

VAL-SEC-T2-2X2+0-48DC-FM - Type 2 surge arrester



1567353

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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

- Surge protection family for universal use with optimum energy coordination from the lightning current arrester to the device protection
- Easy to maintain due to consistently pluggable protection modules
- Excellent level of information provided by mechanical/visual status indicator and remote indication contact
- More space in the control cabinet due to the narrow overall width of just 12 mm per position

Commercial data

Item number	1567353
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL1
Product key	CL1353
GTIN	4067923053946
Weight per piece (including packing)	366.4 g
Weight per piece (excluding packing)	395 g
Customs tariff number	85363090
Country of origin	DE

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Technical data

Product properties

Product type	Surge arrester
Product family	SEC Family
IEC test classification	II
	T2
EN type	T2
IEC power supply system	DC
Type	DIN rail module, two-section, divisible
Number of positions	2
Surge protection fault message	Optical, remote indicator contact

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
Nominal voltage U_N	48 V DC ... 60 V DC

Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover 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 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 rigid	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

Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm

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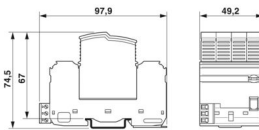


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Stripping length	7 mm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	49.2 mm
Height	97.9 mm
Depth	74.5 mm
Horizontal pitch	4 Div.

Material specifications

Color (Male connector)	light gray (RAL 7035)
Color (Base element)	gray (RAL 7042)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA6.6-FR 20% GF PBT-FR
Material group	I
Housing material	PA 6.6-FR 20 % GF PBT-FR

Protective circuit

Mode of protection	(DC+) - (DC-) (DC+) - PE (DC-) - PE
Direction of action	(DC+/DC-) - PE
Nominal voltage U_N	60 V AC (TN) 48 V DC ... 60 V DC
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	75 V DC 75 V AC
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 ≤ 450 µA AC
Nominal discharge current I_n (8/20) µs	20 kA
Maximum discharge current I_{max} (8/20) µs	65 kA
Impulse discharge current (10/350) µs, charge	2 As

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Impulse discharge current (10/350) μ s, specific energy	4 kJ/ Ω
Impulse discharge current (10/350) μ s, peak value I_{imp}	5 kA
Total discharge current I_{total} (8/20) μ s	100 kA
Total discharge current I_{total} (10/350) μ s	10 kA
Short-circuit current rating I_{SCCR}	0.2 kA DC (without backup fuse)
	6 kA DC (for 20 A gG/B backup fuse)
	10 kA AC (C63 A miniature circuit breaker)
	25 kA AC (for a backup fuse of up to 315 A gG)
	50 kA AC (for a backup fuse of up to 200 A gG)
Voltage protection level U_p (DC+) - (DC-)	≤ 0.9 kV
Voltage protection level U_p (DC+/DC-) - PE	≤ 0.5 kV
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	20 A DC (gG / B at $I_{SCCR} > 200$ A)
Max. backup fuse with branch wiring	20 A DC (gG / B at $I_{SCCR} > 200$ A)
	315 A AC (gG)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 6000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x $\pm X$, $\pm Y$, $\pm Z$)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

Short-circuit current rating (SCCR)	50 kA
Voltage protection rating VPR (DC+) - (DC-)	600 V
Voltage protection rating VPR (DC+) - G	400 V
Voltage protection rating VPR (DC-) - G	400 V
Nominal discharge current I_n	20 kA
Mode of protection	(DC+) - (DC-)
	(DC+) - G
	(DC-) - G
Nominal voltage	60 V DC
Power distribution system	DC
SPD Type	1

UL indicator/remote signaling

Operating voltage	125 V AC
AC operating current	1 A AC

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UL connection data

Tightening torque	30 lb _F ·in.
Conductor cross section AWG	10 ... 4

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011

EN 61643-11

Standards/specifications	EN 61643-11
Note	2012
Standards/specifications	IEC 61643-41
Note	Ed. 1 CDV
Standards/specifications	IEC 61643-31
Note	2018
Standards/specifications	EN 61643-31
Note	2019

Mounting

Mounting type	DIN rail mounting
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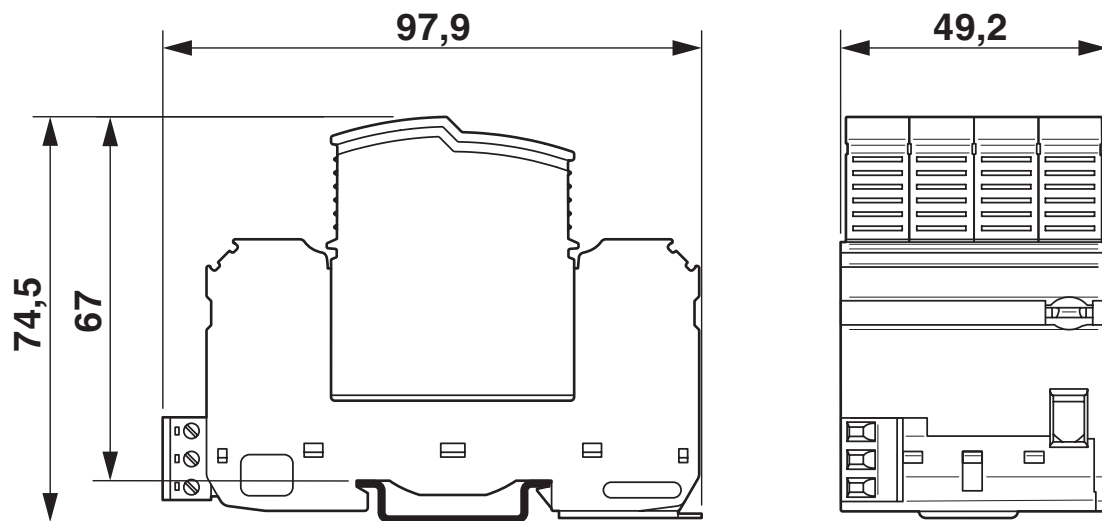


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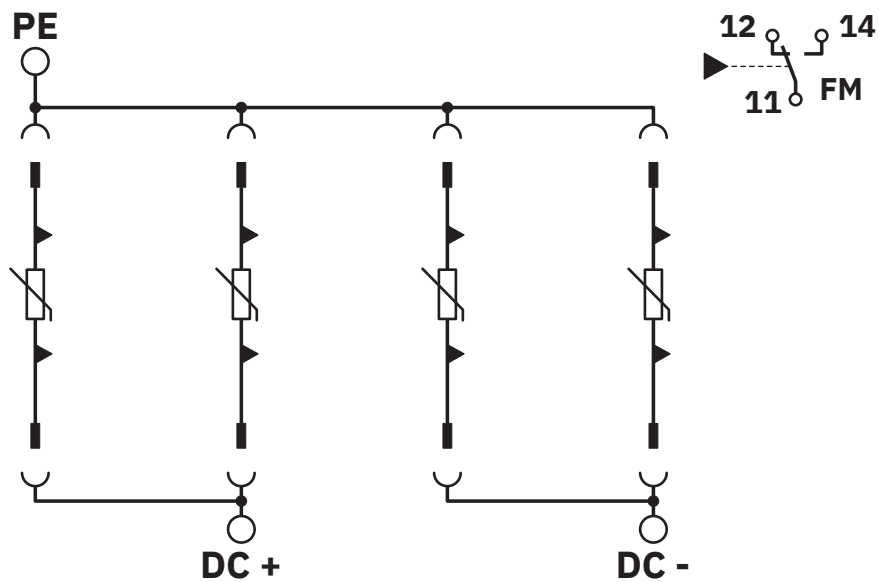
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Drawings

Dimensional drawing



Circuit diagram



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Approvals

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cULus Listed

Approval ID: E330181

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Classifications

ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171302

ETIM

ETIM 9.0	EC000941
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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