

Type 2 surge arrester - VAL-SEC-T2-2+0-48DC-FM - 2907865

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Pluggable surge protective device, in accordance with Type 2/Class II, for DC power sources with linear operating characteristics, with remote indication contact.

Your advantages

- ✓ Varistor arrester with a low leakage current
- ✓ Extremely narrow design, just 12 mm per position
- ✓ High continuous voltage of 75 V DC for linear DC current sources with voltage fluctuations
- ✓ Pluggable
- ✓ Low voltage protection level
- ✓ Optical, mechanical status indicator
- ✓ With floating remote indication contact
- ✓ Plugs can be checked with CHECKMASTER 2



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 244587
GTIN	4055626244587

Technical data

Dimensions

Height	97.9 mm
Width	25.4 mm
Depth	74.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1.4 Div.

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C

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Technical data

Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 6000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

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 mounting
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
Number of positions	2
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	48 V DC ... 60 V DC
Maximum continuous voltage U_C	75 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}	≤ 50 µA DC
Nominal discharge current I_n (8/20) µs	20 kA
Maximum discharge current I_{max} (8/20) µs	40 kA
Impulse discharge current (10/350) µs, charge	2 As
Impulse discharge current (10/350) µs, specific energy	4 kJ/Ω
Impulse discharge current (10/350) µs, peak value I_{imp}	4 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-)	≤ 0.9 kV
Voltage protection level U_p (DC+/DC-) - PE	≤ 0.5 kV
TOV behavior at U_T	87 V DC (5 s / withstand mode)

Type 2 surge arrester - VAL-SEC-T2-2+0-48DC-FM - 2907865

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Protective circuit

Response time t_A	≤ 25 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)

Indicator/remote signaling

Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC (Altitude ≤ 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

UL specifications

SPD Type	1
Nominal voltage	60 V DC
Mode of protection	(DC+) - (DC-)
	(DC+) - G
	(DC-) - G
Power distribution system	DC
Voltage protection rating VPR (DC+) - (DC-)	800 V
Voltage protection rating VPR (DC+) - G	400 V
Voltage protection rating VPR (DC-) - G	400 V
Nominal discharge current I_n	20 kA
Short-circuit current rating (SCCR)	50 kA

Type 2 surge arrester - VAL-SEC-T2-2+0-48DC-FM - 2907865

Technical data

UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Tightening torque	4 lb _F -in.
Conductor cross section AWG	30 ... 14

UL connection data

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

Standards and Regulations

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

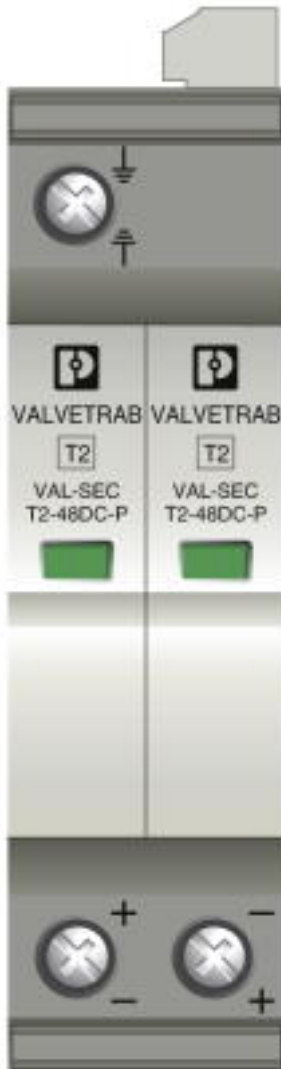
Environmental Product Compliance

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"

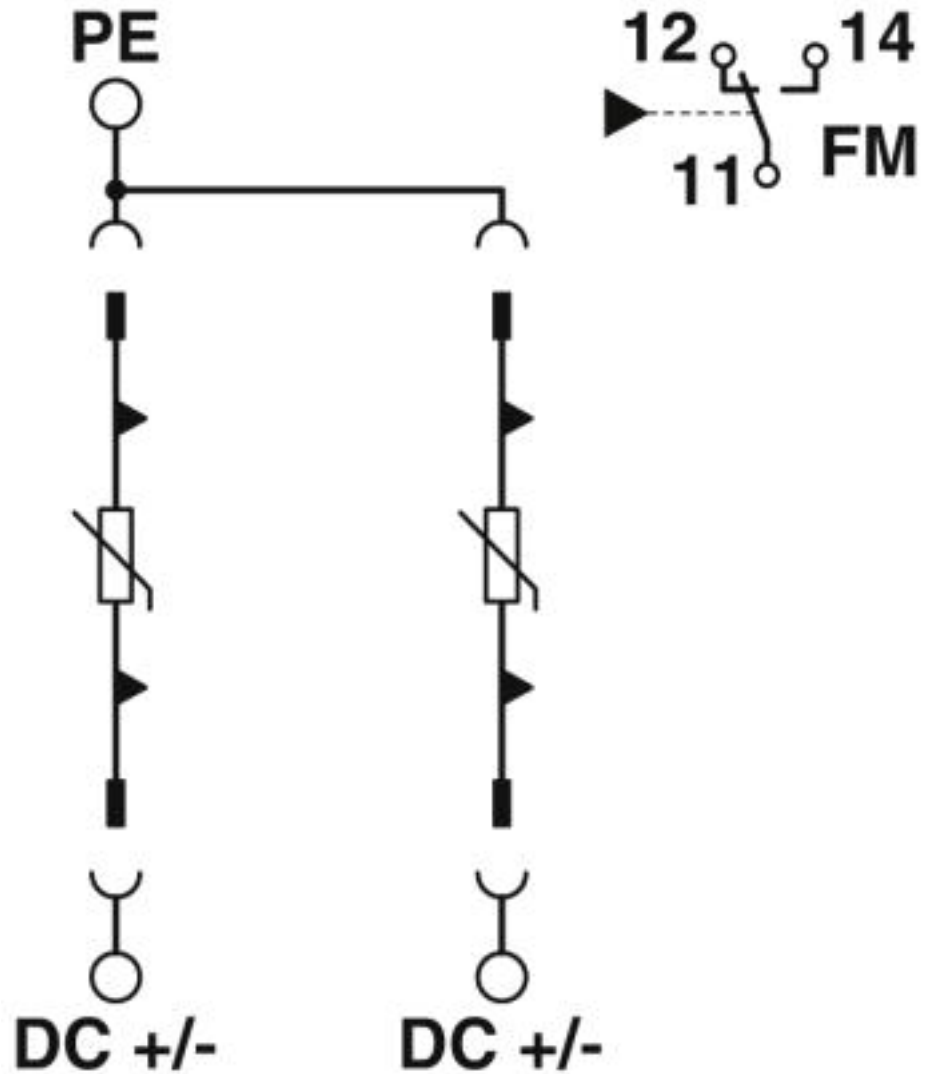
Drawings

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Product drawing

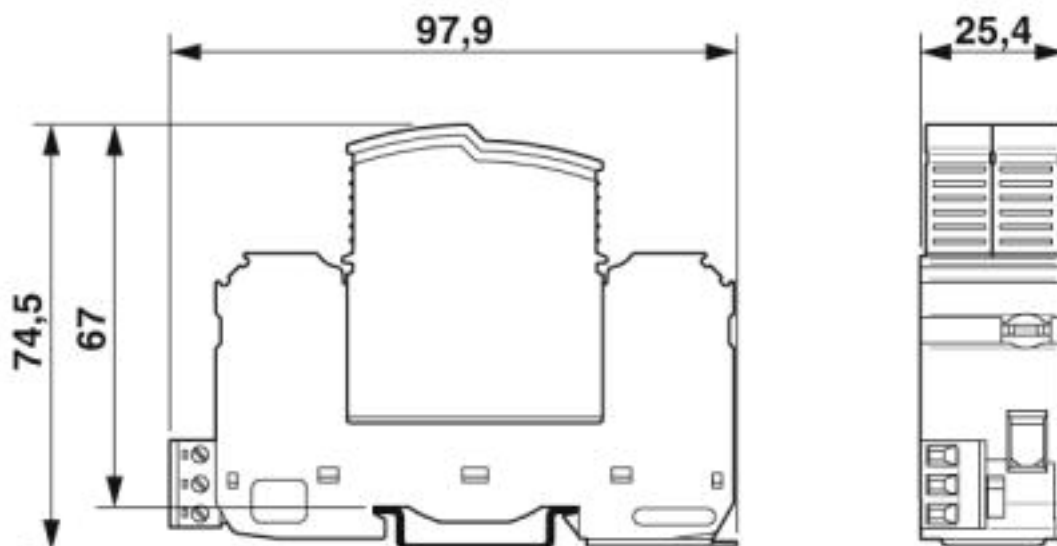


Circuit diagram



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Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27130805
eCl@ss 5.1	27130801
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

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

EAC / DNV GL / UL Recognized / cUL Recognized / cULus Recognized

Ex Approvals

Approval details

EAC			RU C- DE.A*30.B01561
DNV GL		https://approvalfinder.dnvgl.com/	TAE000023D
UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
cULus Recognized			

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

Type 2 surge arrester - VAL-SEC-T2-2+0-48DC-FM - 2907865

Accessories

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



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

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

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

Type 2 surge arrester - VAL-SEC-T2-2+0-48DC-FM - 2907865

Accessories

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-T2-48DC-P - 2907877



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