

Instruction Manual

1. Marking

Incremental Rotary Encoder RVI70E-*****N-***** RVI70E-*****I-***** RVS70E-*****N-***** RVS70E-*****I-*****
ATEX certificate: ZELM 14 ATEX 0519 X ATEX marking: Ⓢ II 2G Ex db IIC T6-T4 Gb Ⓢ II 2D Ex tb IIIC T80°C Db
IECEx certificate: IECEx ZLM 14.0003X IECEx marking: II 2G Ex db IIC T6-T4 Gb II 2D Ex tb IIIC T80°C Db
CCC certificate: 2020322314001105 CCC marking: Ex db IIC T4-T6 Gb, Ex tb IIIC T80°C Db

Incremental Rotary Encoder RVI70E-*****2-***** RVI70E-*****4-*****
ATEX certificate: ZELM 14 ATEX 0519 X ATEX marking: Ⓢ I M2 Ex db I Mb
IECEx certificate: IECEx ZLM 14.0003X 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 directives, standards, and national laws 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 directives, standards, and national laws 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 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.

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

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.

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.

Specific Conditions of Use

Observe the temperature table for the corresponding equipment protection level in the certificate.

Refer to the temperature tables for the relationship between permitted ambient temperature, range of application and temperature class.

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

Mount the device in such a way that it is protected from ultraviolet radiation.

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

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

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

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

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.

Do not connect or disconnect the electrical connection when energized.

Requirements for Equipment Protection Level Db

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

Specific Conditions of Use

Observe the temperature table for the corresponding equipment protection level in the certificate.

Refer to the temperature tables for the relationship between permitted ambient temperature, range of application and temperature class.

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

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.

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.

Specific Conditions of Use

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

Store the device in such a way that it is protected from ultraviolet radiation.