

SIMPLIFY PROCESSES

FIELDBUS INFRASTRUCTURE FOR FOUNDATION™ FIELDBUS



FOUNDATION FIELDBUS – ENERGY AND INFORMATION ON ONE SIMPLE CONNECTION

When it comes to automation and process control FOUNDATION fieldbus is now a world-wide standard defined by IEC 61158-2 and is the technology for the future. Fieldbus infrastructures allow for the powering of the field devices and communications, utilizing a single twisted-pair cable. Fieldbus integrates and centralizes control of production processes: control commands, closed loop control and monitoring. It builds a seamless and open platform, that saves on planning, installation and commissioning and enables asset management and remote parameterization aside from the basic function of communication and power supply.

FieldConnex® by Pepperl+Fuchs provides a stable fieldbus backbone. Durable products result connect the control system to field devices for stable operations. The reliability of data transmission provides dependable processes and high plant availability.

The High-Power Trunk concept by Pepperl+Fuchs has contributed to the break through of fieldbus and solves our objective, to make the fieldbus infrastructures simple, reliable and safe.

FIELDCONNEX® – HIGH AVAILABILITY, ESSENTIAL AND PRACTICAL MONITORING

Fieldbus devices function at the heart of the process under demanding conditions. Exposure to corrosion and occasionally aggressive process media. Due to the environmental demands operational reliability and proven quality is vital.

FieldConnex® is the combination of latest fieldbus technology, expert know how and superior design. Fieldbus benefits are illustrated through cost reductions, simplified planning effort, fast commissioning and a long service life.

Advancements in fieldbus communications have allowed solutions such as Advanced Diagnostics to enable permanent and powerful online monitoring of the fieldbus physical layer. Critical situations can now be recognized and proactively repaired, before they negatively influence process signal quality and plant availability.

PEPPERL+FUCHS – KNOW-HOW ON FIELDBUS AND EXPLOSION PROTECTION

Pepperl+Fuchs is the leading company for fieldbus connectivity - for the safe as well as hazardous area. Our reputation earned our active roll in participation governing bodies and contributions to the development of standards and technologies. Our cutting edge products find worldwide recognition through the name FieldConnex. Periodic seminars and events in conjunction with the governing bodies achieve continuous knowledge transfer to planners and end users.

Pepperl+Fuchs offers expert know how for fieldbus and explosion protection. A superior product portfolio of award winning technologies allows complete solutions from a single source. Our global support network offers assistance worldwide. With Pepperl+Fuchs you can rely on our comprehensive industry knowledge - from Chemical to pharmaceutical and Oil and Gas to power generation to water and waste water. All backed by a company with years of unparalleled commitment to innovation.



SHORT DESCRIPTION

POWER SUPPLY

FIELDCONNEX® – FIELDBUS POWER SUPPLY

FieldConnex® Power Supplies are based on a system platform – as Power Hub or in classic and basic housing designed for FOUNDATION Fieldbus. They are available for supply of intrinsically safe segments, segments in safe areas or for the High-Power Trunk concept developed by Pepperl+Fuchs. The modularity affords optimal design and easy integration into any control system with the maximum number of field devices per segment – even in the explosive area. Work on the field device is permitted while the system is in operation and not a problem, even without hot work permit. Our attention to design details such as the very low heat dissipation, circuits

designed for optimized symmetry and the use of many passive components such as the impedance generation make the difference. Attributes that also contribute to reliable power supply, high packing density in the cabinet, optimal signal quality and a very long service life.

THE POWER HUB

The Power Hub product family is based on motherboards with plug-in modules. Simplest installation on the DIN-rail, plug-in connectors with retaining screws and exchange of active components without tools build the foundation. Power Hubs offer optional redundant power and host connections and fieldbus diagnostics with the Advanced Diagnostic Module.

FIELDBUS DISTRIBUTION

FIELDCONNEX® – SMART INSTALLATION FOR EVERY HAZARDOUS AREA

Fieldbus distribution with FieldConnex® products in conjunction with FieldConnex® power supplies are the complete solution for connection of your field devices to the control system. The innovative High-Power Trunk concept is implemented using these smart wiring interfaces: Segment Protectors and FieldBarriers. Energy is limited in the explosion hazardous area at the spur where the device is connected to the trunk. By limiting the energy in the field we are able encompassing all protection methods, without limitation in regards to network length and number of connected instruments per segment. Spurs can be configured Ex e, Ex I, Ex nA or Ex nL.

With FieldConnex power and segment distribution you have the freedom to incorporate multiple protection methods easily meeting the demands of your process plant. Verify explosion protection needs in the simplest form using FISCO, FNICO or Entity concepts. And this statement is true for any zone, class or division on this planet, demonstrated and certified.

PROCESS INTERFACES

PROCESS INTERFACES

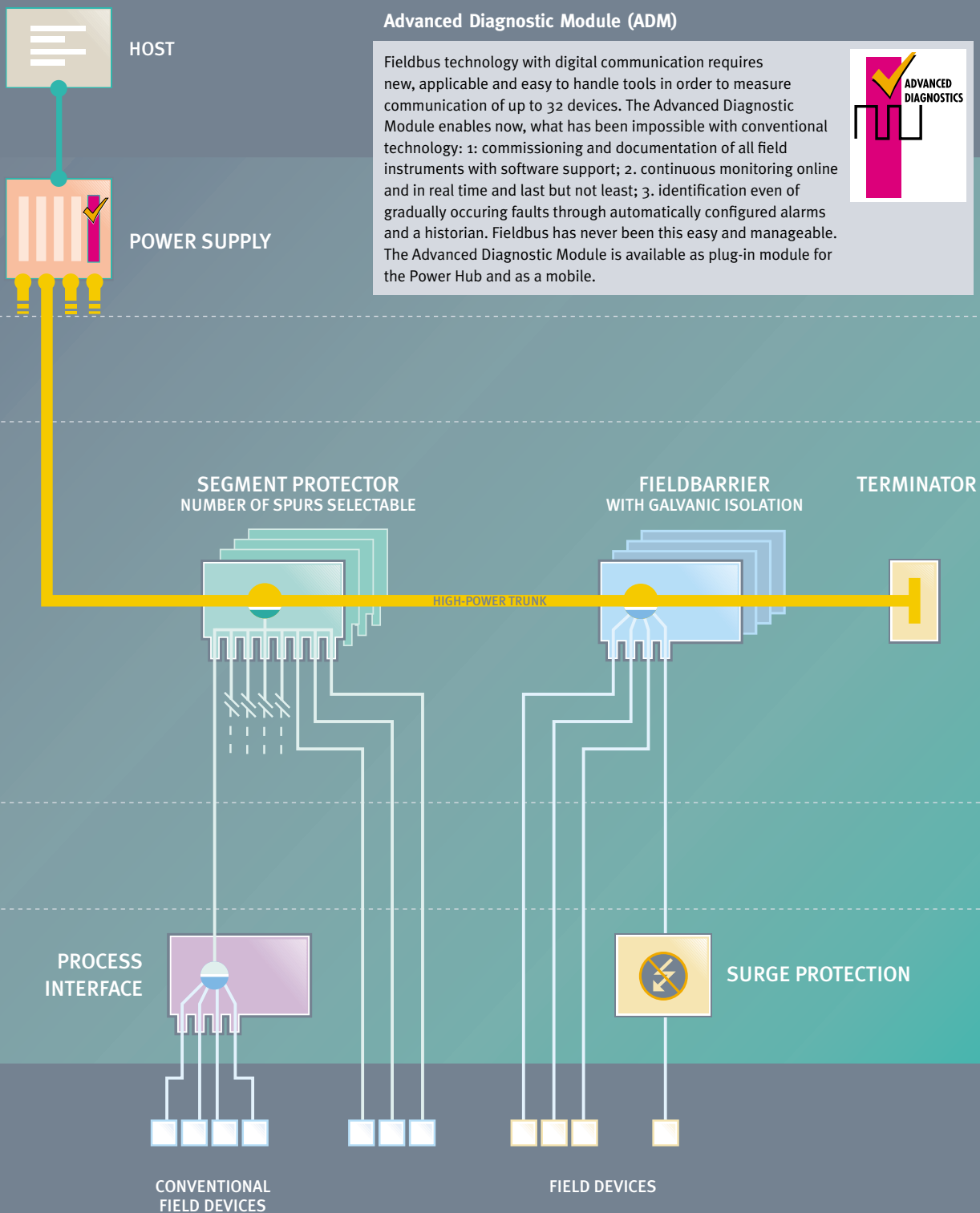
Fieldbus Process Interfaces by Pepperl+Fuchs integrate conventional sensors and actors into fieldbus communication.

Their intrinsically safe design, allows for installation near the instruments in Zone 1/Class I, Div. 2. The interface provides power for low power valves, sensors or conventional signals with no additional wiring required. Different housing types enable optimal application within the topology of your plant.

ACCESSORIES AND CABLE

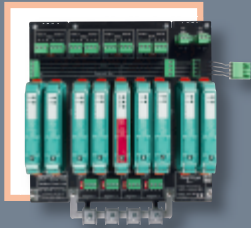
Fieldbus Terminators – whether integrated into the fieldbus module, installed in the field in a robust ½ NPT or M20 instrument mounting or for installation on the DIN-Rail – all providing clear digital fieldbus communications. Proper termination can be checked using the Advanced Diagnostic Module. FieldConnex® surge protection modules protect expensive field devices and control systems from damage from over voltage and surges caused by lightning

SYSTEM OVERVIEW

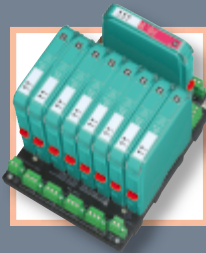


SYSTEM COMPONENTS

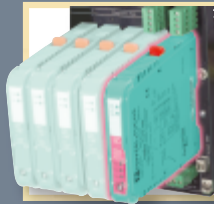
POWER SUPPLY



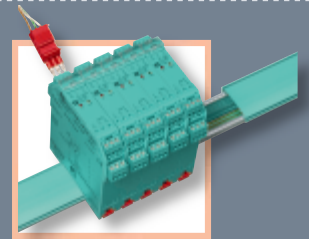
Power Hub for 4 Segments
Complete with redundancy, flexible configuration. For use with various Ex-protection concepts.



High-density Power Hub
Compact design and highest packing density. For many standard applications.

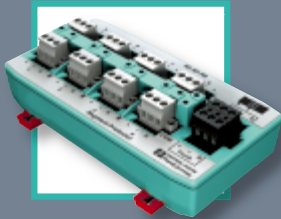


Advanced Diagnostic Module
For monitoring of the fieldbus physical layer.



Basic Power Supplies
Simplex modules available with or without voltage limitation and galvanic isolation. Mountable on DIN Rail.

FIELD BUS DISTRIBUTION



Segment Protector R2
Simple connection of field instruments. Short circuit protection for the Segment. Energy limitation Ex nL.



FieldBarrier in stainless steel housing. Intrinsically safe connection of devices to the High-Power Trunk. Galvanic isolation.

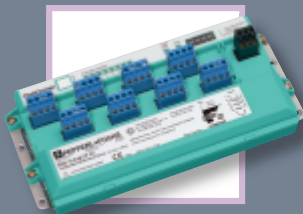


Preconfigured housing solutions. Installation ready. With FieldConnex® components and accessories. Ex-certification included.

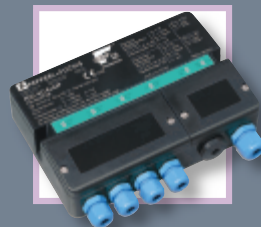


Aluminum housing for Segment Protector or FieldBarrier for mounting in the field. With a selection of cable glands.

PROCESS INTERFACES



Temperature Multi-Input
Version for DIN-Rail installation.



Valve Coupler
for four intrinsically safe low power valves.



Modulare Surge Protector
Complete unit for installation in the cabinet.



Fieldbus Terminator for installation in the field with robust "screw-in type housing".

ATTRIBUTES AND BENEFITS

ALL POWER SUPPLIES

- Very low heat dissipation, optimal signal quality
- Integrated high-available and selectable terminator
- Removable connectors and DIN-Rail mounting

Your Value

- Simple Installation
- Long service life
- Space-saving and high packing-density

POWER HUB

- Modular design for simple installation
- Redundancy of modules and connections (optional)
- Integrated fieldbus diagnostics (optional)
- Special designs adapted for many control systems
- High-density Power Hub, highest packing density

Your Value

- Simple adaptation to fit your needs, high availability
- Small spares holding through modularity
- Simple planning, installation, commissioning and operation

SEGMENT PROTECTOR

- For the High-Power Trunk
- New generation with many improved details
- T-connector enables interruption free exchange
- Installation in Zone 2/Class I, Div. 2
- Choice of 4, 6, 8, 10 or 12 spurs
- Modular design available

Your Value

- High reliability for smooth plant operation
- Flexibility in the selection of explosion protection method
- Support multiple grounding concepts

FIELD BARRIER

- For the High-Power Trunk
- Installation in Zone 1/Class I, Div. 2 near the field devices
- Intrinsically safe and independent power supply of each spur
- Galvanic isolation between trunk and spurs
- For FISCO or Entity conformant devices in Zone 1 and Zone 0/Class I/Div 2 and Class I/Div. 1

PROCESS INTERFACES

- Power supply, data communication and monitoring via the same fieldbus cable
- Optimized protection through intrinsically safe inputs
- Galvanic isolation of fieldbus and connection
- Various housing types for many environmental conditions
- Connection of resistive thermal sensors and thermo couplers.

Your Value

- Planning and integration of conventional discrete signals
- Maintenance through direct monitoring of critical measurement values

ACCESSORIES

- Clear fieldbus communication through avoidance of signal reflections
- Intrinsically safe variants according to FISCO and Entity
- Versions in robust "Screw-in type housing" IP67 and Ex me
- Various threads for connection to field devices
- Versions for installation in the cabinet on DIN-Rail



PROCESS AUTOMATION – PROTECTING YOUR PROCESS



For over a half century, Pepperl+Fuchs has been continually providing 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 individually offer complete 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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