

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



1466640

<https://www.phoenixcontact.com/gb/products/1466640>

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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), with remote indication contact.

## 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	1466640
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL1385
Product key	CL1385
GTIN	4063151861414
Weight per piece (including packing)	146.95 g
Weight per piece (excluding packing)	124.7 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 type	Surge arrester
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 indicator contact

#### 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)

#### Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Max. required back-up fuse	1 A (gG)
AC operating voltage	5 V AC ... 250 V AC ( $\leq 2000 \text{ m (amsl)}$ at pollution degree 2)
	5 V AC ... 150 V AC ( $\leq 5000 \text{ m (amsl)}$ )
AC operating current	5 mA AC ... 1 A AC

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DC operating voltage	30 V DC ( $\leq 5000$ m (amsl))
DC operating current	1 A DC
DC operating voltage	125 V DC ( $\leq 5000$ m (amsl))
DC operating current	200 mA DC
Insulation type	The product has double/reinforced insulation between the main and auxiliary circuit.

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

## Remote fault indicator contact

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross-section flexible	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section rigid	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 16
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>

## Dimensions

Dimensional drawing	
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Width	17.8 mm
Height	110.8 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)
Maximum continuous operating voltage $U_C$	350 V AC
Rated load current $I_L$	80 A (25 mm <sup>2</sup> )
Protective conductor current $I_{PE}$	$\leq 5 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$	$\leq 1.5 \text{ kV}$
Residual voltage $U_{res}$	$\leq 1.5 \text{ kV}$ (at $I_n$ )
	$\leq 1.3 \text{ kV}$ (at 10 kA)
	$\leq 1.2 \text{ kV}$ (at 5 kA)
	$\leq 1.1 \text{ kV}$ (at 3 kA)
Front-of-wave sparkover voltage at 6 kV (1.2/50) $\mu\text{s}$	$\leq 1.5 \text{ kV}$
TOV behavior at $U_T$	460 V AC (5 s / withstand mode)
	460 V AC (120 min / withstand mode)
Response time $t_A$	$\leq 25 \text{ ns}$
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

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

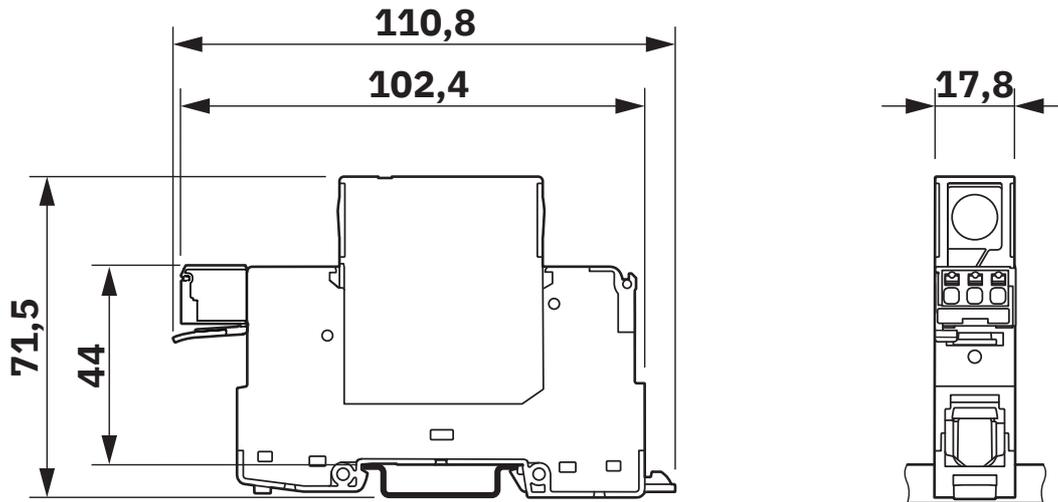


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## Drawings

Dimensional drawing



Schematic diagram

Pollution degree	Conductor cross section	2		3	
		Altitude		Altitude	
		≤4000 m	5000 m	≤4000 m	5000 m
	≥50 mm <sup>2</sup>	-	-	-	-
	≥35 mm <sup>2</sup>	-	-	-	-
	≥25 mm <sup>2</sup>	-	-	-	-
	≥16 mm <sup>2</sup>	-	1 mm	1 mm	1 mm

Minimum lateral distance to active and grounded conductive parts

Schematic diagram

Pollution degree	2	3
	>2000 m ... ≤5000 m	≤5000 m
Rated voltage	5 V ... 150 V AC 5 V ... 30 V DC (5 mA ... 1 A DC) 30 V DC ... 125 V DC (5 mA ... 200 mA DC)	5 V ... 150 V AC 5 V ... 30 V DC (5 mA ... 1 A DC) 30 V DC ... 125 V DC (5 mA ... 200 mA DC)
Insulation type between main and auxiliary circuit	Double / Reinforced insulation	

Technical data for remote fault indicator contact

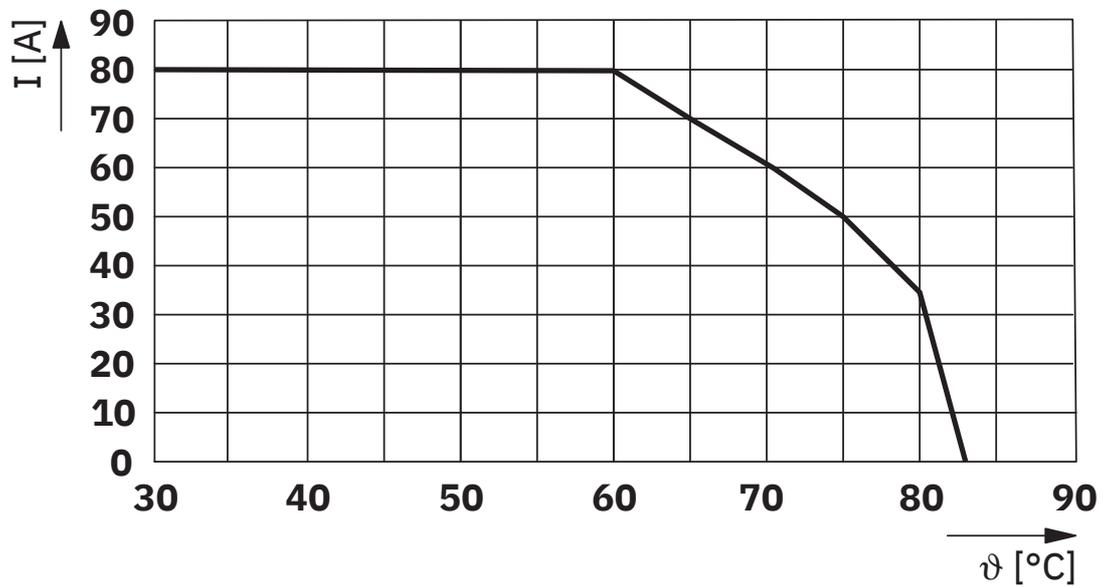
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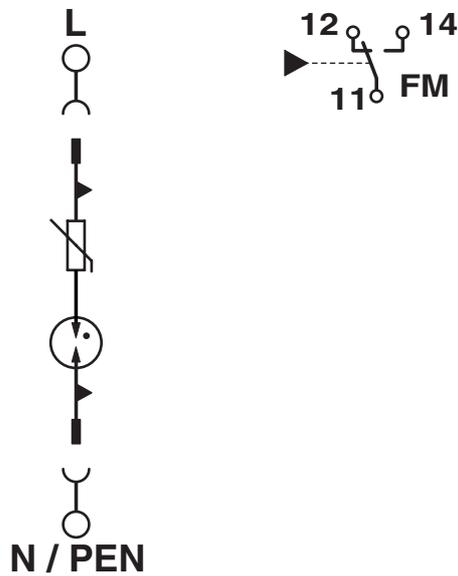
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Diagram



Max. permissible current in relation to the ambient temperature

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 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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