

# Instruction Manual

## 1. Marking

Ex i Keyboard EXTA4*-K4* keyboard with touchpad EXTA4*-K6* keyboard with joystick EXTA4*-K8* keyboard with optical trackball
<b>ATEX</b>  Zone 1/21 ATEX certificate: BVS 07 ATEX E 163 X ATEX marking: Ⓢ II 2G Ex ib IIC T4 Gb Ⓢ II 2D Ex ib IIIB T135°C Db  Zone 2/22 ATEX certificate: BVS 21 ATEX E 009 X ATEX marking: Ⓢ II 3G Ex ic IIC T4 Gc Ⓢ II 3D Ex ic IIIB T135°C Dc
<b>IECEX</b>  Zone 1/21 IECEX certificate: IECEX BVS 08.0022X IECEX marking: Ex ib IIC T4 Gb Ex ib IIIB T135°C Db  Zone 2/22 IECEX certificate: IECEX BVS 08.0022X IECEX marking: Ex ic IIC T4 Gc Ex ic IIIB T135°C Dc
North America Certificates: HazLoc: E190294 (UL)  EXTA*-J-F* and EXTA*-K-F* EXTA*-L-F* and EXTA*-M-F* EXTA*-J-T* and EXTA*-K-T* EXTA*-L-T* and EXTA*-M-T* EXTA*-D2-T* and EXTA*-D2-N*  Device suitable for mounting in: Class I, Division 2, Groups A, B, C, D Class I, Zone 2, Group IIC Associated apparatus with intrinsically safe circuits for: Class I, Division 2, Groups A, B, C, D, T5 Class I, Zone 2, Group IIC, T5  Only for K4 and K8 versions EXTA*-J-N* and EXTA*-K-N* EXTA*-L-N* and EXTA*-M-N* EXTA*-D4-N* and EXTA*-D4-T*  Device suitable for mounting in: Class I, Division 2, Groups A, B, C, D, T5 Class I, Zone 2, Group IIC, T5 Class III Device suitable for mounting in: Class I, Zone 2, Group IIC, T5 Class II, Zone 22, Group IIIB, T85°C Class III, Zone 22, Group IIIA, T85°C Associated apparatus with non-incendive circuits for: Class I, Division 2, Groups A, B, C, D Class II, Division 2, Groups F, G Class III Associated apparatus with non-incendive circuits for: Class I, Zone 2, Group IIC Class II, Zone 22, Group IIIB Class III, Zone 22, Group IIIA

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

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## 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.

## 4. 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.

Observe directives, standards, and national laws applicable to the intended use and the operating location.

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

Refer to the relevant certificate to see the relationship between the connected circuit type, the maximum permitted ambient temperature, the surface temperature, and the effective inner reactances.

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.

The device is a PC keyboard with an optional control element for mouse functions (touchpad, trackball, joystick).

The keyboard has USB interfaces for use in hazardous areas zone 1 and zone 21 resp. zone 2 and zone 22 according to ATEX Directive 2014/34/EU and IECEX.

The USB interfaces of the keyboard and the control element for mouse functions are separated, intrinsically safe circuits. Both intrinsically safe circuits are led out either in one or two separate connection cables. The connection cable corresponds to type B according to IEC 60079-14 section 12.2.2.8.

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

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

The device is an electrical apparatus for hazardous areas.

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

## 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

Prior to mounting, installation, and commissioning of the device you should make yourself familiar with the device and carefully read the instruction manual.

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

Observe the installation instructions according to IEC/EN 60079-25.

Only use accessories specified by the manufacturer.

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

Mount the device in such a way that it is protected from direct sunlight, unless it is equipped with UV protection.

When connecting intrinsically safe devices with intrinsically safe circuits of associated apparatus, observe the maximum peak values with regard to explosion protection (verification of intrinsic safety). Observe the standards IEC/EN 60079-14 or IEC/EN 60079-25.

Ensure that all fasteners are present.

Observe the tightening torque of the screws.

For intrinsically safe circuits, the dielectric strength of the insulation against other intrinsically safe circuits and against the shield must be at least 500 V according to IEC/EN 60079-14.

Safety-relevant markings are found on the nameplate supplied.

Ensure that the nameplate is present and legible. Take the ambient conditions into account.

Ensure that external ground connections exist, are in good condition, and are not damaged or corroded.

Mount the device in a weatherproof location.

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

Connect all bare non-energized metal parts to the protective conductor.

The device is not suitable for separating hazardous areas.

The device may be installed in gas group IIC.

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.

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.

Observe the maximum values of the device, when connecting the device to intrinsically safe apparatus.

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.

Circuits of intrinsically safe apparatus can be led into hazardous areas, whereby special attention must be paid to maintaining separation distances to all non-intrinsically safe circuits according to the requirements in IEC/EN 60079-14.

Observe the grounding requirements for type of protection Ex i according to IEC/EN 60079-14.

#### **Specific Conditions of Use**

Avoid inadmissibly high electrostatic charge on the device.

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

Individually accessible non-grounded metal parts can become electrostatically charged. The determined capacitance exceeds the required value according to IEC/EN 60079-0. The determined capacitance is specified in the technical data.

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

#### **Requirements for Cable Glands**

Use only one connection line per opening.

Adjust the sealing element of the cable gland to the diameter of the cables and connection lines used.

Ensure that all cable glands are in good condition and are securely tightened.

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

#### **Requirements for Cables and Connection Lines**

Install the cables and the cable glands in accordance with IEC/EN 61241-0.

Observe the maximum permissible length of cables and connection lines.

Observe the permissible core cross section of the conductor.

The dielectric strength of the insulation must be at least 500 V according to IEC/EN 60079-14.

The insulation stripping length must be considered.

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

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

Observe the minimum bending radius of the conductors.

Install the cables and connection lines in such a way that they are protected from ultraviolet radiation.

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

#### **Requirements in Relation to Electrostatics**

Information on electrostatic hazards can be found in the technical specification IEC/TS 60079-32-1.

Mount the device in a location with low electrostatic charge.

Individually accessible non-grounded metal parts can become electrostatically charged. The determined capacitance exceeds the required value according to IEC/EN 60079-0. The determined capacitance is specified in the technical data.

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

Avoid inadmissibly high electrostatic charge of the cables and connection lines.

Avoid inadmissibly high electrostatic charge on the device.

Include the metal housing components in the equipotential bonding.

An electrostatic charge poses an ignition hazard in case of discharge.

Equipotential bonding must be achieved along the intrinsically safe circuits.

## **8. Surrounding Enclosure**

If additional surrounding enclosures are required, the following points must be considered during installation:

- Degree of protection according to IEC/EN 60529
- Resistance to light according to IEC/EN 60079-0
- Resistance to impact according to IEC/EN 60079-0
- Resistance to chemical agents according to IEC/EN 60079-0
- Thermal endurance according to IEC/EN 60079-0
- Electrostatics according to IEC/EN 60079-0

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

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

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

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

## **9. Operation, Maintenance, Repair**

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

Do not repair, modify, or manipulate the device.

Do not use a damaged or polluted device.

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

If there is a defect, the device must be repaired by Pepperl+Fuchs.

Remove the dust before opening the surrounding enclosure.

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.

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

## **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.

Keep the original packaging. 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.