THE NEW PERSPECTIVE

APPROVED SOLUTIONS FOR MARINE AND OFFSHORE APPLICATIONS

PEPPERL+FUCHS
PROTECTING YOUR PROCESS
We make it our business to keep your processes running, and your efficiency high. For these requirements our products are equipped with the reliability of known marine certificates, extensive experience in the oil and gas industry and expert knowledge in explosion protection.

Pepperl+Fuchs offers a range of products approved by:
DNV, Bureau Veritas, Germanischer Lloyd (GL) or Lloyd’s Register.
These certificates are backed by more than 60 years of experience and our expert knowledge in explosion protection, which guarantee the safety, stability and reliability your application demands.

When it comes to offering a solution for your interface requirement between the process control system and the instrumentation we are able to offer the most advanced and reliable products using interface barriers, remote I/O and fieldbus technology. We are able to specify the most efficient and reliable solution to meet your application.

Our worldwide presence guarantees immediate and competent on-site support anywhere and anytime. We are right where you need us.

Get to know the new perspective from Pepperl+Fuchs. Take a look at an innovative product range with marine approval.
Marine and offshore certified Pepperl+Fuchs interface products span all the important technologies for explosion protection in process automation – offering the best choice of proven products to successfully and efficiently solve your interface challenges.

**FIELDBUS INFRASTRUCTURE**

FieldConnex® offers a comprehensive fieldbus infrastructure that provides solutions for connecting your instruments to a controller. A wide range of interface products are designed for fast installation and commissioning. The unique High-Power Trunk concept uses Diagnostic Segment Protectors and FieldBarriers to supply power to each device in any hazardous location. An Advanced Diagnostic Module lets you commission and monitor the physical layer from a remote location in real time.

**REMOTE I/O SYSTEMS**

Remote I/O systems provide fast and efficient communication with modern DCS and proven legacy field devices. LB/FB Remote I/O from Pepperl+Fuchs connect a wide range of discrete and analog sensors and actuators to process control systems over a fieldbus. A variety of gateways are available to make use of different bus protocols.

**INTERFACE TECHNOLOGY**

Interface technology guarantees a safe, reliable, and efficient signal transmission between your field device and the control system. It offers intrinsically safe isolated barriers, DIN rail mounted zener barriers, signal conditioners and a wide variety of power supplies and accessories.

**STANDARD INDUCTIVE SENSORS**

As a worldwide leading manufacturer of industrial sensor technology and sensor systems, the Factory Automation Business Unit specializes in an extensive range of inductive sensors. Inductive sensors are the right technical and commercial solution for reliable, non-contact detection of metallic objects for ranges up to 100 mm.
Highly available processes found in marine and offshore applications require a communications infrastructure based upon proven components that seamlessly integrate to form a reliable system. Pepperl+Fuchs provides marine certified quality products together with the expertise and services that make a difference.

CUSTOMIZED CABINETS AND JUNCTION BOXES

Engineers at Pepperl+Fuchs are familiar with the special challenges of the process industry. Using this extensive experience and the expert knowledge in explosion protection, our customized cabinets and junction box solutions for the marine and offshore industry are specifically tailored to the demands of the application. They are equipped with marine approved components, allowing their reliable and fast installation into your infrastructure.

RELIABLE COMMUNICATION

To ensure reliable long-term operation of your communications infrastructure, all components for interfacing between the control and the plant, need to be protected from rugged and corrosive influences, such as oil, water spray, salt or vibration. Pepperl+Fuchs provides the right protection for all its certified products with environmental cabinets and junction boxes that assure uninterrupted communication.

EXPERT KNOWLEDGE

Relying on more than 60 years of experience and development knowledge as the expert in explosion protection, our consulting, planning, installation and commissioning services will analyze your requirements and develop a customized solution that is precisely matched to your specific needs.

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With its unique FieldConnex® fieldbus infrastructure Pepperl+Fuchs goes beyond standard fieldbus technology. Innovative design speeds up installation and commissioning, while new technologies allow total control over the fieldbus physical layer.

**FIELDCONNEX® – INCREASED PROCESS AVAILABILITY**

FieldConnex fieldbus solutions form the perfect solution for integrating the fieldbus infrastructure according to the IEC 61158-2. All device information is available in the control room. Costly and time-consuming on site maintenance work is replaced to a great extent by remote troubleshooting and segment commissioning tools. Fieldbus becomes a highly transparent process control infrastructure and now it is also available for safety related signals up to SIL3.

**FIELDCONNEX® – FIELDBUS POWER SUPPLY**

FieldConnex Power Supplies are available for intrinsically safe segments, segments in safe areas or for the High-Power Trunk concept – the fieldbus infrastructure originally developed in our R&D labs. The modularity affords optimal design and easy integration into any control system with the maximum number of field devices per segment – regardless of the application. The Advanced Diagnostic Module (ADM) allows continuous monitoring of the fieldbus physical layer making fieldbus easy and manageable.

**FIELDCONNEX® – FIELDBUS DISTRIBUTION**

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 Truck concept is implemented using smart wiring interfaces. Segment Protector and FieldBarrier limit the energy in the hazardous area where it is needed, removing limitations for cable length, redundancy or number of instruments.

**FIELDCONNEX® – FIELDBUS HOUSING SOLUTIONS**

No application is quite the same as another; every application always places demands on the design and the features of a fieldbus housing solution. To meet the unique needs, we offer our modular Field Junction Box System for our popular FieldConnex® products. In addition to the housing size, you can customize your Field Junction Box to your own personal needs, from the cable glands to the electronics. Besides presenting a custom-fit solution for your marine and offshore application, the Field Junction Box reduces engineering costs and allows the fastest possible installation on location.
HIGH-POWER-TRUNK CONCEPT

- Very high level of integration
- Energy and information on one simple connection
- High availability, essential and practical monitoring
- Easy installation and fast commissioning

YOUR BENEFITS

DCS

SAFE AREA

IF POWER SUPPLY OR PA SEGMENT COUPLER

TRUNK: Ex or OI DIV. 2 WIRING METHOD

SEGMENT PROTECTOR

PROCESS INTERFACE

FIELD DEVICES

FIELDBARRIER

FIELD DEVICES

FIELD DEVICES

FIELD DEVICES

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Remote I/O Systems from Pepperl+Fuchs represent a new approach to process availability. Full integration of all analog and digital I/O signals allows unsurpassed system transparency for enhanced control and increased process reliability.

**SYSTEM INTEGRATION ACROSS TECHNOLOGIES**

Remote I/O Systems from Pepperl+Fuchs are an efficient signal conditioning system that saves wiring and hardware on an impressive scale. It uses the same modular electronics throughout the network to convert digital and analog I/O signals to PROFIBUS, Modbus or FOUNDATION fieldbus. Input and output signals are galvanically isolated from the bus and the power supply, avoiding any mutual interference.

**DRASTICALLY REDUCED WIRING**

The Remote I/O system from Pepperl+Fuchs is an efficient signal conditioning system that saves wiring and hardware on an impressive scale. It uses the same modular electronics throughout the network to convert digital and analog I/O signals to PROFIBUS, Modbus or FOUNDATION fieldbus. Input and output signals are galvanically isolated from the bus and the power supply, avoiding any mutual interference.

**REMOTE I/O SYSTEMS**

LB Remote I/O systems are mounted in hazardous areas Zone 2 or Zone 22 or in the safe area. FB Remote I/O systems are mounted in hazardous areas Zone 1 or Zone 21. They are marine approved by Bureau Veritas, DNV, and ABS (American Bureau of Shipping) and form a modular signal conditioning system to interface signals from the field with a control system in the safe area.

**REMOTE I/O CABINET SOLUTIONS**

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

YOUR BENEFITS

- High-integrity, single-channel, and channel-isolated modules along with multi channel compact I/O
- Increased safety bus, so other PROFIBUS equipment or frequency changers can run on the same bus
- More channels per slave, minimum number of cabinets
- Extensive diagnostic information down to the plant level
- Hot configuration of slaves in the running system
- Supports PROFIBUS, Modbus, and FOUNDATION fieldbus
- Ready for Ethernet solutions

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YOUR BENEFITS

- Highest flexibility with a wide range of proven products
- Benefit from an easy and fast installation on Power Rail
- Reduced cabinet space with small interface modules
- Longer module life time due to reduced power consumption and less heat in the cabinet
Isolated Barriers, Signal Conditioners and Zener Barriers from Pepperl+Fuchs open new perspectives inside the control room cabinet and ensure reliable communication between the DCS and all field devices. They are easy to install and designed to operate under harsh environmental conditions. They include intrinsic safety concepts, SIL ratings and marine certification.

**THE K-SYSTEM – ISOLATED BARRIERS AND SIGNAL CONDITIONERS**

The K-System guarantees a reliable and economical signal transmission between your field devices and the control system.

Signal conditioners convert specialized measurement signals into standard control signals. Isolated Barriers are the right option for intrinsic safety applications. Both are used for the galvanic isolation of control and instrumentation signals. A great portfolio of both product lines are equipped with certificates from:

**DNV, Germanischer Lloyd (GL) and Lloyd’s Register.**

This marine certified K-System group of products are proven components and easy to specify, integrate and expand. They are characterized by the flexible, demand-oriented possibilities of installation in a single module configuration to a system solution that is suitable for a large scale of applications, always adapting to the specification.

**THE Z-SYSTEM – ZENER BARRIERS**

Z-System zener barriers are approved by:

**DNV, Germanischer Lloyd (GL) and Lloyd’s Register.**

They provide a cost saving Ex-protection for various applications in process automation systems. The amount of energy transferred to the hazardous location is limited to a safe level incapable of igniting the explosive atmosphere.

Pepperl+Fuchs offers a wide product portfolio of housing and connection styles that include DIN-Rail and accessories for each application. Field replaceable fuses provide a convenient means of disconnecting or open-circuiting the instrument loop without interfering with the wiring, making commissioning and maintenance operations much easier.

**CABINET SOLUTION WITH K-SYSTEM AND Z-SYSTEM**

Pepperl+Fuchs supports a wide range of cabinet solutions equipped with Isolated Barriers, Signal Conditioners and Zener Barriers. This reduces commissioning time, and most importantly, reduces upfront costs. The marine certified components can be combined into a complete project solution to meet the exact requirements of any application. The design team is available to assist you during any phase of the project.
Pepperl+Fuchs introduced the world’s first industrial proximity sensor in 1958, and ever since that time we’ve been providing the automation industry with the highest quality industrial sensors.

Our marine certified inductive sensors meet the particularly high demands for robust sensors required in marine and offshore applications. These rugged and durable sensors are the best selection for these tough applications by reducing downtime and extending service-life.

Our experience, flexibility and customer focus allow us to offer custom designed solutions for the most unique and demanding applications.

**PRODUCT FEATURES AT A GLANCE**

- Housing made of brass or stainless steel
- Reverse polarity protected or tolerant connections
- Short-circuit and overload resistant outputs
- LED indication
- M8, M12 quick disconnect or terminal connections
- Sensors with cable connectors from PVC, PUR or silicon
- Output in 2/3/4 wire DC
- Protection category up to IP69k (under water and steam jet resistant)
- Full distance sensing of ferrous and non-ferrous materials
- Saltwater tested

With the special requirements and environmental conditions of marine and offshore applications, Pepperl+Fuchs is the expert partner. We are able to provide proven products and share our expertise to integrate them efficiently and seamlessly into your process. We provide solutions and we take your requirements as our challenge. Doing so, we follow a systems approach to technology and develop tailor-made solutions that demonstrate our expertise.
YOUR BENEFITS

- Choose your sensor from one of the best-known developers and manufacturers of proximity switches
- Rely on high quality and robust products
- Solve your application with an experienced partner
Designed for demanding environments

Pepperl+Fuchs interface products, systems and customized solutions represent a fresh view of reliable process control under harsh environmental conditions. They are based on many years of experience in oil and gas processing plants and combine robust design with proven qualities and innovative technologies.
A short extract of our approved product portfolio:

**ISOLATED BARRIERS AND SIGNAL CONDITIONERS K-SYSTEM**
- Transmitter power supply
- Smart repeater
- Solenoid driver
- Switch amplifier
- Pulse converter units

**ZENER BARRIERS Z-SYSTEM**
- Single- and multichannel barriers
- DC- and AC-versions

**REMOTE I/O SYSTEMS**
- Transmitter power supplies
- Solenoid drivers
- Relay outputs
- Switch amplifiers
- Pulse and counter inputs
- Temperature inputs

**FIELDBUS INFRASTRUCTURE**
- Power supply
- Power Hub Motherboard
- Advanced Diagnostic Module
- Segment Protector

for more detailed information go to:
www.pepperl-fuchs.com/offshore
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.