs.us/wirelesshart)

## Creating a Safe Area

Purge and pressurization systems offer a safe and economical approach to installing electrical equipment in hazardous locations. Protected enclosures are purged and pressurized then maintain pressure within the enclosure. This reduces the classification within the protected enclosure from a Division 1/ Zone 1 to Division 2/Zone 2 or general-purpose area. By creating a safe area inside an enclosure, general-purpose equipment can be used in hazardous (classified) areas. We offer universal solutions for use in Zones/Divisions 1 and 2.



### SERIES 6000



- Installation in Division 1 / Zone 1
- Type X / Ex px systems certified for ATEX, NFPA 496, and IECEx standards
- Enclosure sizes up to 250 ft<sup>3</sup> (7.08 m<sup>3</sup>)
- Component kit for size and cost savings

The 6000 series purge system features an IP66/Type 4X stainless steel housing that is suitable for worldwide use in Division 1 and Zone 1 hazardous areas and in safety applications up to SIL2/3. The 6000 series Type X/Ex px purging system is completely automatic and has a user-friendly, menu-driven configuration.

### SERIES 3000



- Installation in Division 2 / Zone 2
- Rapid Exchange purging system
- Enclosure sizes up to 250 ft<sup>3</sup> (7.08 m<sup>3</sup>)
- Component kits offer space and cost savings

The 3000 series purge system is available for Type Z and Y and Ex pz applications as one model number. This globally certified purge system meets Class/Division and new ATEX standards and directives.

### SERIES 5000



- Ex pz, Zone 2 / 22 ATEX certified
- Compact design for easy installation
- PT100 temperature inputs for control/monitor equipment/ enclosure temperatures
- Fully automatic system
- Easy programming
- Enclosure power and alarm outputs

The 5000Q purge system is a compact, Zone 2, Ex pz purge pressurization system that is field configurable for most applications. PT100 inputs allow temperature monitoring and control for equipment inside the enclosure.



# FLEXIBILITY

*It's our adaptability that enables us to tailor procedures to your requirements and match solutions to your goals.*

## ENVIRO-LINE



- Installation in general-purpose or in nonhazardous areas
- One simple kit; easy to specify and easy to install
- Complete package for any size enclosure
- Keeps caustic and corrosive environment outside the enclosure

The Enviro-Line series of environmental pressurization systems protects equipment in enclosures in nonhazardous areas that contain dusty, dirty, and corrosive atmospheres.

## PURGED ENCLOSURE SOLUTION



- For applications ranging from Type X, Y, and Z to Ex [p]
- Multiple enclosure material types and sizes
- Purge system preassembled within an enclosure for easy on-site installation
- Customized solutions
- Class I, II, and III; Division 1 and 2/Zone 1/2/21/22

Purge and pressurization products offer a safe and economical approach to installing electrical equipment in hazardous locations. By creating a safe area inside the enclosure, general-purpose equipment can be used in hazardous (classified) areas.

Learn more at:

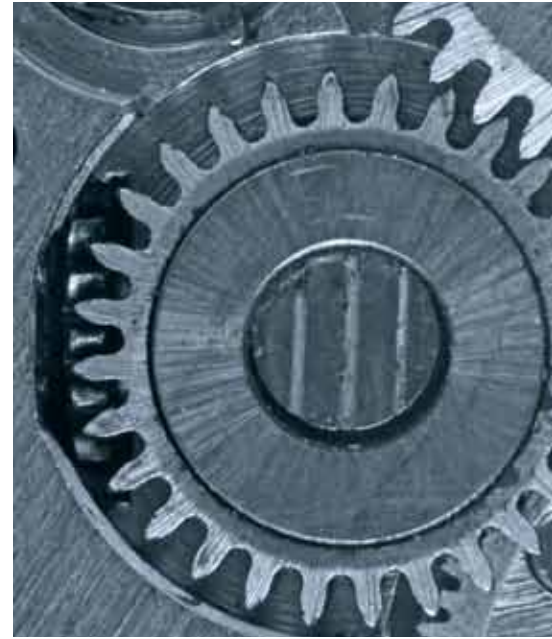
[www.pepperl-fuchs.us/purge](http://www.pepperl-fuchs.us/purge)

## Industrial Monitors and HMI Solutions

The VisuNet product line is a modular system for visualization and operation under a crossfire of conditions. It can be used in almost every environment.

VisuNet is available for hazardous areas, for use under GMP conditions, in life science industries, as well as industrial plant floor environments. A wide range of screen sizes, mouse types, country specific keyboard layouts, mounting options, and interfaces make VisuNet a tailor-made product.

VisuNet is available as a Direct Monitor, with optional KVM extension, as a Remote Monitor, or as a Panel PC, making it the perfect fit for every IT-infrastructure.



### VISUNET PANEL PC



- Usable as a stand-alone system
- System with various screen sizes, touch options, keyboard layouts, mouse versions, and mounting configurations

VisuNet Panel PCs are monitors with an integrated PC and an Ethernet interface. They are typically used in collaboration with PLCs or as a stand-alone system. VisuNet Panel PCs are available for Zone 1/21 and as a GMP version.

### VISUNET REMOTE MONITOR



- No limit on distances for data transfer, Ethernet connection
- System with various screen sizes, touch options, keyboard layouts, mouse versions, and mounting configurations

VisuNet Remote Monitors are network compatible monitors. They can be connected to every Ethernet-based network without any additional components. VisuNet Remote Monitors are available for Zone 1/21 and as a GMP version.

### VISUNET KVM MONITOR



- Distances for data transfer up to 300 meters to the host PC, connection via fiber optic cable
- System with various screen sizes, touch options, keyboard layouts, mouse versions, and mounting configurations

VisuNet KVM Monitors are monitors with KVM (keyboard video mouse) amplifier. KVM monitors are connected with a SK-KVM module that is located in the safe area and connected with the host PC. VisuNet KVM Monitors are available for Zone 1/21 and as a GMP version.





# TECHNOLOGY

*It's our technical leadership  
that paves the way  
to higher levels of performance.*

## VISUNET DIRECT MONITORS



- Wide range of screen sizes and bezel materials
- Longest MTBF in the industry (MTBF > 550,000 hours)

VisuNet monitors are engineered to endure the harsh, unyielding environment of the plant floor. Every monitor is designed with the highest tolerance for extended temperature ranges and shock and vibration requirements. VisuNet monitors are available for Class I / Division 2 and nonhazardous versions, as well as for GMP requirements.

## VISUNET GMP



- Especially designed to meet the demands of GMP requirements
- Wide range data transfer methods supported
- Customize a system from a simple monitor to a complete stand-alone industrial workstation

The VisuNet GMP is a modular product family. The portfolio extends from simple monitors and remote monitor systems with Ethernet connection to a complete PC with single or dual monitor. All models feature a 19-inch display with an optional touchscreen. The stainless steel housings have an IP65 degree of protection, and an industrial keyboard with integrated mouse is optional.

Learn more at:

[www.pepperl-fuchs.us/hmi](http://www.pepperl-fuchs.us/hmi)

## Upgrading Field Applications

Visualization and operation in hazardous areas is a challenge that sometimes requires more than an operator workstation. Compact text and graphic panels can provide solutions in process automation as well as barcode readers, stand-alone keyboards, network components, power supplies, and mobile HMI. All devices are aligned to each other but are also applicable as stand-alone components.

### TERMEX OPERATOR TERMINAL



- Operator panel for Zone 1 and 22, Class I/Division 1
- Interfaces include RS232, RS485, TTY, Modbus, or PROFIBUS DP
- TERMEXpro software for graphical project design available

The operator panels are typically connected to a PLC. Classic terminal operation is also possible with a connection to a host PC.

### POWERSCAN BARCODE READER



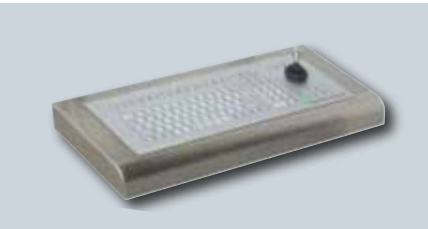
- Barcode reader for Zone 1 and 22
- Distances up to 150 m from host PC
- Functional reliability guaranteed after a fall from 2 meters

PowerScan can be connected to a host PC, a TERMEX operator panel, or to a VisuNet operator workstation.

# VISIONS

*It's our passion for innovative technologies that shapes the future of our products.*

## TASTEX KEYBOARDS



- Stand-alone keyboards for Zone 1 and 21
- With USB PS2 adapter also usable with USB connectors
- Various keyboard layouts and mouse types available

TASTEX foil keyboards connect to PCs using PS/2 connectors. They are driven by the SK-PC-KM module that is installed in the safe area. It contains a power supply as well as two PS/2 data interfaces.

Learn more at:

[www.pepperl-fuchs.us/hmi](http://www.pepperl-fuchs.us/hmi)

## Packaged Solutions

Pepperl+Fuchs products are used throughout the world in applications involving industrial, hazardous, and corrosive environments, and each application has its own design requirements. By engineering a complete solution at our own facility, we can offer world-class solutions that are designed and built to meet your specifications.

We develop and manufacture a wide range of solutions for the pharmaceutical, refining, oil & gas, and chemical industries that include:

- Marshalling cabinets
- Displays & annunciators
- Distribution panels
- Control room cabinets
- Fieldbus panels
- Operator interface solutions
- Junction boxes
- Fieldbus power cabinets

From the initial feasibility concept to startup and commissioning, Pepperl+Fuchs' Systems & Solutions group provides professional service and unmatched performance.

### OPERATOR INTERFACES



- Longest MTBF in the industry (>550,000 hours)
- 12 gauge steel bezels and mounting plates
- Direct PC interface
- Resistive and hardened resistive touchscreens

Whether the requirement is for a remote monitoring station, an intrinsically safe terminal monitoring the process or an industrial PC solution for data analysis, Pepperl+Fuchs can engineer a solution that fits your application and budget. We can also incorporate barcode scanners and weighing equipment into our designs for a complete process automation solution.

### FIELD ENCLOSURES



- Rugged designs for reliable operation
- Enclosures for panel, pipe, wall and machine mounting
- Expertise available during the critical feasibility and design phases of a project

Pepperl+Fuchs fieldbus products, pushbuttons, LEDs and purge systems are easily integrated into a complete field enclosure solution.

*It's our expertise in a countless number of projects and engineering technologies that leads to excellence.*

# EXPERIENCE

## CABINET SOLUTIONS



- Any of our products easily integrates into custom designed cabinet solutions for your application
- Cabinets are engineered and assembled to your specifications
- Our design team is available to assist during any phase of your project

We support a wide range of cabinet solutions including interface, marshalling, control room and fieldbus power types. We can integrate our full line of products into a cabinet that reduces your commissioning time, and your upfront costs.

Learn more at:

[www.pepperl-fuchs.us/solutions](http://www.pepperl-fuchs.us/solutions)

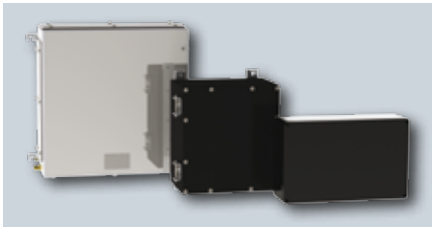


## Electrical Components and Solutions

Walsall is a Pepperl+Fuchs brand delivering electrical equipment for hazardous areas. Standard installation equipment including lighting, local control units, terminal enclosures, and entry devices are available off the shelf. Solutions such as Ex d/e control panels allow the fastest possible site installation and facilitate commissioning. Product ranges carry multiple international approvals: ATEX, IECEx, INMETRO, and GOST-R.



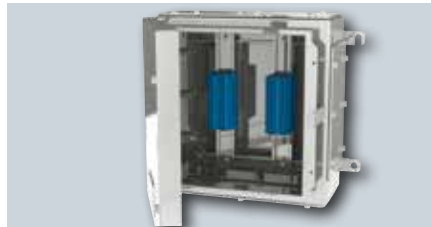
### COMPONENT APPROVED EMPTY ENCLOSURES



- Wide range of enclosure materials
- Fabricated and cast enclosures
- Different protection concepts Ex d/e
- International approvals

Walsall Ex e enclosures are available in stainless steel, mild steel, aluminum, and glass reinforced polyester. Cast Ex d enclosures are available in stainless steel, iron, and aluminum. All types offer an IP rating of at least IP66.

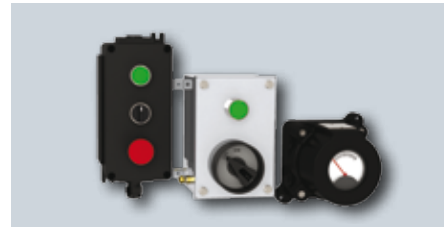
### TERMINAL BOXES



- Ex e/ia terminal enclosures
- Customized solutions available
- Preconfigured standard solutions
- Large range of sizes

Many options are available comprising different earth studs, earth continuity plates, and predrilled entries.

### CONTROL UNITS



- Local control units with up to three functions
- Protection concepts Ex d/de
- Control functions include pushbuttons, indicator lamps, ammeter, and switches

Standard range of single-control functions in stainless steel, aluminum, glass reinforced polyester, and cast iron. Customized solutions with multiple control functions can be specified. Ex de control units allow reduced maintenance due to enclosed flamepath.



# SAFETY

*It's our expertise with hazardous area protection that gives you peace of mind even in demanding process applications.*

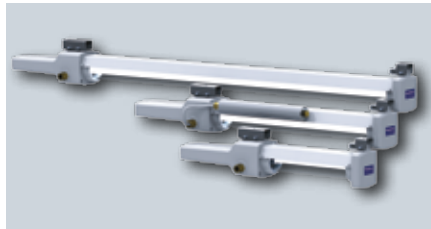
## EMERGENCY SIGNALING



- Call points and signaling devices
- Protection concepts Ex d/de
- Cast iron and glass reinforced polyester
- Line integrity monitoring with end-of-line and/or series resistors

Standard range available for installation in hazardous areas applying protection concept Ex d/de. Glass reinforced polyester units can be installed in the most aggressive environments.

## LIGHTING



- Fittings for fluorescent or HID lamps
- Wall mountable and portable units
- Emergency lighting
- Floodlights and general area lighting

A range for fixed and portable lighting for Zone 1/21/2/22 fluorescent single and twin fittings is available from 8 to 58 watts. HID fittings for metal halide and high-pressure sodium for up to 400 watts. Corrosion-resistant aluminum alloys are selected for use in marine environments.

Learn more at:

[www.pepperl-fuchs.us/walsall](http://www.pepperl-fuchs.us/walsall)

## Unrelenting Current to Mission-critical Applications

Operating in the high-risk industry of hazardous area protection requires unrelenting power.

Pepperl+Fuchs power supplies are particularly well-suited to mission-critical applications. From emergency shutdown to fieldbus / HART networks, as well as many general-purpose process control applications, Pepperl+Fuchs power supplies meet the most demanding requirements of today's control system engineer.

### POWER SUPPLY PS3500



- Easy installation and a small footprint enable best use of cabinet space
- N+1 power redundancy is an affordable redundancy method that guarantees system functionality even during a supply failure
- Simple hot-swappable module removal without a system shutdown
- Natural convection cooling with its fanless design

The PS3500 power supply is the foundation of uninterrupted process power. It is specifically designed for mission-critical applications and their need for reliable power. The high-integrity power supplies meet Class I / Division 2 and ATEX Zone 2 requirements.

### K-SYSTEM POWER SUPPLIES



- Supply a multitude of interface modules without additional wiring
- Redundant configuration possible
- Sturdy, efficient, and reliable design

These power supplies feed up to 4 A to K-System interface modules or RPI Remote I/O components via the Power Rail. Various power feed modules allow tailor-made interface system designs.

Learn more at:

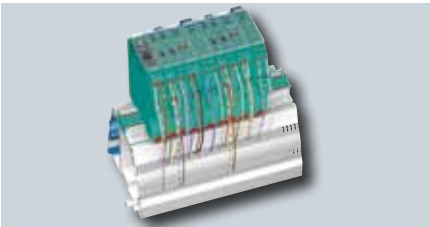
[www.pepperl-fuchs.us/powersupply](http://www.pepperl-fuchs.us/powersupply)



*It's our experienced  
global team that supports  
you at any location.*

## NETWORK

### POWER DISTRIBUTION



- Automatic power connection when modules are snapped to the Power Rail – no extra wiring from module to module required
- Integrated communication lines for bus, HART, and group error signals
- DIN rail with integrated Power Rail can replace standard DIN rail in existing systems

Power Rail is the sophisticated connecting element for all K-System modules. The integration of two separated cable ducts and the DIN rail in the profile efficiently saves cabinet space as the cables are positioned directly under the modules.



## Precise Measurement for Liquids and Solids

From the very basic to the most complex, complete level solutions are engineered by incorporating an industry-leading selection of interface technology with an unmatched offering of level measurement instruments. Level technologies include the principles of guided microwave, ultrasonic, vibration limit switch, and many more. Solutions with multiple process connections are designed for use in hazardous areas.

### PULSCON – GUIDED RADAR



- Great for fluids and granular materials
- 35 m/115 ft range
- Independent of pressure, temperature and moving surface
- Easy to install and calibrate with display for configuration, tank mapping or signal evaluation

A constant voltage transmission pulse is directed down a stainless steel or hastelloy rod or cable and is reflected at the material surface. The level of the medium is determined by the sensor electronics and is based on the total runtime of the pulse.

### VIBRACON – FREQUENCY SHIFT



- Process connections and pipe diameters as small as 1/2"/13 mm and 1 1/2"/40 mm respectively
- No calibration; simple commissioning
- Process temperatures as high as 150 °C/300 °F

The frequency-of-vibration of the fork is reduced when it comes into contact with the medium being measured. The electronic interface internal to the sensor is used to create an output signal based on this change. The products are available for liquid and bulk material and with aluminum, plastic, and stainless steel housings.

*It's our spirit of invention  
that keeps you at the forefront  
of technical development.*

**INNOVATION**

## ULTRASONIC

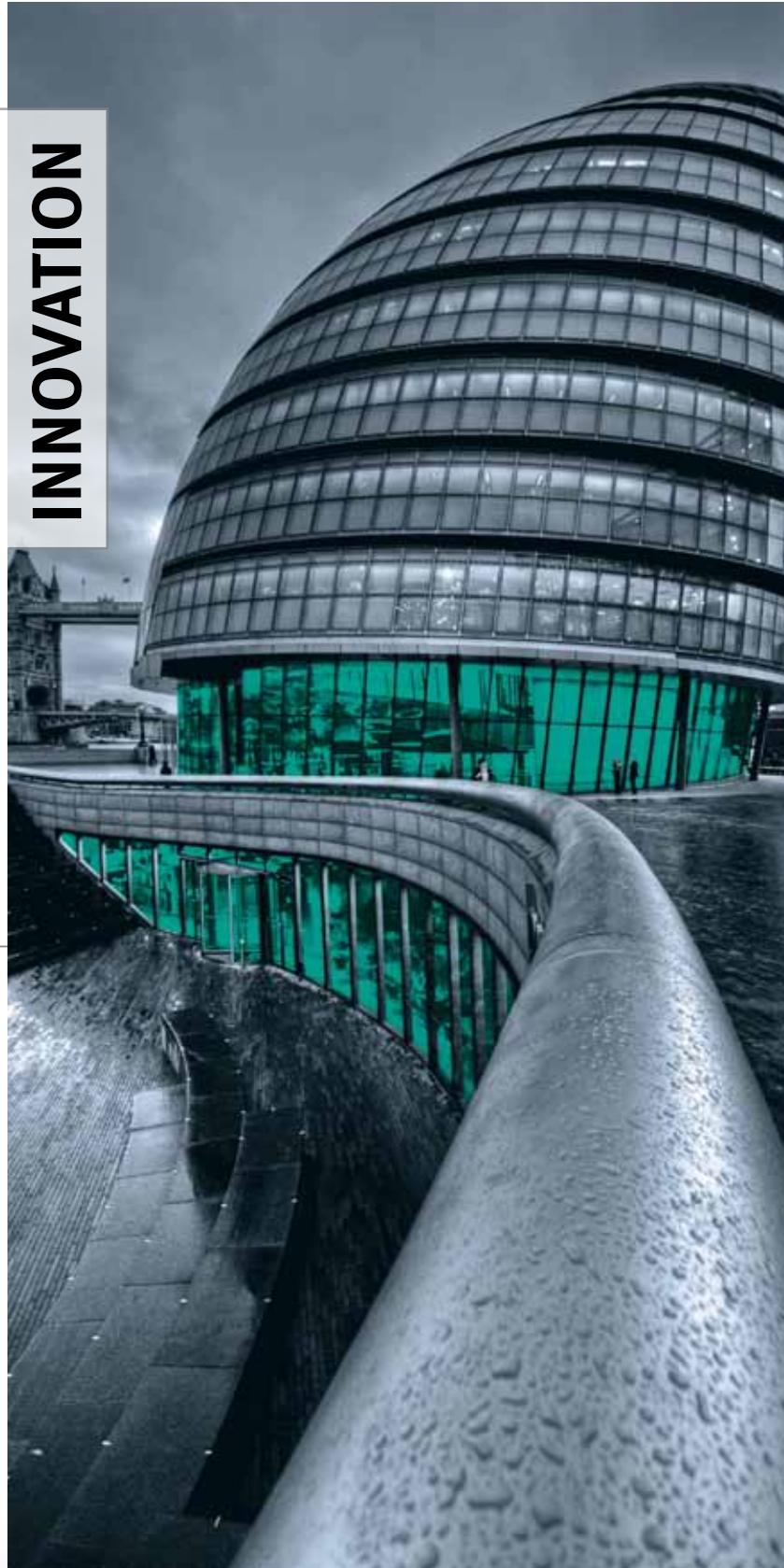


- Density, conductivity, and dielectric constant independent
- 32-point linearization option
- Envelope visualization on the local display screen

Sound pulses are reflected off a wide range of media and the resulting reflection measured for time in order to calculate a distance. This noncontact level measurement technique lends itself for both liquids and solids. The products cover a measurement range up to 7 m/23 ft for granular materials and up to 15 m/49 ft for fluids.

Learn more at:

[www.pepperl-fuchs.us/level](http://www.pepperl-fuchs.us/level)



## What is Corrosion Costing You?

It is estimated that industry spends \$276 billion annually on corrosion. These costs arise from a variety of areas. Prevention, monitoring, and repair are the main contributors to this high amount and these values do not even include down time as a result of corrosion. These costs are better controlled when corrosion is viewed as a process variable, rather than as a purely historical value or in a complex, scientific method. Pepperl+Fuchs can provide an easy-to-use solution that gives greater insight to the process engineer.

Meant to take corrosion evaluation out of the laboratory and into everyday process control. CorrTran® MV is a revolutionary approach to corrosion monitoring. With real-time monitoring of the corrosion behavior, customers can easily react before significant damage has occurred.



### CORRTRAN® MV



- Customer-specific configuration
- Wide choice of electrode materials and lengths
- Replaces conventional lab-based analysis

CorrTran MV is the first 2-wire, 4-20 mA transmitter that evaluates general and localized corrosion, as well as conductance, in the same industrialized, transmitter housing. CorrTran enables plant operators to react to corrosion before it can lead to extensive damage. Unlike coupons that are used to collect data over a 2-4 month period, corrections can be made as corrosion is occurring.

### CORRTRAN® EC



- Operates on two AA batteries
- No field wiring required at installation
- Replaceable electrodes
- Suitable for a wide range of process environments

CorrTran EC operates on two AA batteries. Using high-current density LiSOCl<sub>2</sub> batteries, a maximum of 3424 readings can be retained in the EC memory and many months (140 days at 1 per hour) of field data can be acquired without changing the power source or unloading the memory. Even if power should fail, the memory is retained via safety battery backup until it is retrieved and/or power has been restored.



# EFFICIENCY

*It's our commitment  
to excellence that takes your  
processes to new levels.*

## CORTRAN® AQUA



- Low-cost, nonhazardous, on-line corrosion monitoring
- Robust plastic housing
- Available with or without local display

Designed specifically for the water quality industry and nonhazardous areas, CorTran AQUA has the same superior electronics enclosed in a plastic housing for less severe environments.

Learn more at:

[www.pepperl-fuchs.us/corrosion](http://www.pepperl-fuchs.us/corrosion)

## A Valuable Partner at Every Step Along the Way

Because we are always striving to provide the latest technologies in the most effective manner, Pepperl+Fuchs is the right partner to engineer complete standardized and as well customized housing solutions.

We are more than just a component supplier. We provide expert development, manufacture, and commissioning of a wide range of solutions – at every step along the way. From the initial concept, to startup and commissioning, and support after installation, Pepperl+Fuchs provides professional service and unmatched performance. Additionally, training seminars are available that are designed specifically for engineers, taught by industry professionals, and address real-world applications.

### PLANNING



- Expert analysis of project situation
- Feasibility studies
- Expert engineering support at each process step

Your planning phase is supported by technical experts who have years of experience on many international projects – resulting in a reliable manufacturing plan.

### CONSTRUCTION



- Individual construction according to customer requests
- Complete system certification according to international regulations
- FAT according to customer specification
- Support with expert knowledge

Our expertise creates system solutions that considerably reduce lead-time in installation. The high quality standard makes the application reliable.

### COMMISSIONING



- SAT according to customer specification
- Testing and startup support on site
- Reliable technical support

Pepperl+Fuchs significantly supports the commissioning process. Easy installation, less time, less effort, and less possible error make your plant startup a success.



## CHOICE

*It's the entire scope of our  
technology that gives you the  
freedom to decide.*

### APPLICATION AND SUPPORT



- International training and seminars
- Extensive life-cycle management services
- Worldwide support on site

A project is not finished with the commissioning phase. Pepperl+Fuchs provides life-cycle management that helps to increase the efficiency of your plant and your staff.

# PROCESS AUTOMATION – PROTECTING YOUR PROCESS



For over a half century, Pepperl+Fuchs has provided new concepts for the world of process automation. Our company sets standards in quality and innovative technology. We develop, produce and distribute electronic interface modules, Human-Machine Interfaces and hazardous location protection equipment on a global scale, meeting the most demanding needs of industry. Resulting from our world-wide presence and our high flexibility in production and customer service, we are able to offer complete individual solutions – wherever and whenever you need us. We are the recognized experts in our technologies – Pepperl+Fuchs has earned a strong reputation by supplying the world's largest process industry companies with the broadest line of proven components for a diverse range of applications.



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