

# Instruction Manual

## 1. Marking

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| Surge Protection Barrier<br>M-LB-Ex-2112, M-LB-Ex-2112.SP, M-LB-Ex-2114, M-LB-Ex-2114.SP<br>M-LB-Ex-2142, M-LB-Ex-2142.SP, M-LB-Ex-2144, M-LB-Ex-2144.SP       |
| ATEX certificate: KIWA 19 ATEX 0003 X<br>ATEX marking:<br>Ⓢ II 2(1)G Ex ia [ia Ga] IIC T6...T4 Gb<br>Ⓢ II (1)D [Ex ia Da] IIIC<br>Ⓢ I (M1) [Ex ia Ma] I        |
| IECEx certificate: IECEx KIWA 19.0003X<br>IECEx marking:<br>Ex ia [ia Ga] IIC T6...T4 Gb<br>[Ex ia Da] IIIC<br>[Ex ia Ma] I                                    |
| North America Certificates: E501881 (UL)<br>NI for Class I, Division 2, Groups A-D, T4<br>IS for Class I, Division 1, Groups A-D, T4<br>Ex ia IIC T6...T4 Gb X |
| CCC certificate: 2020322304002752<br>CCC marking: Ex ia [ia Ga] IIC T4...T6 Gb, [Ex ia Da] IIIC                                                                |
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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.

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](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/device-information](http://www.pepperl-fuchs.com/device-information).

If you use the device in safety-related applications, observe the requirements for functional safety. You can find these requirements in the functional safety documentation under [www.pepperl-fuchs.com](http://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.

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

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

The device is designed to protect equipment from damage caused by indirect effects of lightning or other transient overvoltages.

This protection is achieved by diverting the increased transient current and limiting the voltage during the duration of the overvoltage surge.

The system is not intrinsically safe during the transient overvoltage but the high potential differences are reduced at the connected devices.

If you use the device in safety-related applications, observe the information for safety function and safe state.

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

## 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 to separate intrinsically safe circuits from non-intrinsically safe circuits.

## 6. Mounting and Installation

Do not mount a damaged or polluted device.

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.

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

Observe the ambient and operating conditions when mounting and installing the device.

Observe the derating of the current depending on the ambient temperature.

Observe the derating of the input power depending on the ambient temperature.

Do not mount the device in the dust hazardous area.

The level of protection of the circuit is not changed by the device.

Circuits of the level of protection ib may not be used, e. g., in Zone 0, even if the circuits are controlled by this device.

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.

Due to the presence of gas discharge tubes, the surge protective devices do not meet the dielectric strength requirements according to IEC/EN 60079-11 between the intrinsically safe circuits and the parts that may be grounded.

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

If you install the device in safety-related applications, observe the requirements for functional safety.

### Requirements for Cables and Connection Lines

Observe the permissible core cross section of the conductor.

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

Use only one conductor per terminal.

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

Observe the tightening torque of the terminal screws.

### Requirements for Equipment Protection Level Gb

The device may be installed in Zone 1.

The level of protection is determined by the connected intrinsically safe circuit.

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

Observe the derating of the current depending on the ambient temperature and the temperature class.

Observe the derating of the input power depending on the ambient temperature and the temperature class.

### Additional Requirements for Grounded Surge Protection Barriers

Equipotential bonding must be achieved along the intrinsically safe circuits.

## 7. Operation, Maintenance, Repair

If you operate the device in safety-related applications, observe the requirements for functional safety. In case of operating in low demand mode, plan appropriate intervals for the proof test.

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 Gb

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