

# VAL-SPP-T2-1500DC-PV-2+V-UT-R - Type 2 surge arrester



1466775

<https://www.phoenixcontact.com/gb/products/1466775>

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Surge arrester, in accordance with type 2/Class II, for 2-pos. insulated and grounded 1500 V DC PV systems, for DIN rail mounting, 3-pos. base element with remote indication contact, three pluggable temperature-monitored protective elements, status message on each plug.

## 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	1466775
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL1389
Product key	CL1389
GTIN	4063151861933
Weight per piece (including packing)	353.8 g
Weight per piece (excluding packing)	326.9 g
Customs tariff number	85354000
Country of origin	DE

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## Technical data

### Notes

#### General

Note	Depending on the installation height, additional minimum lateral distances to grounded, conductive surfaces may need to be observed. See the table in the download area under the item Packing slip in the installation notes.
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### Product properties

Product type	PV arrester
Product family	VAL-SPP
IEC test classification	PV II
	PV T2
EN type	T2
IEC power supply system	DC
Type	DIN rail module, two-section, divisible
Number of positions	3
Installation location	Indoor
Installation location of the disconnect device	Internal
Accessibility	Accessible
Connection configuration	Y configuration
End-of-life mode	OCFM (Open-Circuit Failure Mode)
Surge protection fault message	Optical, remote indicator contact

#### Insulation characteristics

Overvoltage category	III
Pollution degree	2

### Electrical properties

#### 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 ( $\leq 2000$ m (amsl))
	5 V AC ... 150 V AC ( $\leq \text{⚡} \text{⚡} \text{⚡} \text{⚡}$ m (amsl))
AC operating current	5 mA AC ... 1 A AC
DC operating voltage	30 V DC ( $\leq \text{⚡} \text{⚡} \text{⚡} \text{⚡}$ m (amsl))
DC operating current	1 A DC
DC operating voltage	125 V DC ( $\leq \text{⚡} \text{⚡} \text{⚡} \text{⚡}$ m (amsl))
DC operating current	200 mA DC
Insulation type	The product has double/reinforced insulation between the main and auxiliary circuit.

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## Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	2.5 Nm ... 3 Nm
Stripping length	12 mm
Conductor cross section flexible	1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> 2x 1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup> (2 conductors with the same cross-section)
Conductor cross section rigid	1.5 mm <sup>2</sup> ... 25 mm <sup>2</sup> 2x 1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup> (2 conductors with the same cross-section)
Conductor cross section AWG	15 ... 4
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> 2x 1.5 mm <sup>2</sup> ... 6 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> ... 16 mm <sup>2</sup> 2x 1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup> (2 conductors with the same cross-section)

## Remote fault indicator contact

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Stripping length	7 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	
Width	53.4 mm
Height	96.6 mm
Depth	71.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	3 Div.

## Material specifications

Color	gray (RAL 7042) light gray (RAL 7035)
Flammability rating according to UL 94	V-0
CTI value of material	600

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Insulating material	PA 6.6-FR 20 % GF
	PBT
Material group	I
Housing material	PA 6.6-FR 20 % GF
	PBT

## Mechanical properties

### Mechanical data

Open side panel	No
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## Protective circuit

Mode of protection	(DC+) - (DC-)
	(DC+) - PE
	(DC-) - PE
Residual current $I_{PE}$	$\leq 350 \mu A$ AC
	$\leq 100 \mu A$ DC
Standby power consumption $P_C$	$\leq 180$ mVA
Nominal discharge current $I_n$ (8/20) $\mu s$	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu s$	40 kA
Total discharge current $I_{Total}$ (8/20) $\mu s$	40 kA
Voltage protection level $U_p$	$\leq 5.7$ kV
Residual voltage $U_{res}$	$\leq 5.7$ kV (at $I_n$ )
	$\leq 5$ kV (at 10 kA)
	$\leq 4.8$ kV (at 5 kA)
	$\leq 4.5$ kV (at 3 kA)
Response time $t_A$	$\leq 25$ ns

### PV protective circuit

Connection configuration	Y configuration
End-of-life mode	OCFM (Open-Circuit Failure Mode)

### Protective circuit DC voltage side (DC)

Open circuit voltage $U_{OCSTC}$	1500 V DC
Maximum discharge current $I_{max}$ (8/20) $\mu s$	40 kA
Response time $t_A$	$\leq 25$ ns
Total discharge current $I_{Total}$ (8/20) $\mu s$	40 kA
Insulation resistance $R_{iso}$	$> 5$ M $\Omega$ (at 500 V DC)
Nominal discharge current $I_n$ (8/20) $\mu s$	20 kA
Continuous operating current $I_{CPV}$	$\leq 100 \mu A$ DC
Maximum continuous operating voltage $U_{CPV}$	1800 V DC
Short-circuit current rating $I_{SCPV}$	15000 A
Residual voltage $U_{res}$	$\leq 5.7$ kV (at $I_n$ )
	$\leq 5$ kV (at 10 kA)
	$\leq 4.8$ kV (at 5 kA)
	$\leq 4.5$ kV (at 3 kA)

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Residual current $I_{PE}$	$\leq 350 \mu A$ AC
	$\leq 100 \mu A$ DC
Voltage protection level $U_p$	$\leq 5.7$ kV
Standby power consumption $P_C$	$\leq 180$ mVA

## 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	$\leq 4000$ m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	5g (5-500 Hz/2.5 h/XYZ)

## Standards and regulations

Standards/specifications	EN 61643-31
Note	2019
Standards/specifications	IEC 61643-31
Note	2018

## Mounting

Mounting type	DIN rail: 35 mm
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# VAL-SPP-T2-1500DC-PV-2+V-UT-R - Type 2 surge arrester

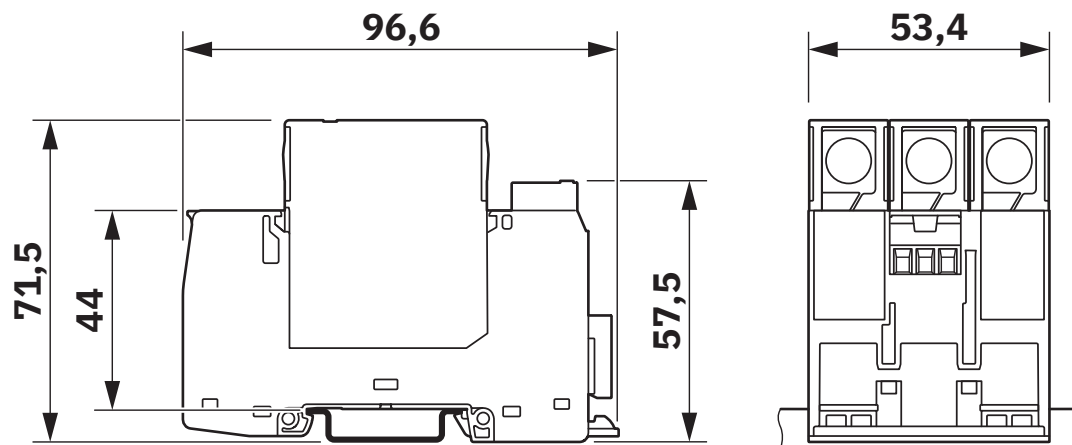


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## Drawings

Dimensional drawing

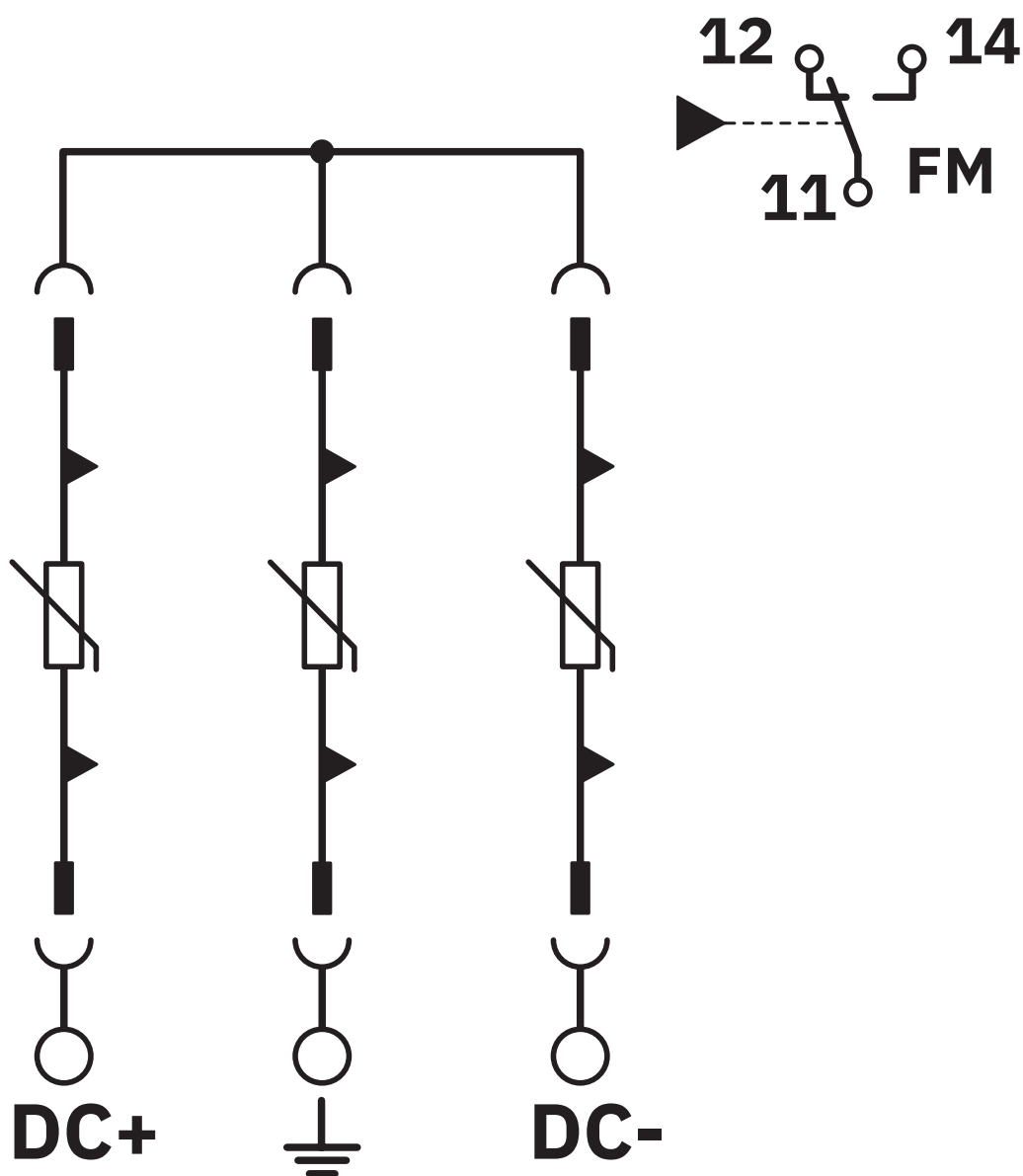


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Circuit diagram



# VAL-SPP-T2-1500DC-PV-2+V-UT-R - Type 2 surge arrester



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## Approvals

📄 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1466775>



**IECEE CB Scheme**

Approval ID: NL-109183

**CCA**

Approval ID: NTR NL-8030



**KEMA-KEUR**

Approval ID: 71-133324



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## Classifications

### ECLASS

ECLASS-13.0	27171402
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### ETIM

ETIM 9.0	EC000941
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## Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
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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