

# Instruction Manual

## 1. Marking

The device has the following allowed maximum type of protection marking:

FB Remote I/O Field Unit
ATEX Certificate: PTB 97 ATEX 1075 X
ATEX Marking: II 2 (1) G Ex db eb mb op is op pr q ia ib [ia Ga/ib] IIA/IIB/IIC T4 Gb II 2 (1) D Ex tb op is op pr [ia Da/ib] IIIA/IIIB/IIIC 135°C Db
IECEx Certificate: IECEx PTB 18.0036 X
Ex db eb mb op is op pr q ia ib [ia Ga/ib] IIA/IIB/IIC T4 Gb Ex tb op is op pr [ia Da/ib] IIIA/IIIB/IIIC 135°C Db
Pepperl+Fuchs GmbH
Lilienthalstraße 200, 68307 Mannheim, Germany
Internet: <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>

The composition of the type of protection marking depends on the types of protection of the components actually installed.

For details of on the actual type of protection applied, refer to the nameplate of the device.

For certification details refer to the device nameplate.

## 2. Validity

Specific processes and instructions in this instruction manual require special provisions to guarantee the safety of the operating personnel.

## 3. Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismantling lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismantling of the device. The trained and qualified personnel must have read and understood the instruction manual.

Prior to using the product make yourself familiar with it. Read the instruction manual carefully.

## 4. Reference to Further Documentation

Observe laws, standards, and directives applicable to the intended use and the operating location. Observe Directive 1999/92/EC in relation to hazardous areas.

The corresponding datasheets, instruction manuals, manuals, declarations of conformity, EU-type examination certificates, certificates, and control drawings if applicable supplement this document. You can find this information under [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

Due to constant revisions, documentation is subject to permanent change. Please refer only to the most up-to-date version, which can be found under [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

## 5. Intended Use

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

Modifications are permitted only if approved in this instruction manual and in the device-related documentation.

Use the device only within the specified ambient and operating conditions. Take the intended use of the connected devices from the corresponding documentation.

Take the intended use of the installed devices from the corresponding documentation.

The device is designed for wall mounting.

The device is designed for mounting to a steel framework.

Only use the device stationary.

## 6. Improper Use

Protection of the personnel and the plant is not ensured if the device is not used according to its intended use.

## 7. Mounting and Installation

Do not mount a damaged or polluted device.

Do not mount the device at locations where an aggressive atmosphere may be present.

Use the device only within the specified ambient temperature range.

Mount the device in such a way that it is protected from direct sunlight.

In order to ensure protection against electric shock, observe the following instructions:

- Keep sufficient distance between connection lines, terminals, housing, and environment.

- Insulate connection lines, terminals, and housing from the environment. Only use accessories specified by the manufacturer.

Protect the device against long-term or excessive mechanical vibrations.

The device must be installed and operated only in an environment of overvoltage category III (or better) according to IEC/EN 60664-1.

The device must be installed and operated only in a controlled environment that ensures a pollution degree 4 (or better) according to IEC/EN 60664-1.

Include the metal housing components in the equipotential bonding.

If mounting the enclosure on concrete use expansion anchors. When mounting the enclosure to a steel framework use vibration resistant mounting material.

Use mounting materials which are suitable to secure the device safely.

To mount the enclosure, use the fasteners provided.

In order to avoid personal injuries or property damage, make appropriate provisions for the mounting procedure depending on the weight of the device.

Ensure that the operating location has a sufficient floor load capacity.

### Requirements for Cable Glands

Only use cable glands that are suitably certified for the application.

Only use cable glands with a temperature range appropriate to the application.

Ground metal cable glands.

### Requirements for Cables and Connection Lines

Observe the following points when installing cables and connection lines:

Observe the tightening torque of the terminal screws.

Observe the tightening torque of the cable glands.

Observe the permissible core cross section of the conductor.

When using stranded conductors, crimp wire end ferrules on the conductor ends.

The insulation stripping length must be considered.

The cables and connection lines must not be strained. Provide an adequate strain relief.

Observe the minimum bending radius of the cables and connection lines.

Ensure that unused terminal screws are properly tightened down.

Unused cables and connection lines must be either connected to terminals or securely tied down and isolated.

### 7.1. Hazardous Area

Avoid electrostatic charges which could result in electrostatic discharges while installing, operating, or maintaining the device.

If the device has already been operated in general electrical installations, the device may subsequently no longer be installed in electrical installations used in combination with hazardous areas.

Observe the installation instructions according to IEC/EN 60079-14.

If the enclosure has an external ground connection, connect an equipotential bonding conductor with a minimum cross section of 4 mm<sup>2</sup> to this ground connection.

Connection or disconnection of energized non-intrinsically safe circuits is only permitted in the absence of a potentially explosive atmosphere.

#### 7.1.1. Type of Protection

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Observe the respective peak values of the field device and the associated apparatus with regard to explosion protection when connecting intrinsically safe field devices with intrinsically safe circuits of associated apparatus (verification of intrinsic safety). Also observe IEC/EN 60079-14 and IEC/EN 60079-25.

##### 7.1.1.2. Type of Protection Ex e

If intrinsically safe and non-intrinsically safe circuits are being operated together, the connections of the non-intrinsically safe circuits must be covered. The cover must comply with degree of protection IP30 according to IEC/EN 60529.

## 8. Degree of Protection

To ensure the degree of protection, consider the following points:

Ensure that the enclosure is not damaged, distorted, or corroded.

Ensure that all seals are clean, undamaged, and correctly fitted.

Tighten all screws of the enclosure/enclosure cover with the appropriate torque.

For cable glands only use incoming cable diameters of the appropriate size.

Tighten all cable glands with the appropriate torque.

Close all unused cable glands with the appropriate sealing plugs.

Close all unused enclosure holes with the appropriate stopping plugs.

## 9. Operation, Maintenance, Repair

Do not repair or manipulate the device.

Do not use a damaged or polluted device.

If cleaning is necessary while the device is located in a hazardous area, in order to avoid electrostatic charging only use a clean damp cloth.

If there is a defect, always replace the device with an original device.  
Observe the warning markings.

### **9.1. Hazardous Area**

Observe IEC/EN 60079-17 for maintenance and inspection.

The enclosure may be opened for maintenance while energized in Zone 1 provided that the following conditions are met:

- The connections of the non-intrinsically safe circuits must be protected by a cover with a degree of protection IP30.
- All other devices in the enclosure must permit the opening of the enclosure while energized in Zone 1.
- An appropriate marking is placed on the enclosure.

Remove the dust before opening the housing.

When energized, only open the housing in the absence of a potentially explosive dust atmosphere.

## **10. Delivery, Transport, Disposal**

Check the packaging and contents for damage.

Check if you have received every item and if the items received are the ones you ordered.

Store the device in a clean and dry environment. The permitted ambient conditions must be considered, see datasheet.

Disposing of device, packaging, and possibly contained batteries must be in compliance with the applicable laws and guidelines of the respective country.

## **11. Special Conditions**

Observe the special conditions.

Refer to document "Supplement of the Instruction Manual" for information to the special conditions.