

# VAL-MS-CN 1000DC-PV/4+V-FM - Type 2 surge protection device



2907820

<https://www.phoenixcontact.com/us/products/2907820>

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Surge arrester for 1000 V DC isolated voltage systems, DIN rail mounting, 5 pos. base element with remote signaling contact, 5 pos. plug-in temperature-controlled protective plug modules with status message on each plug, used for arresters with three parallel strings/maximum power point trackers (MPPT).

## Commercial data

Item number	2907820
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1324
Catalog page	Page 73 (C-4-2019)
GTIN	4055626244211
Weight per piece (including packing)	686 g
Weight per piece (excluding packing)	686 g
Country of origin	CN

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## Technical data

### Product properties

Product type	PV arrester
Product family	VALVETRAB MS
IEC test classification	PV II
	PV T2
EN type	T2
Type	DIN rail module, two-section, divisible
Installation location	Interior
Installation location of the disconnect device	Internal
Accessibility	Accessible
SPD failure behavior	OCM
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
Operating voltage	125 V AC
	30 V DC
Operating current	3 A AC
	3 A DC

### Connection data

Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm
Conductor cross section flexible	1.5 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Conductor cross section rigid	1.5 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross section AWG	15 ... 2

#### Remote fault indicator contact

Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>

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Conductor cross section AWG	28 ... 16
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## Dimensions

Dimensional drawing	
Width	89 mm
Height	98.57 mm
Depth	64.7 mm

## Material specifications

Color	black (RAL 9005) gray (RAL 7042)
Flammability rating according to UL 94	V-0
CTI value of material	600
Material group	I
Housing material	PA 6.6-FR PBT-FR

## Protective circuit

Mode of protection	(L+) - (L-) (L+) - PE (L-) - PE
Direction of action	(L+)-PE & (L-)-PE & (L+)-(L-)
Rated load current $I_L$	80 A
Residual current $I_{PE}$	$\leq 250 \mu\text{A AC}$ $\leq 20 \mu\text{A DC}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
Voltage protection level $U_p$	$\leq 3.8 \text{ kV}$
Response time $t_A$	$\leq 25 \text{ ns}$

## Protective circuit DC voltage side (DC)

Open circuit voltage $U_{OCSTC}$	$\leq 970 \text{ V DC}$
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
Response time $t_A$	$\leq 25 \text{ ns}$
Insulation resistance $R_{iSO}$	$> 5 \text{ G}\Omega$ (at 500 V DC)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	20 kA

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Rated load current $I_L$	80 A
Maximum continuous operating voltage $U_{CPV}$	1170 V DC
Short-circuit current rating $I_{SCPV}$	2000 A
Residual current $I_{PE}$	$\leq 250 \mu\text{A AC}$
	$\leq 20 \mu\text{A DC}$
Voltage protection level $U_p$	$\leq 3.8 \text{ kV}$

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	$\leq 4000 \text{ mm}$
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	(Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	2g (5-500 Hz/2.5 h/XYZ)

## Approvals

### UL connection data

Conductor cross section AWG	10 ... 2
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## Standards and regulations

Standards/specifications	EN 50539-11
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## Mounting

Mounting type	DIN rail: 35 mm
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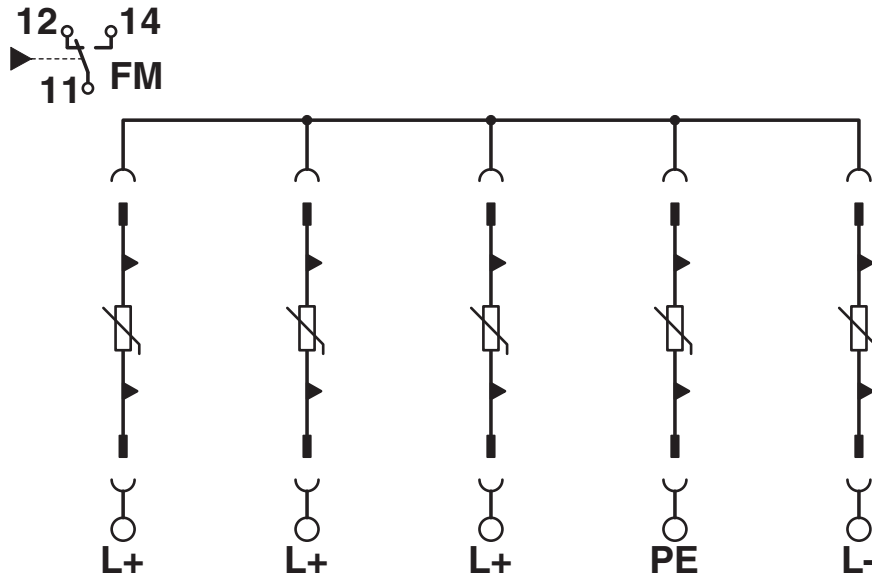


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## Drawings

Circuit diagram



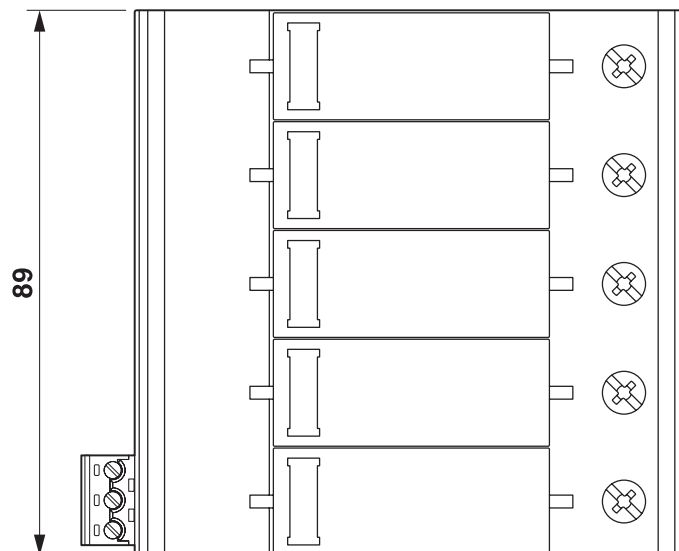
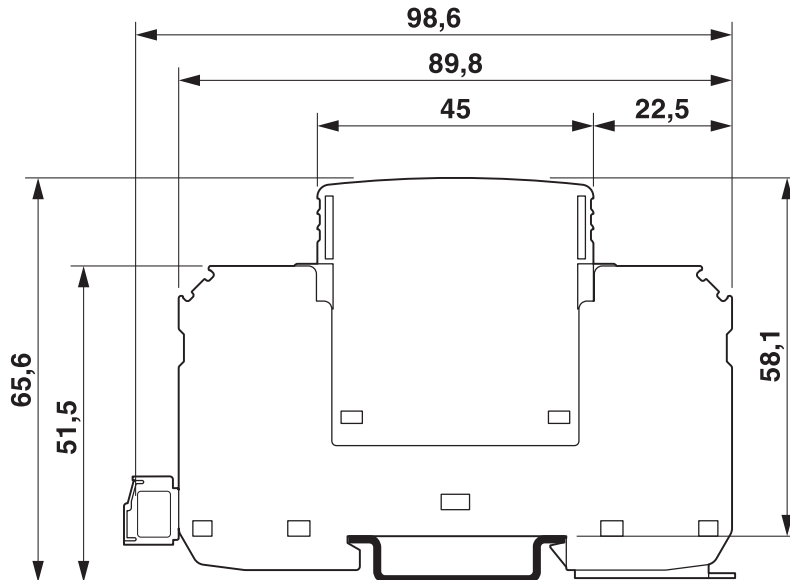
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Dimensional drawing



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## Classifications

### ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171402

### ETIM

ETIM 9.0	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

### SZK PZ2 VDE - Screwdriver

1206463

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Screwdriver, PZ crosshead, VDE insulated, size: PZ 2 x 100 mm, 2-component grip, with non-slip grip

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