Instruction Manual

1. Marking

Voltage Repeater KCD2-VR4-Ex1, KCD2-VR4-Ex1.SP
ATEX certificate: UL 24 ATEX 3300 X ATEX marking: Ⓔx II 3(1)G Ex ec [ia Ga] IIC T4 Gc Ⓔx II (1)D [Ex ia Da] IIIC Ⓔx I (M1) [Ex ia Ma] I
IECEx certificate: IECEx ULD 24.0028X IECEx marking: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
North America Certificates: E106378 (UL) Class I, Division 2, Groups A-D, T4 Class I, Zone 2, Group IIC T4 Associated apparatus with intrinsically safe circuits for: Class I, Division 1, Groups A-D; Class II Division 1, Groups E-G; Class III AEx ec [ia Ga] IIC T4 Gc, [AEx ia Da] IIIC, Ex ec [ia Ga] IIC T4 Gc X, [Ex ia Da] IIIC X
CCC certificate: 2025322316006864 CCC marking: [Ex ia Ga] IIC, [Ex ia Da] IIIC

Pepperl+Fuchs Group Lilienthalstraße 200, 68307 Mannheim, Germany
Internet: www.pepperl-fuchs.com

2. Target Group, Personnel

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

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismounting 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.

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

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 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/device-information.

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.

Only use the device in the industrial location.

The device is used in control and instrumentation technology (C&I technology) for the galvanic isolation of signals such as 20 mA and 10 V standard signals or alternatively for adapting or standardizing signals. The device has intrinsically safe circuits that are used for operating intrinsically safe field devices in hazardous areas.

The device transfers the voltage signal from the following sensors to the non explosion-hazardous area:

- Vibration sensors
- Displacement probes
- Accelerometers
- Magnetic pick-up sensors
- Seismic sensors

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

Only use the device stationary.

The device is an associated apparatus according to IEC/EN 60079-11.

The device is an electrical apparatus for hazardous areas of Zone 2.

The device may be installed in the non-hazardous area.

5. Improper Use

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

If circuits with type of protection Ex i are operated with non-intrinsically safe circuits, they must no longer be used as circuits with type of protection Ex i.

6. Mounting and Installation

Do not mount a damaged or polluted device.

The device is designed for mounting on a 35 mm DIN mounting rail according to EN 60715.

Mount the device in a way that the device is protected against mechanical hazard. Mount the device in a surrounding enclosure for example.

The device fulfills a degree of protection IP20 according to IEC/EN 60529.

The device must be installed and operated only in a controlled environment that ensures a pollution degree 2 (or better) according to IEC/EN 60664-1.

The device is intended for indoor use.

If used in areas with higher pollution degree, the device needs to be protected accordingly.

Do not mount the device in the dust hazardous area.

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

Supply the device with a power supply that meets the requirements for safety extra-low voltage (SELV) or protective extra-low voltage (PELV).

Only connect or disconnect the connections within the specified ambient temperature range.

Temperature range	-5 °C to maximum permissible ambient temperature

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

Requirements for Cables and Connection Lines

Use only one conductor per terminal.

Observe the permissible core cross section of the conductor.

Use only copper conductors.

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

When installing the conductors the insulation must reach up to the terminal.

Use conductors rated for a temperature of 90 °C or conductors whose temperature is suitable for the application.

Observe the tightening torque of the terminal screws.

Requirements for Usage as Associated Apparatus

If you operate the device in a non-hazardous area, the device may be used up to an altitude of 4250 m.

If circuits with type of protection Ex i are operated with non-intrinsically safe circuits, they must no longer be used as circuits with type of protection Ex i.

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.

Keep the separation distances between all non-intrinsically safe circuits and intrinsically safe circuits according to IEC/EN 60079-14.

Observe the compliance of the separation distances between two adjacent intrinsically safe circuits according to IEC/EN 60079-14.

Requirements for Equipment Protection Level Gc

The device must be installed and operated only in surrounding enclosures that

- comply with the requirements for surrounding enclosures according to IEC/EN 60079-0,
- are rated with the degree of protection IP54 according to IEC/EN 60529.

Ensure that the surrounding enclosure can only be opened with a tool.

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

Requirements for Division 2

The device must be installed and operated only in surrounding enclosures that

- comply with the requirements for surrounding enclosures according to UL/CSA 60079-0,
- are rated with the degree of protection IP54 according to IEC/EN 60529.

Ensure that the surrounding enclosure can only be opened with a tool.

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

7. Operation, Maintenance, Repair

Do not use a damaged or polluted device.

Do not repair, modify, or manipulate the device.

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

Requirements for Equipment Protection Level Gc

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

Only plug and pull the energized module in the absence of a potentially explosive atmosphere.

Only use operating elements in the absence of a potentially explosive atmosphere.

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.