

Instruction Manual

1. Marking

Supply Cable USB: SK-IDM-Z2-J2-**-U-N
Supply Cable RS-232/RS-422: SK-IDM-Z2-J2-**-S-N
Equipment protection level Gc ATEX certificate: IBExU 19 ATEX B016 X ATEX marking: Ⓜ II 3G Ex mc [ic] IIC/IIB T4 Gc IECEX certificate: IECEX IBE 19.0026X IECEX marking: Ex mc [ic] IIC/IIB T4 Gc
Equipment protection level Dc ATEX certificate: IBExU 19 ATEX B016 X ATEX marking: Ⓜ II 3D Ex mc [ic] IIIC T135°C Dc IECEX certificate: IECEX IBE 19.0026X IECEX marking: Ex mc [ic] IIIC T135°C Dc

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

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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.

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.

Refer to the relevant certificate to see the relationship between the connected circuit type, the maximum permitted ambient temperature, the temperature class, 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.

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 supply cable type SK-IDM-Z2-J2-**-U-N and SK-IDM-Z2-J2-**-S-N are cables which, in addition to the data connection via USB or via the serial interfaces RS-232 or RS-422, provide the intrinsically safe power supply for handheld scanner with cable or for the base station with charging cradle.

The device is an electrical apparatus for hazardous areas.

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

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

The device is intended for indoor use.

The device is designed for a maximum altitude of 2000 m.

5.1. Specific Conditions of Use

Use the device only within the specified ambient and operating conditions. Only operate the device with a closed Ex e terminal compartment.

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

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.

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

The housing has a ground connection. Connect to this ground connection an equipotential bonding conductor with a minimum cross section of 4 mm².

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

When detecting a damage, remove the device from the hazardous area.

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.

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

Only use accessories specified by the manufacturer.

Ensure that the terminals are in good condition and are not damaged or corroded.

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

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.

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 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.

Equipotential bonding must be achieved along the intrinsically safe circuits.

The device provides a grounding terminal to which an equipotential bonding conductor with a minimum cross section of 4 mm² must be connected.

Requirements for Cable Glands

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.

Protect plastic cable glands against mechanical hazard.

Requirements for Cables and Connection Lines

Only cables and connection lines that meet the requirements of the respective hazardous area certificate of the device may be connected to the intrinsically safe connection.

Only use cables and connection lines with a temperature range appropriate to the application.

Observe the maximum permissible length of cables and connection lines.

Observe the permissible cable type and cable length given in the respective hazardous area certificate.

Regarding the verification of intrinsic safety, observe the maximum permissible external capacitance of this device and the other devices in the circuit.

Protect cables and cable glands from tensile load and torsional stress or use certified cable glands.

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

Observe the permissible core cross section of the conductor.

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.

Do not use aluminum wire for connection of the device.

Never pull the cable. A wire could become loose from the terminal and protection against electric shock can no longer be ensured. Always pull the terminal.

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.

Unused cables and connection lines must be connected to earth or be adequately insulated by means of terminals suitable for the type of protection.

Requirements in Relation to Electrostatics

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.

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

8. Operation, Maintenance, Repair

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

Observe the warning markings.

Do not remove the warning markings.

The device must not be repaired, changed, or manipulated. In case of failure, always replace the device with an original device.

Do not use a damaged or polluted device.

Do not damage the breather drain.

Do not cover the breather drain.

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

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

Remove the dust before opening the terminal compartment.

9. 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.