

Type 2 surge arrester - VAL-SEC-T2-2+F-220DC-FM - 1033789

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Pluggable surge protective device free of leakage current for 2-pos. isolated and grounded DC voltage systems with linear operating characteristic up to 220 V DC, for DIN rail mounting, 3-pos. base element with remote indication contact, three pluggable temperature-monitored protective elements, status message on each plug.

Your advantages

- ✓ Space-saving installation, thanks to the compact design
- ✓ Free of leakage current to ground, thanks to 2+F circuitry
- ✓ Easy replacement during servicing, thanks to completely pluggable system
- ✓ No mismatching of plugs, thanks to mechanical coding



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 539720
GTIN	4055626539720

Technical data

Dimensions

Height	97.9 mm
Width	37.3 mm
Depth	74.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 Div.

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 5000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)

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Technical data

Ambient conditions

Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)
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General

IEC test classification	II
	T2
EN type	T2
IEC power supply system	DC
Mode of protection	(DC+) - (DC-)
	(DC+/DC-) - PE
Mounting type	DIN rail: 35 mm
Color	light grey RAL 7035
	traffic grey A RAL 7042
Housing material	PA 6.6-FR 20 % GF
	PBT-FR
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	200 V DC ... 220 V DC
Maximum continuous voltage U_C	250 V DC
Rated load current I_L	40 A (Biconnect M4 fork-type cable lug 6 mm ²)
	63 A (TWIN ferrule 2 x 10 mm ²)
Residual current I_{PE}	$\leq 5 \mu A$
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Total discharge current I_{total} (8/20) μs	40 kA
Short-circuit current rating I_{SCCR}	0.2 kA (without backup fuse)
	6 kA (for 20 A gG/B backup fuse)
Voltage protection level U_p (DC+) - (DC-)	$\leq 3 kV$
Voltage protection level U_p (DC+/DC-) - PE	$\leq 1.9 kV$
Front of wave sparkover voltage at 6 kV (1.2/50) μs (DC+/DC-) - PE	$\leq 1.9 kV$
TOV behavior at U_T	320 V DC (5 s / withstand mode)
	100 ns
Max. backup fuse with V-type through wiring	20 A (gG / B at $I_{SCCR} > 200 A$)
Max. backup fuse with branch wiring	20 A (gG / B at $I_{SCCR} > 200 A$)

Additional technical data

Maximum continuous voltage U_C	264 V AC (for operation in safety lighting systems)
Maximum continuous operating voltage U_{CPV}	250 V DC
Short-circuit current rating I_{SCPV}	2000 A

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Technical data

Additional technical data

Continuous operating current I_{CPV}	10 μ A
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Indicator/remote signaling

Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC (Altitude $\leq$ 2000 m amsl)
	5 V AC ... 150 V AC (Altitude $>$ 2000 m amsl)
	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1 A AC
	1 A DC (30 V DC)
Connection method	Plug-in/screw connection via COMBICON
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	4.5 Nm
Stripping length	16 mm
Conductor cross section flexible	2.5 mm ² ... 16 mm ²
Conductor cross section solid	2.5 mm ² ... 25 mm ²
Conductor cross section AWG	12 ... 4
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm ² ... 6 mm ²

Standards and Regulations

Standards/regulations	IEC 61643-11 2011
	EN 61643-11 2012

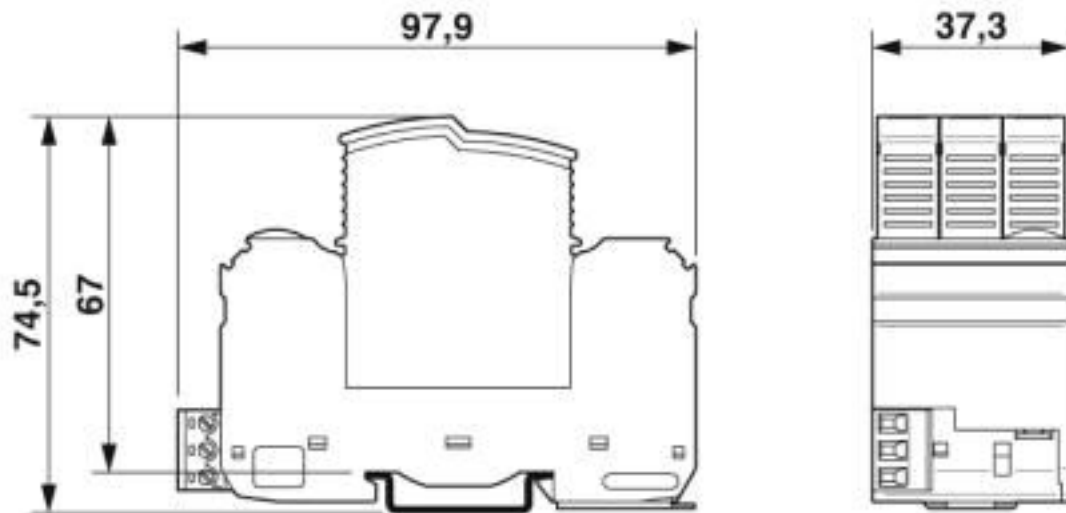
Environmental Product Compliance

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

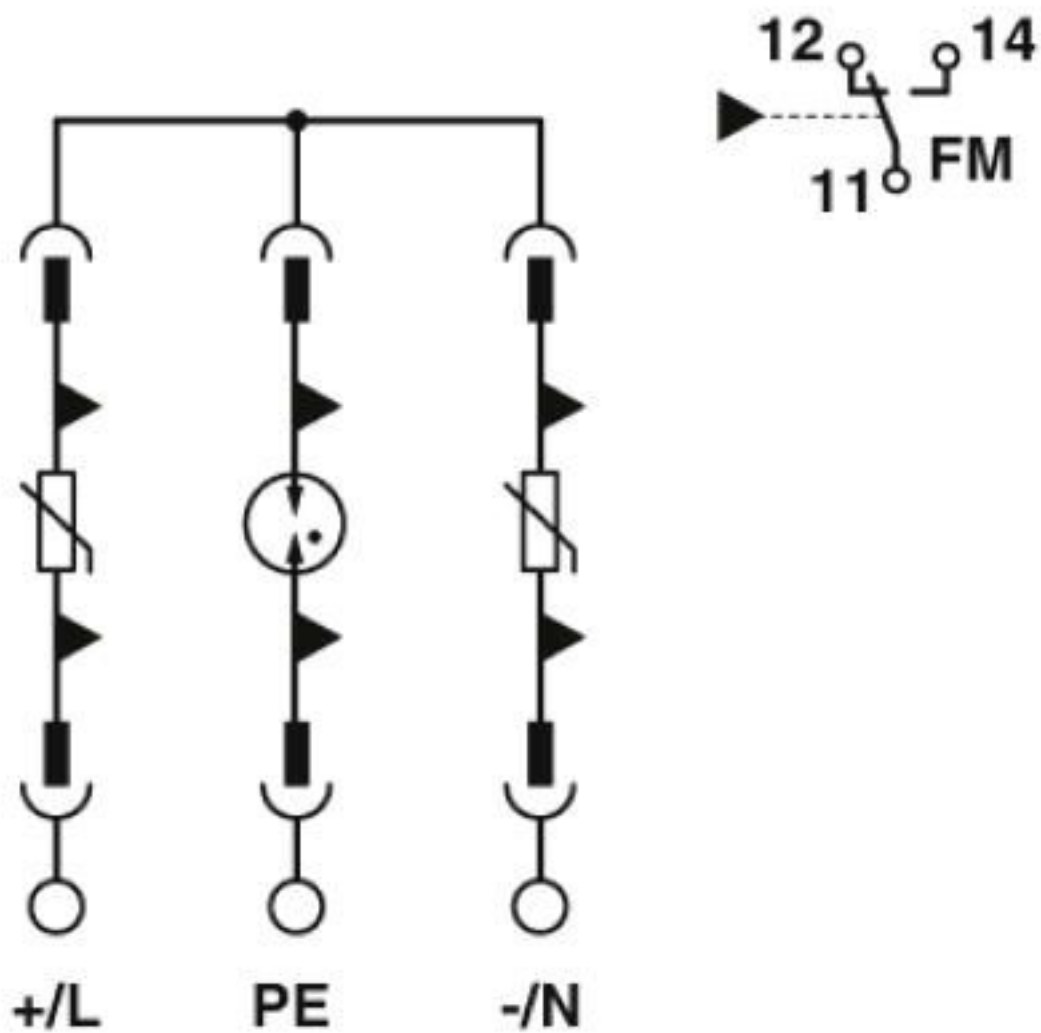
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Dimensional drawing



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Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27130805
eCl@ss 11.0	27130805
eCl@ss 6.0	27130800
eCl@ss 7.0	27130805
eCl@ss 8.0	27130805
eCl@ss 9.0	27130805

ETIM

ETIM 5.0	EC000941
ETIM 6.0	EC000941
ETIM 7.0	EC000941

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Accessories

Accessories

Device marking

Label - EML (20XE)R - 0803452



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive, lettering field size: continuous x 20#mm

Label - EML (20XE)R YE - 0803453



Label, Roll, yellow, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive, lettering field size: continuous x 20#mm

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

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



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End block

End clamp - CLIPFIX 35 - 3022218



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

Labeled device marker

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Accessories

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 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 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

Terminal marking

Flat zack marker sheet - ZBFM 5/WH:UNBEDRUCKT - 0803595



Flat zack marker sheet, Sheet, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 5 x 4.5 mm, Number of individual labels: 120

Spare parts

Type 2 surge protection plug - VAL-SEC-T2-220DC-P - 2907879



Replacement plug for surge protective devices from the VALVETRAB SEC product range for DC power sources.

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Accessories

Type 2 surge protection plug - VAL-SEC-T2-GDT-800DC-P - 1052649



Replacement plug for surge protective devices from the VALVETRAB SEC product range for DC power sources.
Protection of the path to the ground for 220 und 380 V DC.

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PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>