



Surge Protection Barrier

M-LB-4222

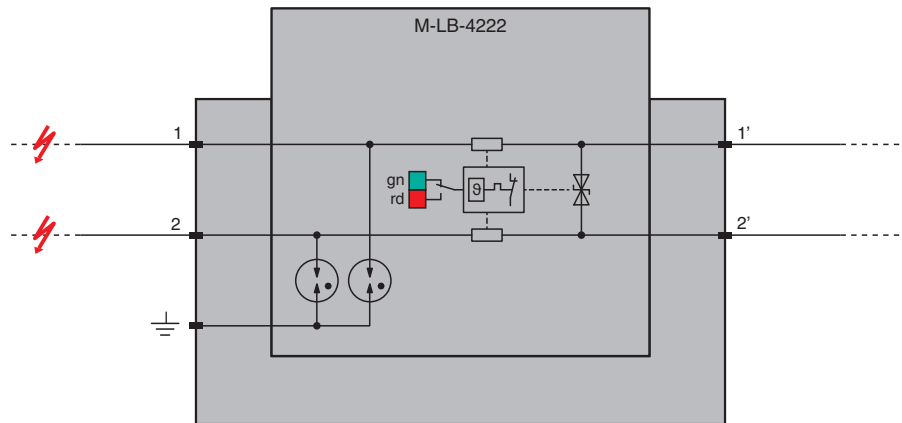
- Surge protection for 2 signal lines
- Nominal voltage 12 V
- Surge protection barrier for non-grounded signal lines
- Max. surge current (8/20 μ s) 20 kA
- Uninterruptable operation (auto reset)
- Status indication
- Modular design, pluggable
- Up to SIL 3 acc. to IEC/EN 61508



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 | non-grounded |

Functional safety related parameters

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

Electrical specifications

| | |
|--------------------------------------|--|
| Connection | protected area: terminals 1', 2' unprotected area: terminals 1, 2 |
| Leakage current | < 30 μ A bei U_c , line-line < 10 nA bei U_c , line-earth |
| Nominal voltage | 12 V |
| Maximum continuous operating voltage | U_c 10.6 V AC and 15 V DC |

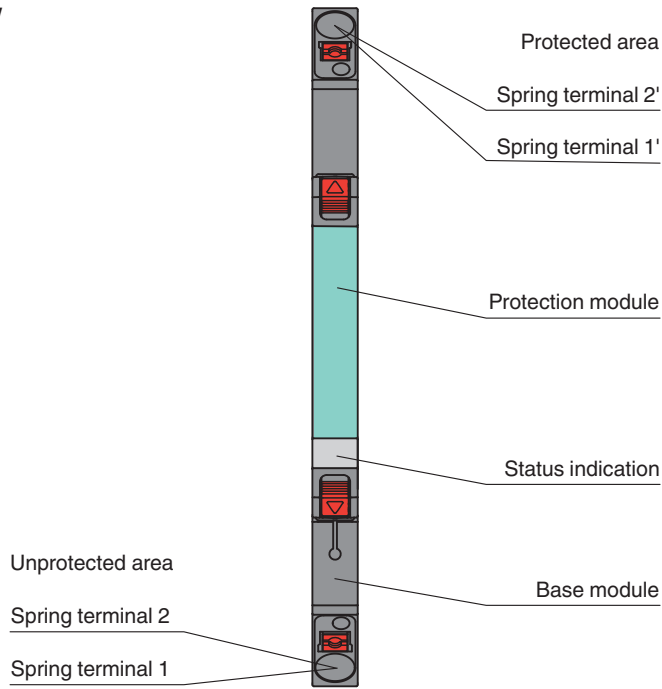
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Technical Data

| | | |
|--|-------------|---|
| Nominal load current | I_L | 0.75 A at 70 °C (158 °F) |
| Series resistance | | 1 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. 32 V line-line for nominal discharge current I_n max. 600 V line-earth for nominal discharge current I_n |
| Impulse reset time | | < 30 ms |
| Cut-off frequency | f_G | 2.6 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 | | spring terminals with push-in connection technology |
| Core cross section | | 0.2 ... 2.5 mm ² one wire 0.2 ... 2.5 mm ² 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 |
| 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



Matching System Components

| | | |
|---|------------------|---------------------|
|  | M-LB-4400 | Fault Status Module |
|---|------------------|---------------------|

Accessories

| | | |
|---|------------------|-----------------|
|  | M-LB-4800 | Separation Wall |
|---|------------------|-----------------|

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