

# (1) EU-TYPE EXAMINATION CERTIFICATE



- (2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 2014/34/EU**
- (3) EU-Type Examination Certificate Number

**TÜV 22 ATEX 8880 X**

Issue: 00

- (4) **Equipment:** Surge protector, Type M-LB-EX-4242
- (5) **Manufacturer:** Pepperl+Fuchs SE
- (6) **Address:** Lilienthalstrasse 200  
68307 Mannheim, Germany
- (7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26<sup>th</sup> February 2014, certifies this product which has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive. The examination and test results are recorded in the confidential report 557 / Ex 8880.00 / 22.
- (9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

**EN IEC 60079-0: 2018**

**EN 60079-11: 2012**

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EU-Type Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.
- (12) The marking of the equipment shall include the following:



**II 2(1) G Ex ia [ia Ga] IIC T6 Gb**  
**II 2 G Ex ib IIC T6 Gb**  
**II (1) D [Ex ia Da] IIIC**

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2023-02-01

Dipl.-Ing. Christian Mehrhoff



This EU-Type Examination Certificate without signature and stamp shall not be valid.  
This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln  
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(13) Annex

(14) **EU Type Examination Certificate**  
**TÜV 22 ATEX 8880 X** Issue: 00

(15) Description of equipment

15.1 Equipment and type:

Surge protector, Type M-LB-EX-4242

15.2 Description / Details of Change

General product information

The surge protector is a universal lightning and surge arrester. The differential voltage is limited by a gas-arrester (90 V) and a TVS diode (36 V). The common mode voltage to earth is limited by two gas-arresters (600 V). The intrinsically safe variants type M-LB-EX-4242 can be installed inside areas with gas that require zone 1 equipment.

The intrinsically safe output circuits of this equipment may be connected to areas with gas or dust that require category 1 equipment. In this case, it shall be noted, that the electrical output values of the equipment correspond to their input values and the output circuits of the upstream equipment correspond to zone 0.

If the intrinsically safe output circuit of the M-LB-EX-4242 equipment is routed to areas with dust, the intrinsically safe circuit must correspond to groups IIB (or IIC). If the apparatus to be connected, is not protected by an enclosure of at least IP5X, the maximum input power of this apparatus shall be limited to 0.75 W ( $T_a = 40\text{ °C}$ ) or 0.65 W ( $T_a = 70\text{ °C}$ ) or 0.55 W ( $T_a = 100\text{ °C}$ ) and the continuous short-circuit current shall be limited to 250 mA (see electrical data above); this intrinsically safe apparatus shall be marked T135 °C.

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### Technical Data

#### Electrical data

Intrinsically safe input circuit

Terminals No. 1 – 2

Maximum input voltage  $U_i$  30 V

Maximum input current  $I_i$  500 mA

Maximum internal inductance  $L_i$  0  $\mu$ H

Maximum internal capacitance  $C_i$  0 nF

When used inside areas with dust depending on each Ambient temperature  $T_a$   
40/70/100 °C

Maximum input power  $P_i$  750/650/550 mW

Maximum input power  $I_i$  250 mA

Intrinsically safe output circuit (protected)

Terminals No. 1' – 2'

The maximum values of the output circuit are identical to those that are connected to the input circuit according to intrinsically safe input circuit.

The functional earth connection via the DIN rail is not a connection facility according to IEC 60079-0. This equipment meets the requirements of a FISCO field device.

Ambient temperature range:

-40 °C to +50 °C for T6;

-40 °C to +75 °C for T5;

-40 °C to +80 °C for T4.

(16) Test-Report No. 557/Ex8880.00/22

(17) Special Conditions for safe use

1. When used in areas that require Group IIC or Group III equipment, the risk of electrostatic charges shall be minimized – see operating instructions.
2. The insulation between the intrinsically safe circuit and the parts which may be earthed (here the functional earth connection via the DIN rail) is not capable to withstand a test with of 500 V AC RMS, because of the surge arresters used for the overvoltage protection and connected between the intrinsically safe circuit and earth connection.
3. The environmental data must be taken into account – see ambient temperature ranges above.

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(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

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