

Type 2 surge arrester - VAL-MS 600DC-PV/2+V - 2800642

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Surge arrester for 2-pos. isolated 600 V DC voltage systems, for DIN rail mounting, 3-pos. base element, three plug-in temperature-monitored protective elements, status message on each plug.

Your advantages

- ✓ Increased safety, thanks to compliance with standard EN 50539-11
- ✓ Reliable contact, thanks to integrated rotating latch
- ✓ Easy replacement, thanks to plug-in arresters
- ✓ Optimum inverter protection, thanks to low protection level
- ✓ Efficient replacement of defective plugs, thanks to visual status indicator
- ✓ Protection against mismatching, thanks to keyed plugs and base elements



Key Commercial Data

| | |
|--------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4046356614979 |

Technical data

Dimensions

| | |
|------------------|---------------------------------|
| Height | 89.8 mm |
| Width | 53.4 mm |
| Depth | 65.7 mm (incl. DIN rail 7.5 mm) |
| Horizontal pitch | 3 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 |
| Altitude | ≤ 2000 m (amsl (above mean sea level)) |
| Permissible humidity (operation) | 5 % ... 95 % |

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Ambient conditions

| | |
|-----------------------|---|
| Shock (operation) | 60g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation) | 7.5g (5-500 Hz/2.5 h/XYZ) |

General

| | |
|--|---|
| IEC test classification | PV II |
| | PV T2 |
| EN type | T2 |
| 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 | jet black RAL 9005 |
| Housing material | PA 6.6-FR |
| | PBT-FR |
| Degree of pollution | 2 |
| Distance between live and grounded parts | 8 mm |
| Flammability rating according to UL 94 | V-0 |
| Type | DIN rail module, two-section, divisible |
| Surge protection fault message | optical |

Additional descriptions

| | |
|------|---|
| Note | The device is intended for touch proof installation in a housing. Ensure that there is a gap of at least 8 mm between the active and grounded parts in the connection area. |
|------|---|

Protective circuit DC voltage side (DC)

| | |
|--|---------------------|
| Maximum continuous operating voltage U_{CPV} | 800 V DC |
| Short-circuit current rating I_{SCPV} | 2000 A |
| Continuous operating current I_{CPV} | 20 μ A |
| Rated load current I_L | 80 A |
| Residual current I_{PE} | $\leq 20 \mu$ A DC |
| | $\leq 300 \mu$ A AC |
| Standby power consumption P_C | ≤ 20 mVA |
| Nominal discharge current (8/20) μ s | 15 kA |
| Maximum discharge current I_{max} (8/20) μ s | 40 kA |
| Total discharge current I_{total} (8/20) μ s | 40 kA |
| Voltage protection level U_p | ≤ 2.7 kV |

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Protective circuit DC voltage side (DC)

| | |
|---------------------------------|--------------------------------|
| Residual voltage U_{res} | ≤ 2.7 kV (at I_n) |
| | ≤ 2.2 kV (at 5 kA) |
| | ≤ 2.5 kV (at 10 kA) |
| | ≤ 2.9 kV (at 20 kA) |
| | ≤ 3.4 kV (at 30 kA) |
| | ≤ 3.8 kV (at 40 kA) |
| Response time t_A | ≤ 25 ns |
| Insulation resistance R_{iso} | > 5 G Ω (at 500 V DC) |

Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Screw thread | M5 |
| Tightening torque | 3 Nm (1.5 mm ² ... 16 mm ²) |
| | 4.5 Nm (25 mm ² ... 35 mm ²) |
| Stripping length | 16 mm |
| Conductor cross section flexible | 1.5 mm ² ... 25 mm ² |
| Conductor cross section solid | 1.5 mm ² ... 35 mm ² |
| Conductor cross section AWG | 15 ... 2 |
| Connection method | Fork-type cable lug |
| Conductor cross section flexible | 1.5 mm ² ... 16 mm ² |

UL specifications

| | |
|---|-------------|
| SPD Type | 1 |
| Maximum continuous operating voltage MCOV | 800 V DC |
| Nominal voltage | 800 V DC |
| Mode of protection | (L+) - (L-) |
| | (L+) - G |
| | (L-) - G |
| Power distribution system | DC PV |
| Voltage protection rating VPR | 2 kV |
| Nominal discharge current I_n | 20 kA |
| Short-circuit current rating (SCCR) | 50 kA |

UL connection data

| | |
|-----------------------------|-------------------------|
| Conductor cross section AWG | 10 ... 2 |
| Tightening torque | 30 lb _F -in. |

Standards and Regulations

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

Environmental Product Compliance

| | |
|------------|--|
| China RoHS | Environmentally Friendly Use Period = 50 years |
|------------|--|

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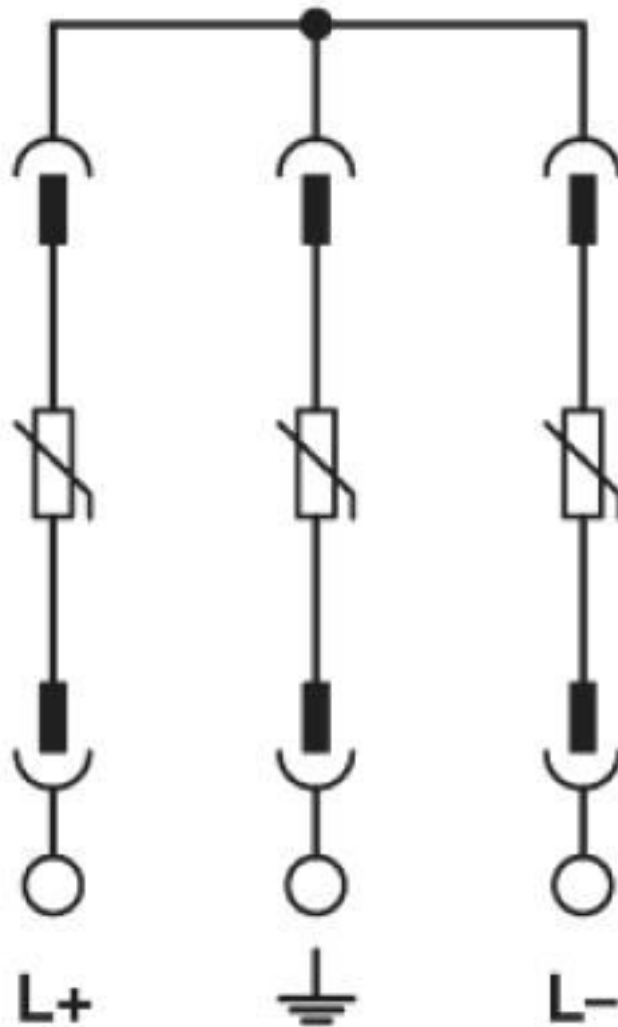
Technical data

Environmental Product Compliance

| | |
|--|---|
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |
|--|---|

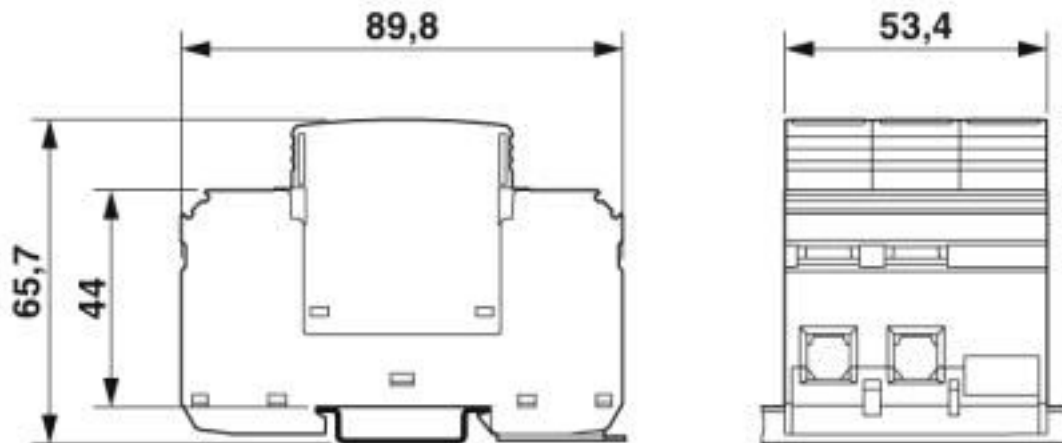
Drawings

Circuit diagram



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Dimensional drawing



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27130805 |
| 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 | 27130805 |
| eCl@ss 8.0 | 27130805 |
| eCl@ss 9.0 | 27130805 |

ETIM

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

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30212010 |
| UNSPSC 7.0901 | 39121610 |
| UNSPSC 11 | 39121610 |
| UNSPSC 12.01 | 39121610 |
| UNSPSC 13.2 | 39121620 |
| UNSPSC 18.0 | 39121620 |
| UNSPSC 19.0 | 39121620 |
| UNSPSC 20.0 | 39121620 |
| UNSPSC 21.0 | 39121620 |

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Approvals

Approvals

Approvals

UL Listed / KEMA-KEUR / cUL Listed / EAC / cULus Listed

Ex Approvals

Approval details

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 330181 |
|-----------|--|---|---------------|

| | | | |
|-----------|--|---|-----------------|
| KEMA-KEUR | | http://www.dekra-certification.com | 71-102960 REV.1 |
|-----------|--|---|-----------------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 330181 |
|------------|--|---|---------------|

| | | | |
|-----|--|--|-------------------------|
| EAC | | | RU C- DE.*09.B.00169 |
|-----|--|--|-------------------------|

| | | | |
|--------------|--|--|--|
| cULus Listed | | | |
|--------------|--|--|--|

Accessories

Accessories

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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Accessories

Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Spare parts

Type 2 surge protection plug - VAL-MS 600DC-PV-ST - 2800623



Replacement plug for PV arrester combinations from the VAL-MS 600DC-PV-... product range

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[120/40/1+1-FM](#) [VAL-US-120/65/1+1-FM](#) [VAL-US-480D/30/3+0-FM](#) [VAL-US-120/40/1+0-FM](#) [LP-BFDN-CW](#) [LP-STRL-NFF](#) [LP-STRL-](#)
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[350-1P0](#) [FLT-CP-350-ST](#) [TTC-6P-3-HF-F-M-12DC-UT-I](#) [SMTPA200](#) [2800989](#) [2906776](#) [2906810](#) [2906847](#) [2906848](#) [2906851](#)