

Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V-FM - 2905640

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Lightning/surge arrester for 2-pos. isolated 1500 V DC voltage systems, for DIN rail mounting, with remote indication contact, temperature-monitored protective elements, status message on the module.

Your advantages

- ✓ Double terminal block for safe and easy equipotential bonding connection
- ✓ Screw shafts with raised domes to ensure safe working
- ✓ Main connections with extended insertion funnels for increased resistance to creepage
- ✓ Visual display for checking the status directly on the device
- ✓ Plug-in signal connection for remote status signaling
- ✓ Compact design for space-saving installation



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 984423 |
| GTIN | 4046356984423 |

Technical data

Dimensions

| | |
|------------------|---------------------------------|
| Height | 120 mm |
| Width | 71.2 mm |
| Depth | 65.5 mm (incl. DIN rail 7.5 mm) |
| Horizontal pitch | 4 Div. |

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 (only when all terminal points are used) |
| Ambient temperature (operation) | -40 °C ... 80 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |

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Ambient conditions

| | |
|----------------------------------|---|
| Altitude | ≤ 6000 m (amsl (above mean sea level)) |
| Permissible humidity (operation) | 5 % ... 95 % |
| Shock (operation) | 50g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation) | 5g (5 - 500 Hz/2.5 h/X, Y, Z) |

General

| | |
|--|-----------------------------------|
| IEC test classification | PV I / II |
| | PV T1 / T2 |
| EN type | T1 / T2 |
| IEC power supply system | DC |
| SPD failure behavior | OCM (Open-circuit mode) |
| Connection configuration | Y configuration |
| Installation location | Interior |
| Accessibility | Accessible |
| Installation location of the disconnect device | Internal |
| Mode of protection | (L+) - (L-) |
| | (L+) - PE |
| | (L-) - PE |
| Mounting type | DIN rail: 35 mm |
| Color | traffic grey A RAL 7042 |
| Housing material | PA 6.6 |
| Degree of pollution | 2 |
| Flammability rating according to UL 94 | V-0 |
| Type | DIN rail module, one-piece |
| Surge protection fault message | Optical, remote indicator contact |

Additional descriptions

| | |
|------|---|
| Note | The product is also suitable for applications in PV systems with a max. short-circuit current $I_{SCPV} = 15 \text{ kA}$ (according to EN 50539-11:2013). |
|------|---|

Protective circuit DC voltage side (DC)

| | |
|---|------------------------|
| Maximum continuous operating voltage U_{CPV} | 1500 V DC |
| Short-circuit current rating I_{SCPV} | 2000 A |
| Continuous operating current I_{CPV} | < 100 μA |
| Rated load current I_L | 50 A |
| Residual current I_{PE} | ≤ 100 μA DC |
| | ≤ 50 μA AC |
| Standby power consumption P_C | ≤ 150 mVA |
| Nominal discharge current (8/20) μs | 20 kA |
| Maximum discharge current I_{max} (8/20) μs | 40 kA |
| Impulse discharge current (10/350) μs , charge | 3.125 As |

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Protective circuit DC voltage side (DC)

| | |
|--|--------------------------------|
| Impulse discharge current (10/350) μ s, specific energy | 9.77 kJ/ Ω |
| Impulse discharge current (10/350) μ s, peak value I_{imp} | 6.25 kA |
| Total discharge current I_{total} (8/20) μ s | 40 kA |
| Total discharge current I_{total} (10/350) μ s | 12.5 kA |
| Voltage protection level U_p | ≤ 4.5 kV |
| Residual voltage U_{res} | ≤ 4.5 kV (at I_n) |
| | ≤ 3.3 kV (at 3 kA) |
| | ≤ 3.6 kV (at 6.25 kA) |
| | ≤ 3.8 kV (at 10 kA) |
| | ≤ 4.2 kV (at 15 kA) |
| | ≤ 5.4 kV (at 40 kA) |
| Response time t_A | ≤ 25 ns |
| Insulation resistance R_{iso} | > 5 G Ω (at 500 V DC) |

Indicator/remote signaling

| | |
|----------------------------------|--|
| Switching function | PDT contact |
| Operating voltage | 5 V AC ... 250 V AC |
| | 5 V DC ... 30 V DC |
| Operating current | 5 mA AC ... 1.5 A AC |
| | 5 mA DC ... 1 A DC |
| Connection method | Screw connection |
| Screw thread | M2 |
| Tightening torque | 0.25 Nm |
| Stripping length | 7 mm |
| Conductor cross section flexible | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section solid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section AWG | 28 ... 16 |

Connection data

| | |
|---|--|
| Connection method | Screw connection |
| Screw thread | M5 |
| Tightening torque | 3 Nm |
| Stripping length | 16 mm |
| Conductor cross section flexible | 2.5 mm ² ... 35 mm ² |
| Two conductors with the same cross section stranded, with ferrule and without plastic sleeve, minimum | 2.5 mm ² |
| Two conductors with the same cross section stranded, with ferrule and without plastic sleeve, maximum | 10 mm ² |
| Conductor cross section AWG | 14 ... 2 |

Standards and Regulations

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Technical data

Standards and Regulations

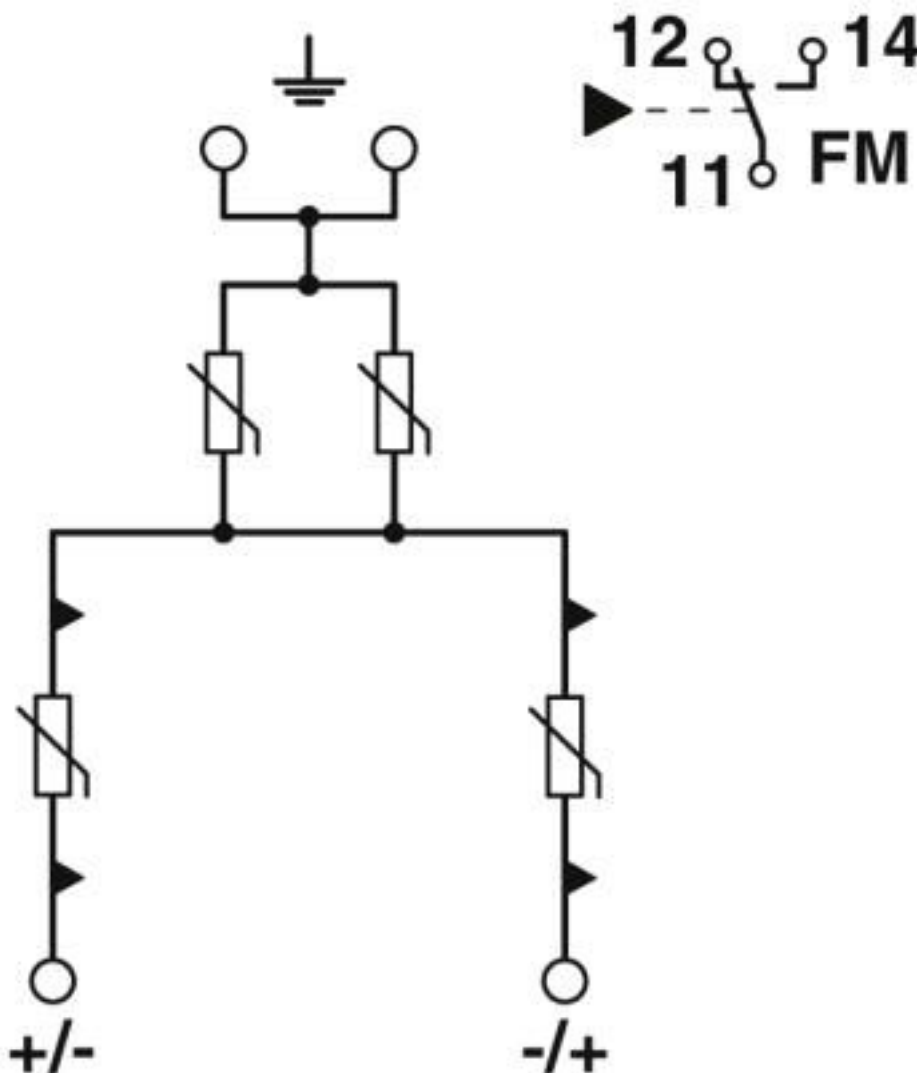
| | |
|-----------------------|------------------|
| Standards/regulations | EN 50539-11 2013 |
|-----------------------|------------------|

Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

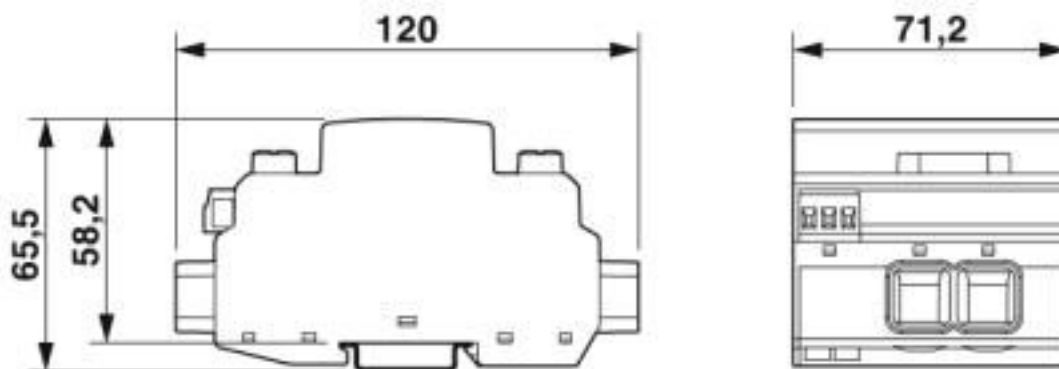
Drawings

Circuit diagram



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Dimensional drawing



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27130802 |
| eCl@ss 11.0 | 27130802 |
| eCl@ss 4.0 | 27130800 |
| eCl@ss 4.1 | 27130800 |
| eCl@ss 5.0 | 27130800 |
| eCl@ss 5.1 | 27130800 |
| eCl@ss 6.0 | 27130800 |
| eCl@ss 7.0 | 27130802 |
| eCl@ss 8.0 | 27130802 |
| eCl@ss 9.0 | 27130802 |

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC000941 |
| ETIM 4.0 | EC000381 |
| ETIM 5.0 | EC000381 |
| ETIM 6.0 | EC000381 |
| ETIM 7.0 | EC000381 |

UNSPSC

| | |
|-------------|----------|
| UNSPSC 13.2 | 39121620 |
| UNSPSC 18.0 | 39121620 |
| UNSPSC 19.0 | 39121620 |
| UNSPSC 20.0 | 39121620 |
| UNSPSC 21.0 | 39121620 |

Approvals

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Approvals

Approvals

CCA / KEMA-KEUR

Ex Approvals

Approval details

| | |
|-----|-------------|
| CCA | NTR-NL 7422 |
|-----|-------------|

| | | | |
|-----------|---|---|------------|
| KEMA-KEUR |  | http://www.dekra-certification.com | 2181728.01 |
|-----------|---|---|------------|

Accessories

Accessories

Marker pen

Marker pen - X-PEN 0,35 - 0811228



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

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