



# Surge Protection Barrier

## M-LB-4224

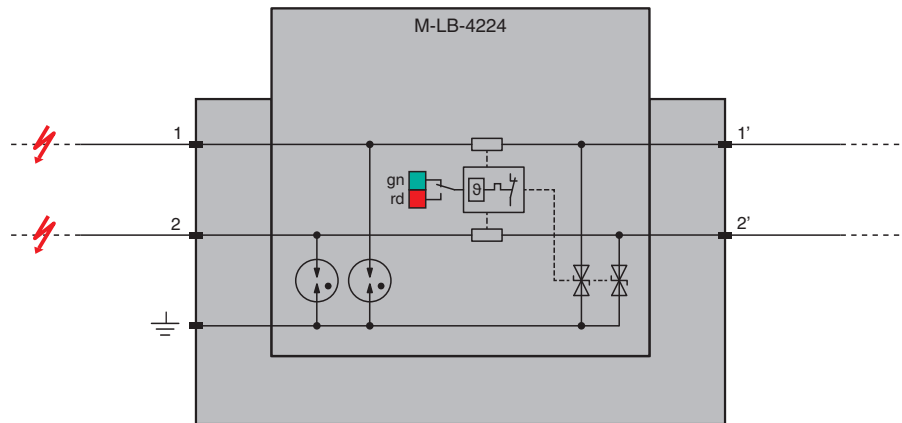
- Surge protection for 2 signal lines
- Nominal voltage 12 V
- Surge protection barrier for grounded signal lines
- Max. surge current (8/20  $\mu$ s) 20 kA
- Uninterruptable operation (auto reset)
- Status indication
- Modular design, pluggable
- Up to SIL 3 acc. to IEC/EN 61508



### Function

The device 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 loop voltage during the duration of the overvoltage pulse. The device consists of base module and protection module. The protection module can be replaced without tools. The device has a status indication at the front. The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

### Connection



Zone 2

### Technical Data

#### General specifications

Number of protected signal lines	2
Topology	grounded
<b>Functional safety related parameters</b>	
Safety Integrity Level (SIL)	SIL 3
<b>Electrical specifications</b>	
Connection	protected area: terminals 1', 2' unprotected area: terminals 1, 2
Leakage current	< 10 nA bei $U_c$ , line-line < 70 nA bei $U_c$ , line-earth
Nominal voltage	12 V
Maximum continuous operating voltage	$U_c$ 10.6 V AC and 15 V DC

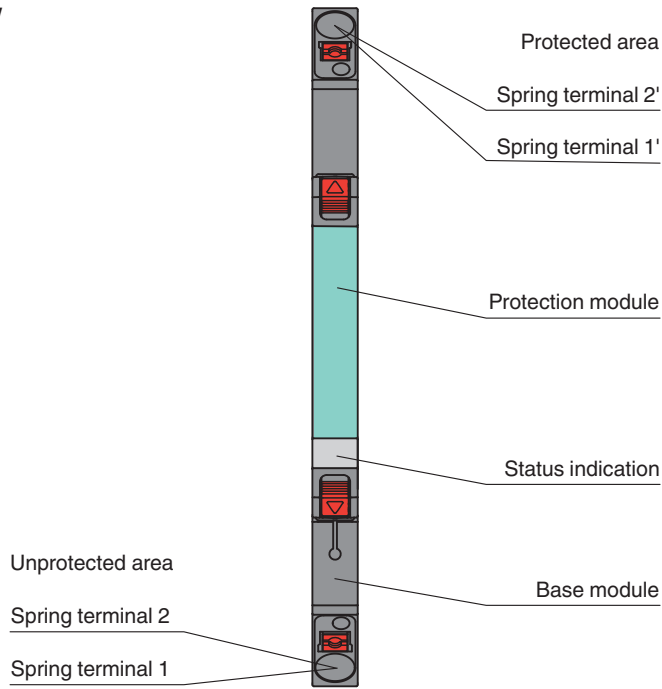
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## Technical Data

Nominal load current	$I_L$	0.75 A at 70 °C (158 °F)
Series resistance		1 $\Omega$ per line
Impulse discharge current (10/350 $\mu$ s)	$I_{imp}$	1.5 kA per line
Nominal discharge current (8/20 $\mu$ s)	$I_n$	5 kA per line
Max. surge current (8/20 $\mu$ s)	$I_{max}$	20 kA
Total discharge current (8/20 $\mu$ s)	$I_{total}$	10 kA
Voltage protection level	$U_p$	max. 48 V line-line for nominal discharge current $I_n$ max. 45 V line-earth for nominal discharge current $I_n$
Impulse reset time		< 30 ms
Cut-off frequency	$f_G$	1.4 MHz , line-line
<b>Indicators/settings</b>		
Display elements		status display operating state (green) fault indication (red)
<b>Conformity</b>		
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
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 80 °C (-40 ... 176 °F)
Storage temperature		-40 ... 80 °C (-40 ... 176 °F)
Relative humidity		max. 95 % , without condensation
Corrosion resistance		acc. to ISA-S71.04, severity level G3
<b>Mechanical specifications</b>		
Degree of protection		IP20
Connection		spring terminals with push-in connection technology
Core cross section		0.2 ... 2.5 mm <sup>2</sup> one wire 0.2 ... 2.5 mm <sup>2</sup> fine-strand
Material		
Housing		Polyamide PA 6.6
Mass		approx. 35 g
Dimensions		6 x 90 x 69 mm (0.24 x 3.5 x 2.7 inch) (W x H x D)
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with hazardous areas</b>		
Certificate		TÜV 22 ATEX 8881 X
Marking		Ⓜ II 3G Ex ec IIC T4 Gc
Temperature class		T4 for ambient temperature $\leq$ 80 °C
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2018 , EN IEC 60079-7:2015+A1:2018
<b>International approvals</b>		
UL approval		E501704
IECEX approval		
IECEX certificate		IECEX TUR 22.0051X
IECEX marking		Ex ec IIC T4 Gc
<b>General information</b>		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

## Assembly

Front view



## Matching System Components

	<b>M-LB-4400</b>	Fault Status Module
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## Accessories

	<b>M-LB-4800</b>	Separation Wall
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