

Protection Module for Surge Protection Barrier

M-LB-Ex-4242.M

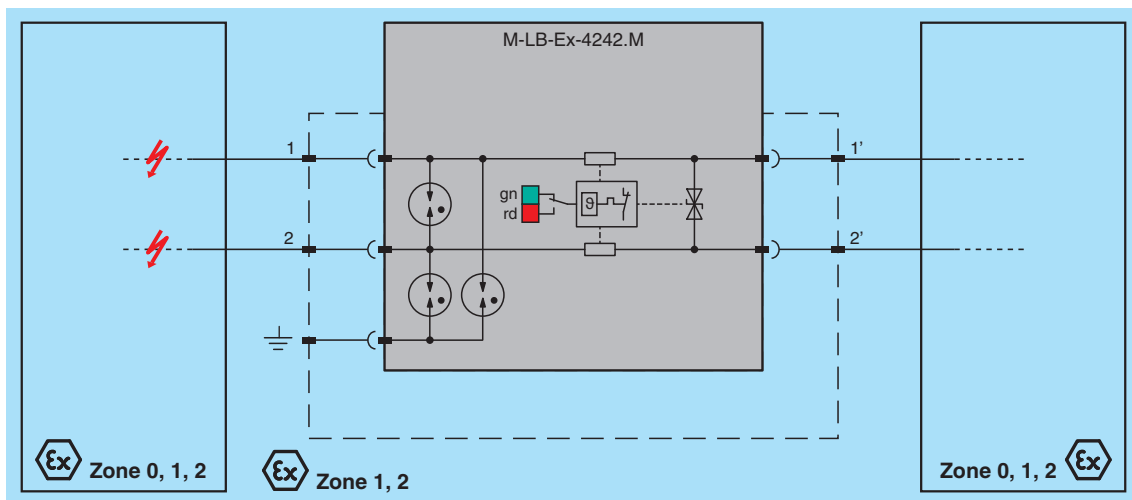
- Protection module for 2 signal lines
- Nominal voltage 24 V
- Protection module for non-grounded signal lines
- Max. surge current (8/20 μ s) 20 kA
- Uninterruptable operation (auto reset)
- Status indication
- Mounting on base module, pluggable
- Up to SIL 3 acc. to IEC/EN 61508



Function

The protection module limits induced transients of different causes, e. g. lightning or switching operations. The limitation is achieved by diverting the current to earth and limiting the signal circuit voltage during the duration of the overvoltage pulse.
 The device is a spare part for the corresponding 2-part surge protection barrier. The device is not to be used as a stand-alone device.
 The device is HART transparent.
 The device has a status indication at the front.
 The device can be replaced without tools by locking levers.

Connection



Technical Data

General specifications	
Number of protected signal lines	2
Topology	non-grounded
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 3
Electrical specifications	
Connection	via base module
Leakage current	< 30 μ A bei U_c , line-line < 10 nA bei U_c , line-earth
Nominal voltage	24 V
Maximum continuous operating voltage	U_c 25.4 V AC and 36 V DC

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Technical Data

Nominal load current	I_L	0.5 A at 80 °C (176 °F)
Series resistance		1 Ω per line
Impulse discharge current (10/350 μ s)	I_{imp}	1.5 kA per line
Nominal discharge current (8/20 μ s)	I_n	5 kA per line
Max. surge current (8/20 μ s)	I_{max}	20 kA
Total discharge current (8/20 μ s)	I_{total}	10 kA
Voltage protection level	U_p	max. 65 V line-line for nominal discharge current I_n max. 1100 V line-earth for nominal discharge current I_n
Impulse reset time		< 30 ms
Cut-off frequency	f_G	3.5 MHz , line-line
Indicators/settings		
Display elements		status display operating state (green) fault indication (red)
Conformity		
Degree of protection		IEC 60529:2013
Functional safety		IEC/EN 61508:2010
Surge protective devices for low voltage		EN 61643-21:2001+A1:2009+A2:2013 IEC 61643-21:2001+A1:2008+A2:2012
Ambient conditions		
Ambient temperature		-40 ... 80 °C (-40 ... 176 °F) For usage in hazardous area observe the EU-type examination certificate.
Storage temperature		-40 ... 80 °C (-40 ... 176 °F)
Relative humidity		max. 95 % , without condensation
Corrosion resistance		acc. to ISA-S71.04, severity level G3
Mechanical specifications		
Degree of protection		IP20
Connection		via base module
Material		
Housing		Polyamide PA 6.6
Mass		approx. 14 g
Dimensions		6 x 45 x 54 mm (0.24 x 1.77 x 2.15 inch) (W x H x D)
Mounting		pluggable in base module for mounting on 35 mm DIN mounting rail
Data for application in connection with hazardous areas		
EU-type examination certificate		TÜV 22 ATEX 8880 X
Marking		⊕ II (1)2G Ex ia [ia Ga] IIC T6...T4 Gb ⊕ II 2G Ex ib IIC T6...T4 Gb ⊕ II (1)D [Ex ia Da] IIIC
Temperature class		T6 for ambient temperature \leq 50 °C T5 for ambient temperature \leq 70 °C T4 for ambient temperature \leq 80 °C
Voltage	U_i	30 V
Current	I_i	500 mA , restrictions see certificate
Power	P_i	5.32 W
Internal capacitance	C_i	negligible
Internal inductance	L_i	negligible
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2018 , EN IEC 60079-7:2015+A1:2018 , EN 60079-11:2012
International approvals		
IECEx approval		
IECEx certificate		IECEx TUR 22.0050X
IECEx marking		Ex ia [ia Ga] IIC T6...T4 Gb Ex ib IIC T6...T4 Gb [Ex ia Da] IIIC
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Assembly

Front view

