



Protection Module for Surge Protection Barrier

M-LB-4254.M

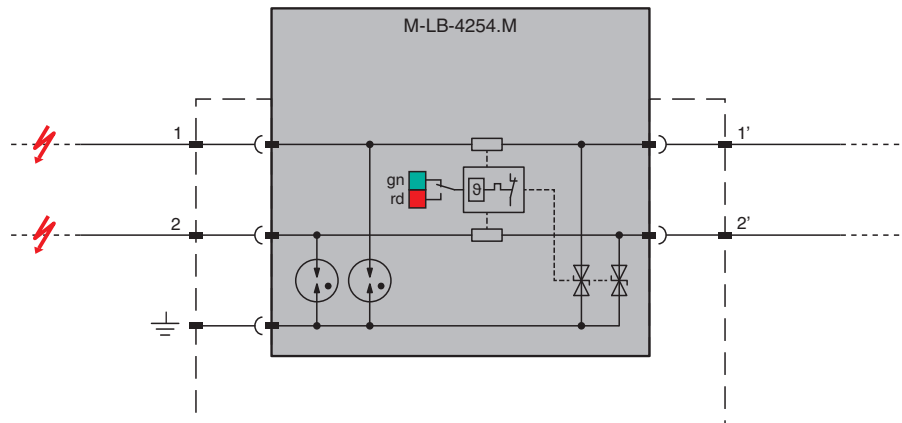
- Protection module for 2 signal lines
- Nominal voltage 48 V
- Protection module for grounded signal lines
- Max. surge current (8/20 μ s) 20 kA
- Uninterruptable operation (auto reset)
- Status indication
- Mounting on base module, pluggable
- Up to SIL 3 acc. to IEC/EN 61508



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 has a status indication at the front. The device can be replaced without tools by locking levers.

Connection



Zone 2

Technical Data

General specifications

| | |
|----------------------------------|----------|
| Number of protected signal lines | 2 |
| Topology | grounded |

Functional safety related parameters

| | |
|------------------------------|-------|
| Safety Integrity Level (SIL) | SIL 3 |
|------------------------------|-------|

Electrical specifications

| | |
|--------------------------------------|------------------------------------------------------------------|
| Connection | via base module |
| Leakage current | < 20 nA bei U_c , line-line < 100 nA bei U_c , line-earth |
| Nominal voltage | 48 V |
| Maximum continuous operating voltage | U_c 38.1 V AC and 54 V DC |
| Nominal load current | I_L 0.75 A at 70 °C (158 °F) |

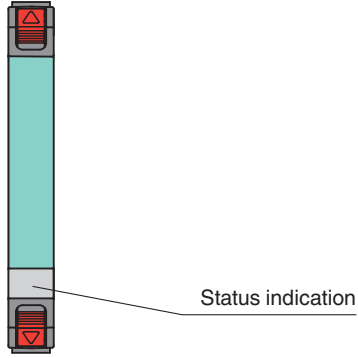
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Technical Data

| | | |
|----------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. 140 V line-line for nominal discharge current I_n max. 90 V line-earth for nominal discharge current I_n |
| Impulse reset time | | < 30 ms |
| Cut-off frequency | f_G | 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) |
| 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 | | |
| 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 |
| International approvals | | |
| UL approval | | E501704 |
| IECEX approval | | |
| IECEX certificate | | IECEX TUR 22.0051X |
| IECEX marking | | Ex ec IIC T4 Gc |
| 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



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