

Instruction Manual

1. Marking

Rotary Encoder ***78E_*****N_**** ***78E_*****L_****
ATEX certificate: ITS 15 ATEX 18372 X ATEX marking: Ⓢ II 2G Ex db IIC T5 Gb Ⓢ II 2D Ex tb IIIC T100°C Db
IECEX certificate: IECEX ITS 15.0061X IECEX marking: II 2G Ex db IIC T5 Gb II 2D Ex tb IIIC T100°C Db

Rotary Encoder ***78E_*****2_**** ***78E_*****4_****
ATEX certificate: ITS 15 ATEX 18371 X ATEX marking: Ⓢ I M2 Ex db I Mb
IECEX certificate: IECEX ITS 15.0060X IECEX marking: I M2 Ex db I Mb

The *-marked letters of the type code are placeholders for versions of the device.

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2. 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.

3. 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, 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.

For mining applications, observe laws, standards, and directives applicable to the operating location.

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at 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.

4. 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.

The device is an explosionproof enclosed electrical apparatus that converts rotational motion into electrical signals.

The device is an electrical apparatus for hazardous areas.

Use the device only within the specified ambient and operating conditions.

Observe the instruction manuals for the associated components.

Observe the specific conditions of use.

Devices for which specific conditions of use apply have the X marking at the end of the certificate number.

5. Improper Use

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

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.

The device must not be installed in Zone 0.

The device must not be installed in Zone 20.

6. Mounting and Installation

Do not mount a damaged or polluted device.

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

Ensure that all fasteners are present.

Observe the tightening torque of the screws.

Only use accessories specified by the manufacturer.

Use seals that are suitable for the specified application.

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

Mount the device in a way that the device is protected against mechanical hazard.

Install cables and cable glands in a way that they are not exposed to mechanical hazards.

The device must be disconnected from the power supply prior to installation and maintenance. The power supply may be activated only after all the circuits required for operation have been fully assembled and connected.

In order to protect the circuit and the load, install an external fuse.

Mount the device so that it complies with the specified degree of protection according to IEC/EN 60529.

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

Requirements for Equipment Protection Level Gb

The device may be installed in Zone 1.

Requirements for Equipment Protection Level Db

The device may be installed in Zone 21.

Requirements for Mining

The device may be installed in mining group I.

Requirements in Relation to Electrostatics

Avoid inadmissibly high electrostatic charge of the metal housing components on the device.

Include the metal housing components in the equipotential bonding.

Ensure that the equipotential bonding connections are in good condition, and are not damaged or corroded.

If the enclosure has an external ground connection, connect an equipotential bonding conductor with a minimum cross section of 4 mm² to this ground connection.

Requirements for Cable Glands

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

Only connect cables and connection lines to the device that meet the requirements of the respective explosion-hazardous area certificate.

Observe the tightening torque of the cable glands.

Close all unused enclosure holes with the appropriate stopping plugs.

Only use stopping plugs that are suitably certified for the application.

Do not use the plastic stopping plugs supplied.

Requirements for Devices with Stainless Steel Housings

Close all unused enclosure holes with the appropriate stopping plugs.

Only use stainless steel stopping plugs.

Specific Conditions of Use

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

Only use stopping plugs that are suitably certified for the application.

When installing the cover, ensure that all fasteners meet the required minimum yield strength.

7. Operation, Maintenance, Repair

The device is maintenance-free.

Do not repair, modify, or manipulate the device.

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

The useful lifetime of the device and device components must be considered. The useful lifetime depends on the operating conditions and loads that occur.

Do not use a damaged or polluted device.

Ensure that the seals are in good condition and are not damaged.

Check the wear on the device and the device components at specific intervals. The interval between checks depends on the operating conditions and loads that occur.

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

Only remove the cover in the absence of a potentially explosive atmosphere.

Observe the warning markings.

Do not remove the warning markings.

Prevent contamination of the inside of the device when the cover is open.

Do not connect or disconnect the electrical connection when energized.

Avoid inadmissibly high electrostatic charge of the metal housing components on the device.

Requirements for Equipment Protection Level Db

Remove the dust before opening the housing.

If the device is installed in potentially explosive dust atmosphere, remove dust layers which exceed 5 mm in regular intervals.

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.

Specific Conditions of Use

If the device is installed in potentially explosive dust atmosphere, remove dust layers which exceed 5 mm in regular intervals.

Do not repair, modify, or manipulate the device.

8. 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.

Always store and transport the device in the original packaging.

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

Store the device in a way that the device is protected against mechanical hazard.

The device, built-in components, packaging, and any batteries contained within must be disposed in compliance with the applicable laws and guidelines of the respective country.