

# VAL-SPP-T2-385-1+1-UT - Type 2 surge arrester



1466607

<https://www.phoenixcontact.com/us/products/1466607>

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Plug-in surge arrester, in accordance with Type 2/Class II, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE).

## 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	1466607
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1381
GTIN	4063151860578
Weight per piece (including packing)	258.9 g
Weight per piece (excluding packing)	233.9 g
Customs tariff number	85363030
Country of origin	DE

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## Technical data

### Notes

#### General

Note	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.
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### Product properties

Product type	Surge arrester
Product family	VAL-SPP
IEC test classification	II T2
EN type	T2
IEC power supply system	TN-S TT
Type	DIN rail module, two-section, divisible
Number of positions	2
End-of-life mode	OCM
Surge protection fault message	optical
Number of ports	One

#### Insulation characteristics

Overvoltage category	III
Pollution degree	3

### Electrical properties

Nominal frequency $f_N$	50 Hz (60 Hz)
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### 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>

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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>

## Dimensions

Dimensional drawing	
Width	35.6 mm
Height	96.6 mm
Depth	71.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 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
	N-PE
Nominal voltage $U_N$	240/415 V AC $\pm 10$ % (TN-S)
	240/415 V AC $\pm 10$ % (TT)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$ (L-N)	385 V AC
Maximum continuous operating voltage $U_C$ (L-PE)	385 V AC
Maximum continuous operating voltage $U_C$ (N-PE)	305 V AC
Rated load current $I_L$	80 A (25 mm <sup>2</sup> )
Protective conductor current $I_{PE}$	$\leq 5 \mu A$
Standby power consumption $P_C$	$\leq 175$ mVA
Nominal discharge current $I_n$ (8/20) $\mu s$	20 kA

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Maximum discharge current $I_{\max}$ (8/20) $\mu\text{s}$	40 kA
Total discharge current $I_{\text{Total}}$ (8/20) $\mu\text{s}$	40 kA
Follow current interrupt rating $I_{\text{fi}}$ (N-PE)	100 A
Short-circuit current rating $I_{\text{SCCR}}$	50 kA
Voltage protection level $U_{\text{p}}$ (L-N)	$\leq 1.8$ kV
Voltage protection level $U_{\text{p}}$ (L-PE)	$\leq 2$ kV
Voltage protection level $U_{\text{p}}$ (N-PE)	$\leq 1.5$ kV
Residual voltage $U_{\text{res}}$ (L-N)	$\leq 1.8$ kV (at $I_{\text{n}}$ )
	$\leq 1.6$ kV (at 10 kA)
	$\leq 1.4$ kV (at 5 kA)
	$\leq 1.3$ kV (at 3 kA)
Residual voltage $U_{\text{res}}$ (L-PE)	$\leq 2$ kV (at $I_{\text{n}}$ )
	$\leq 1.7$ kV (at 10 kA)
	$\leq 1.5$ kV (at 5 kA)
	$\leq 1.4$ kV (at 3 kA)
Residual voltage $U_{\text{res}}$ (N-PE)	$\leq 0.5$ kV (at $I_{\text{n}}$ )
	$\leq 0.4$ kV (at 10 kA)
	$\leq 0.3$ kV (at 5 kA)
	$\leq 0.1$ kV (at 3 kA)
TOV behavior at $U_{\text{T}}$ (L-N)	415 V AC (5 s / withstand mode)
	460 V AC (120 min / safe failure mode)
TOV behavior at $U_{\text{T}}$ (L-PE)	1464 V AC (200 ms/withstand mode)
TOV behavior at $U_{\text{T}}$ (N-PE)	1200 V AC (200 ms / withstand mode)
Response time $t_{\text{A}}$ (L-N)	$\leq 25$ ns
Response time $t_{\text{A}}$ (L-PE)	$\leq 100$ ns
Response time $t_{\text{A}}$ (N-PE)	$\leq 100$ ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	315 A (gG)

## Additional technical data

Short-circuit current rating $I_{\text{SCCR}}$	100 kA
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## 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	$\leq 5000$ m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approvals

# VAL-SPP-T2-385-1+1-UT - Type 2 surge arrester



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## UL specifications

Maximum continuous operating voltage MCOV (L-N)	385 V AC
Maximum continuous operating voltage MCOV (L-G)	385 V AC
Maximum continuous operating voltage MCOV (N-G)	305 V AC
Nominal discharge current $I_n$	20 kA
Mode of protection	L-N
	L-G
	N-G
Nominal voltage	277 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	1610 V
Measured limiting voltage MLV (L-G)	2750 V
Measured limiting voltage MLV (N-G)	1140 V
SPD Type	4CA

## UL connection data

Tightening torque	30 lb <sub>f</sub> -in.
Conductor cross-section AWG	14 ... 2

## 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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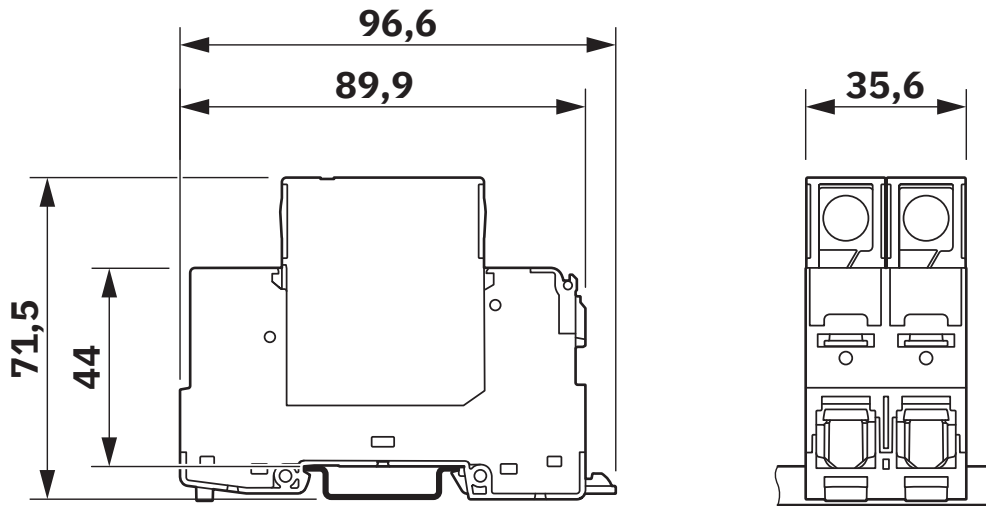
# VAL-SPP-T2-385-1+1-UT - Type 2 surge arrester

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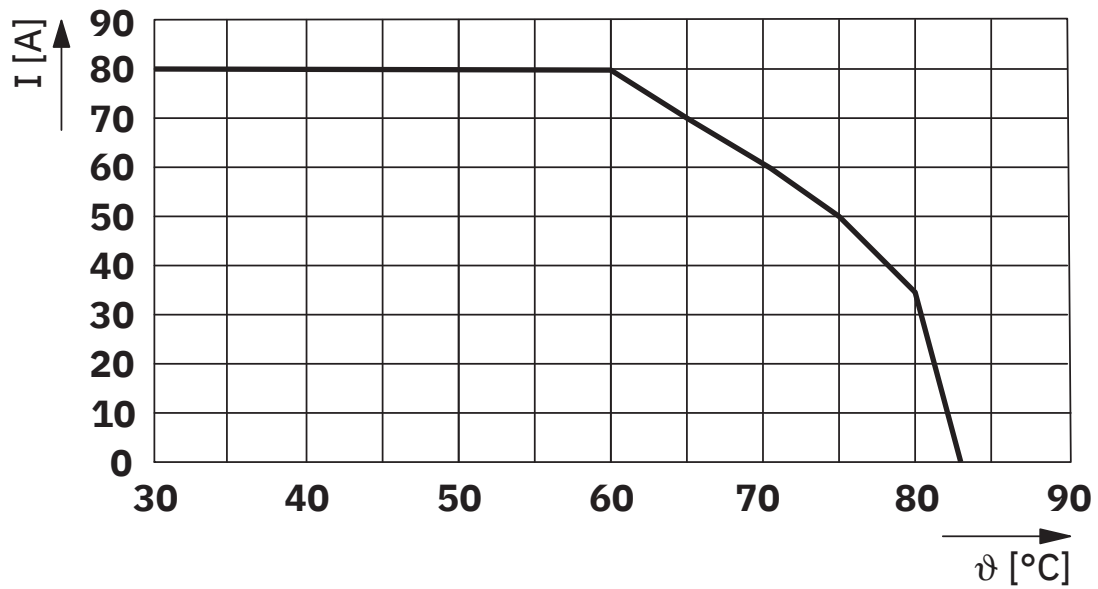
<https://www.phoenixcontact.com/us/products/1466607>

## Drawings

Dimensional drawing



Diagram



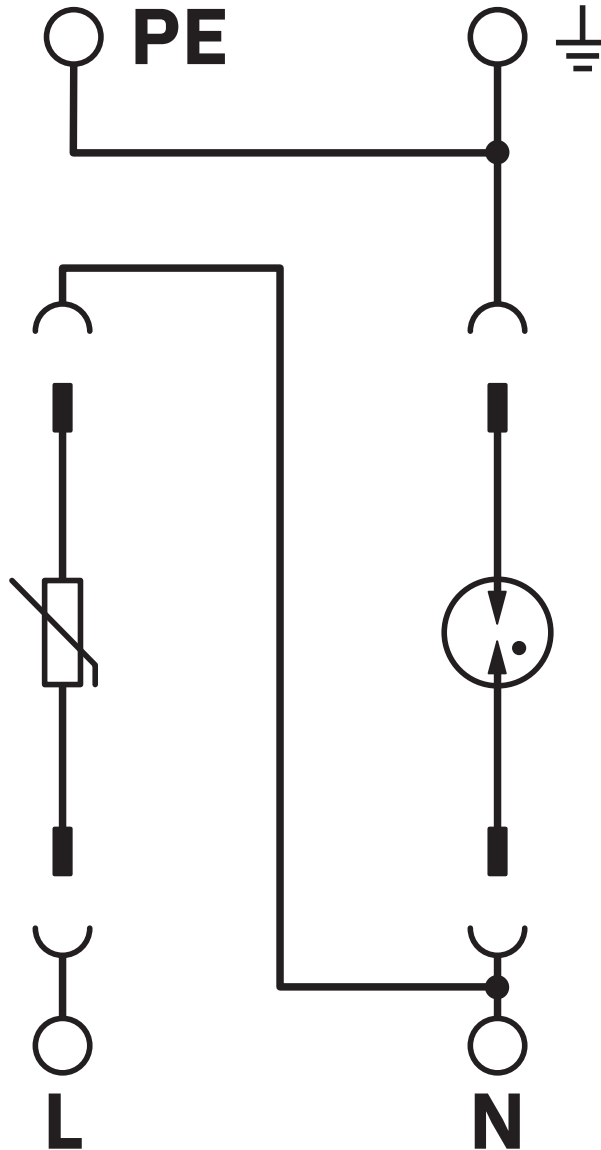
Max. permissible current in relation to the ambient temperature

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Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1466607>



**IECEE CB Scheme**

Approval ID: NL-109184

**CCA**

Approval ID: NTR NL-8052

**DNV**

Approval ID: TAE0000501



**IECEE CB Scheme**

Approval ID: NL-118261



**cULus Recognized**

Approval ID: E330181-20240717

**DEKRA**

Approval ID: 71-161244

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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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