Instruction Manual

1. Marking

VisuNet FLX Industrial Box PC BPC3200*
ATEX certificate: UL 22 ATEX 2478 X ATEX marking: Ⓔx II 3G Ex ec [ic Gc] IIC T4 Gc
IECEx certificate: IECEx ULD 22.0016X IECEx marking: Ex ec [ic Gc] IIC T4 Gc
North America Certifcates: OrdLoc: E223772 (UL) HazLoc: E492874 (UL), Control Drawing 116-0478 Device suitable for mounting in: 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 2, Groups A-D Class I, Zone 2, Group IIC

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 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.

3. Reference to Further Documentation

Specific processes and instructions in this instruction manual require special provisions to guarantee the safety of the operating personnel.

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 (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.

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. Reference to Further Documentation

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 VisuNet FLX Systems are designed for Zone 2/22 and non-Ex applications. The different mounting and configuring options lead to the highest application flexibility. Due to a fully modular design, the new platform, which is geared to the needs of the (petro-) chemical and pharmaceutical industries, the HMIs can be configured to fit exactly and enables simple and fast adjustments in the field.

Only use the device stationary.

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

The device must only be operated in the specified ambient temperature range and at the specified relative humidity without condensation.

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

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.

5. Improper Use

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

The device is not suitable for separating hazardous areas.

The device is not suitable to separate intrinsically safe circuits from non-intrinsically safe circuits.

6. Specific Conditions of Use

The device is designed for use in pollution degree 2 and overvoltage category II according to IEC/EN 60664-1.

Secure the connections of the device against loosening by suitable means.

Only connect safety extra-low voltage circuits (SELV) or protective extra-low voltage circuits (PELV) to the device.

Only connect supplies that provide protection against electric shock (e. g. SELV or PELV).

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.

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

7. Warning Markings

Observe the warning markings.

Do not remove the warning markings.

8. 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.

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

Use mounting materials that fit the nature of the mounting surface.

Only use accessories specified by the manufacturer.

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.

Only connect a device that is in accordance with IEC/EN 60950-1 and is designed as safety extra-low protective voltage (SELV) system.

The device must only be operated in the specified ambient temperature range and at the specified relative humidity without condensation.

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

Provide a transient protection. Ensure that the peak value of the transient protection does not exceed 140 % of the rated voltage.

The device is designed for use in pollution degree 2 and overvoltage category II according to IEC/EN 60664-1.

Only connect safety extra-low voltage circuits (SELV) or protective extra-low voltage circuits (PELV) to the device.

Protect the circuit against overvoltage (e. g., lightning).

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

Mount the device in a weatherproof location.

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

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

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

The device provides a grounding terminal to which an equipotential bonding conductor with a minimum cross section of 4 mm^2 must be connected.

Include the metal connector components in the equipotential bonding.

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

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

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

Only connect supplies that provide protection against electric shock (e. g. SELV or PELV).

Ensure that all fasteners are present.

Include the fasteners in the equipotential bonding.

Observe the tightening torque of the screws.

Secure the connections of the device against loosening by suitable means.

The device can get very hot during operation. To protect the device from excessive heating, observe the required clearances and sufficient ventilation when installing the device.

Requirements for Surrounding Enclosures

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.

The device may only be installed and operated in Zone 2 if it has been mounted in a surrounding enclosure with degree of protection IP54

according to IEC/EN 60529. The surrounding enclosure must correspond to equipment protection level Gc.

Include the metal housing components in the equipotential bonding.

If additional surrounding enclosures are needed for installation in hazardous areas, the following points must be considered:

- 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 surrounding enclosure in a way that all housing outlets, e. g., cable glands and breather drains face downwards.

To ensure the degree of protection, consider the following points:

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

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

Requirements for Cables and Connection Lines

Install the cables and the cable glands in accordance with IEC/EN 60079-14.

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

Use only one conductor per terminal.

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.

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

Observe the permissible core cross section of the conductor.

Observe the insulation stripping length.

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.

Observe the maximum permissible length of cables and connection lines.

Unused cables and connection lines must be either connected to terminals or securely tied down and isolated.

Equipotential bonding must be achieved along the field circuits.

Requirements in Relation to Intrinsic Safety

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

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

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

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.

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.

Equipotential bonding must be achieved along the intrinsically safe circuits.

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.

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.

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.

9. Operation, Maintenance, Repair

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

Do not use a damaged or polluted device.

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

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

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.

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.

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.

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.