

VAL-SPP-T2-350-1VF+0-UT - Type 2 surge arrester



1466639

<https://www.phoenixcontact.com/pc/products/1466639>

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Plug-in surge protective device, in accordance with type 2/class II, for 1-phase power supply networks with combined installation of PE and N in one conductor (2-conductor system: L, N/PEN).

Your advantages

- Easy and safe installation with forward-thinking handling and safety features
- Reliable system protection with maximum performance and endurance
- Can be used in a wide range of applications due to the optimized design and broad portfolio
- Simple planning due to comprehensive digital data and selectors

Commercial data

Item number	1466639
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1385
GTIN	4063151861506
Weight per piece (including packing)	142.05 g
Weight per piece (excluding packing)	119.8 g
Customs tariff number	85363030
Country of origin	DE

Technical data

Notes

General

Note	
	For use in all low-voltage systems between L-PEN.
	Only for use in IT systems between L-PE if the exposed conductive parts of the equipment of the low-voltage electrical installation are connected to the grounding system of the transformer station (common grounding of the HV transformer station and the exposed conductive part of the LV load system).
	RE = RA according to VDE 0100-442:2013, Figure 44.A1 and Table 44.A1
	For pollution degree 3 and wiring with fork cable lugs, an additional minimum lateral distance of 1 mm to earthed conductive surfaces must be maintained for cross-sections $\geq 16 \text{ mm}^2$.
	No additional lateral distances are required for pollution degree 2.

Product properties

Product family	VAL-SPP
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN
	TT
Type	DIN rail module, two-section, divisible
Number of positions	1
Surge protection fault message	optical, remote signaling via optional module

Insulation characteristics

Overvoltage category	III
Pollution degree	3

Electrical properties

Maximum power dissipation for nominal condition	$\leq 1.75 \text{ mVA}$
Nominal frequency f_N	50 Hz (60 Hz)

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm ... 3.5 Nm
Stripping length	18 mm
Conductor cross-section flexible	1.5 mm ² ... 35 mm ² (without ferrule)
	2x 1.5 mm ² ... 16 mm ² (2 conductors with the same cross-section)

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Conductor cross-section rigid	1.5 mm ² ... 50 mm ²
	2x 1.5 mm ² ... 16 mm ² (2 conductors with the same cross-section)
Conductor cross-section AWG	15 ... 2
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	1.5 mm ² ... 16 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	1.5 mm ² ... 35 mm ²
	2x 1.5 mm ² ... 10 mm ² (2 conductors with the same cross-section)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	1.5 mm ² ... 25 mm ²
	2x 1.5 mm ² ... 16 mm ² (2 conductors with the same cross-section)
Connection method	Fork-type cable lug
Conductor cross-section flexible	1.5 mm ² ... 25 mm ²

Dimensions

Dimensional drawing	
Width	17.8 mm
Height	96.6 mm
Depth	71.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 Div.

Material specifications

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

Protective circuit

Mode of protection	L-N
	L-PE
	L-PEN
Nominal voltage U_N	240 V AC $\pm 10\%$ (TN)
	240 V AC $\pm 10\%$ (TT)
	230 V AC $\pm 10\%$ (IT)
Nominal frequency f_N	50 Hz (60 Hz)

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Maximum continuous operating voltage U_C	350 V AC
Rated load current I_L	80 A (25 mm ²)
Protective conductor current I_{PE}	≤ 5 μA
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 1.5 kV
Residual voltage U_{res}	≤ 1.5 kV (at I_n)
	≤ 1.3 kV (at 10 kA)
	≤ 1.2 kV (at 5 kA)
	≤ 1.1 kV (at 3 kA)
Front-of-wave sparkover voltage at 6 kV (1.2/50) μs	≤ 1.5 kV
TOV behavior at U_T	460 V AC (5 s / withstand mode)
	460 V AC (120 min / withstand mode)
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	200 A (gG)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20C (Installed)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Ambient temperature (assembly)	5 °C ... 50 °C
Altitude	≤ 5000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012 + A11:2018

Mounting

Mounting type	DIN rail: 35 mm
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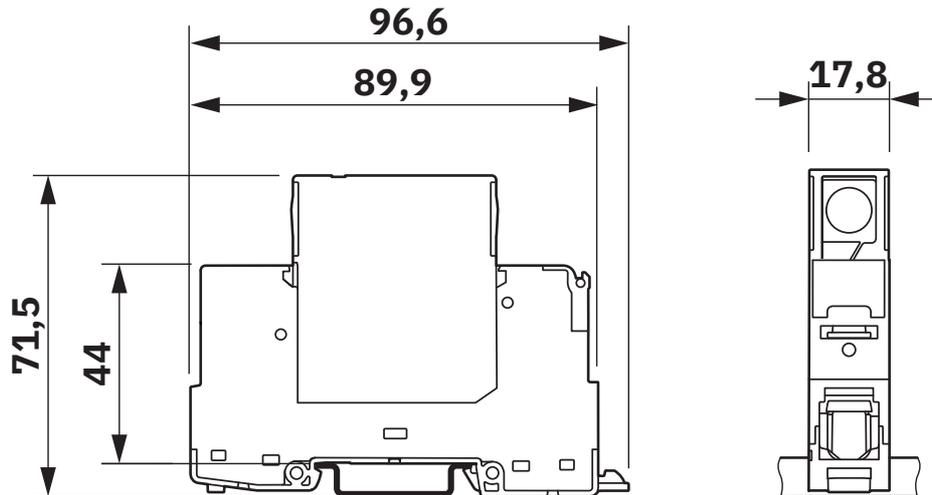


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Drawings

Dimensional drawing



Schematic diagram

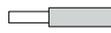
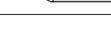
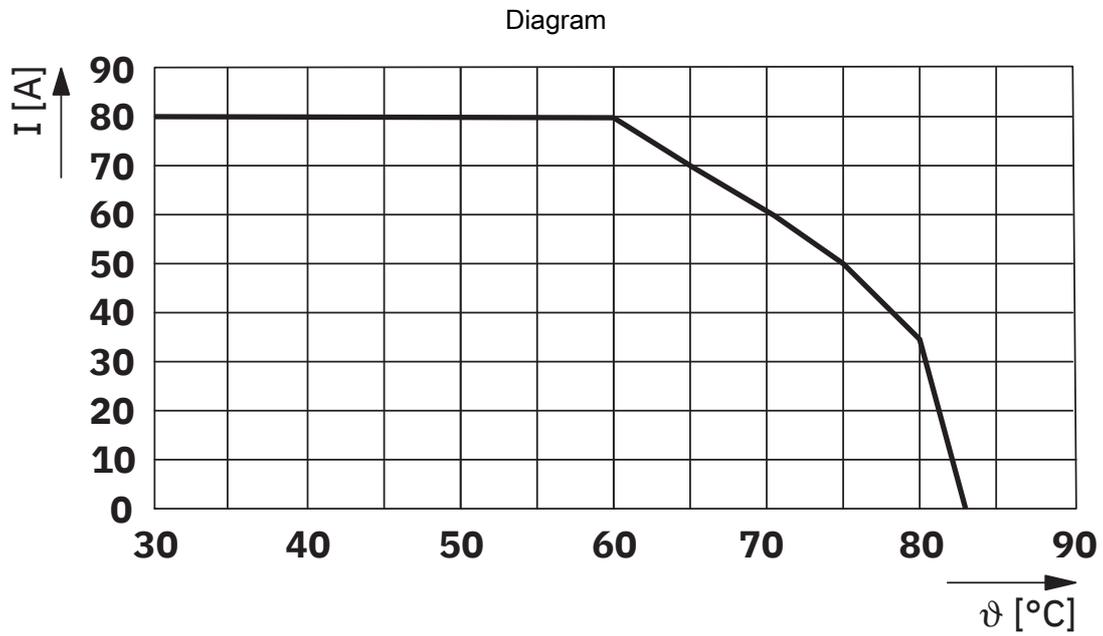
Pollution degree	2		3	
	Altitude		Altitude	
	≤4000 m	5000 m	≤4000 m	5000 m
 ≥50 mm ²	-	-	-	-
 ≥35 mm ²	-	-	-	-
 ≥25 mm ²	-	-	-	-
 ≥16 mm ²	-	1 mm	1 mm	1 mm

Table 1: Minimum lateral distance to active and grounded conductive parts



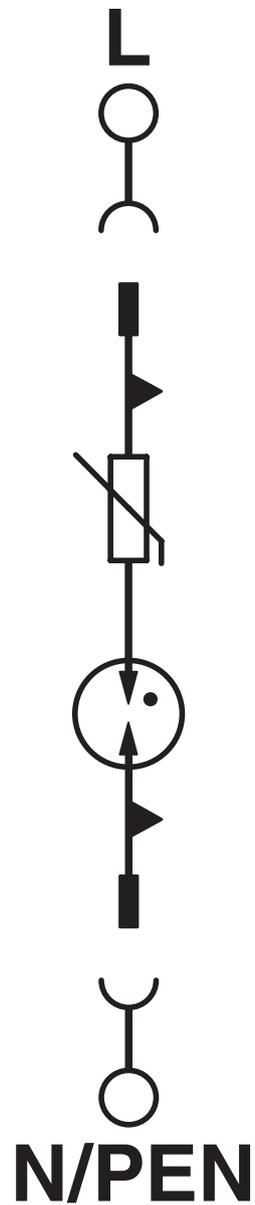
Max. permissible current in relation to the ambient temperature

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Circuit diagram



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Approvals

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DNV

Approval ID: TAE0000501



IECEE CB Scheme

Approval ID: NL-118261

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Classifications

ECLASS

ECLASS-13.0	27171202
ECLASS-15.0	27171202

ETIM

ETIM 10.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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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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Accessories

EMG-GKS 12 - Marking material

2947035

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Device marking label, width: 12 mm, area: 12 x 8 mm, e.g. for EML(10x7) R adhesive marking material

EML (10X7)R - Label

0816663

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Label, Roll, white, unmarked, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, Number of individual labels: 10000, text field height: 7 mm, text field width: 10 mm

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SPP-R-1 - Remote signaling module

1466698

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Optional remote signaling module for 1-pos. surge protective devices and base elements from the VALVETRAB SPP product family.

SPP-B - Filler plug

1695387

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Optional filler plug for surge protective devices and base elements of the VALVETRAB SPP product family.

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VAL-SPP-T2-350VF-P - Type 2 surge protection plug

1466706

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Type 2 surge protection plug for VAL-SPP base element, thermally monitored, optical red/green status indicator.

VAL-SPP-T2-BE-1+0-UT - Type 2 surge protection base element

1466702

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Base element for type 2 arresters from the VAL-SPP product family. Version for 1-phase power supplies with combined installation of PE and N in one conductor.

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