

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
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
Environment	Indoor
Installation location of the disconnect device	Internal
Accessibility	Accessible
End-of-life mode	OCM
Surge protection fault message	Optical, remote indicator contact
Number of ports	1

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 ² ... 25 mm ²
Conductor cross-section rigid	1.5 mm ² ... 35 mm ²
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 ² ... 1.5 mm ²

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Conductor cross-section rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross-section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	89 mm
Height	98.6 mm
Depth	65.6 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
Protective conductor current I_{PE}	$\leq 250 \mu\text{A AC}$
	$\leq 20 \mu\text{A DC}$
Standby power consumption P_C	$\leq 25 \text{ mVA}$
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)

Maximum continuous operating voltage U_{CPV}	1170 V DC
Short-circuit current rating I_{SCPV}	2000 A
Open-circuit voltage U_{OCSTC}	$\leq 970 \text{ V DC}$

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Maximum discharge current I_{\max} (8/20) μs	40 kA
Response time t_A	≤ 25 ns
Insulation resistance R_{iso}	> 5 G Ω (at 500 V DC)
Nominal discharge current I_n (8/20) μs	20 kA
Rated load current I_L	80 A
Maximum continuous operating voltage U_{CPV}	1170 V DC
Short-circuit current rating I_{SCPV}	2000 A
Protective conductor current I_{PE}	≤ 250 μA AC
	≤ 20 μA DC
Voltage protection level U_p	≤ 3.8 kV
Standby power consumption P_C	≤ 25 mVA

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	≤ 4000 mm
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	20g (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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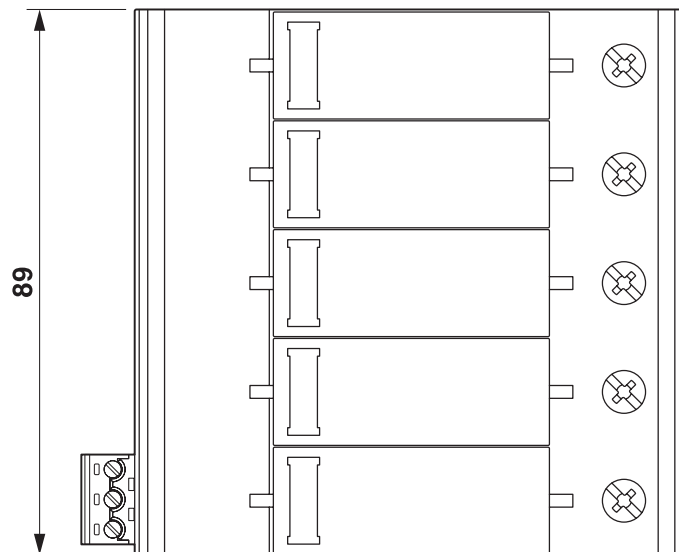
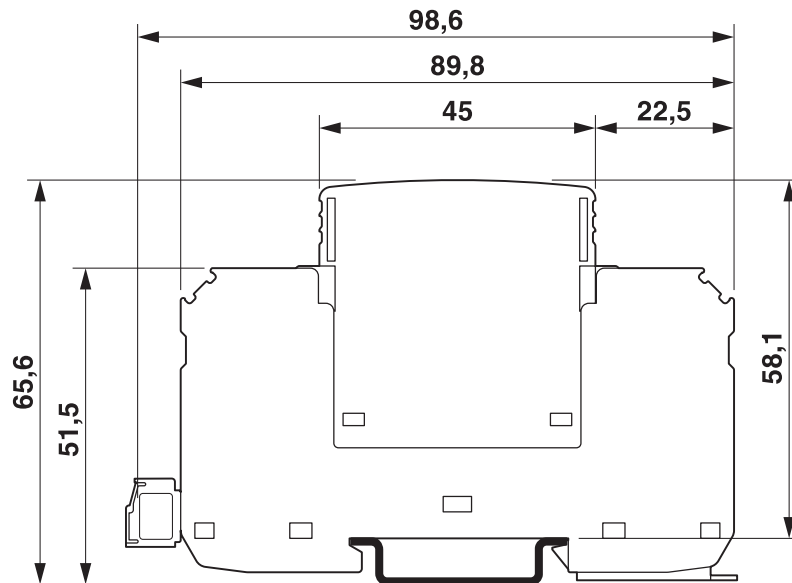


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Drawings

Dimensional drawing



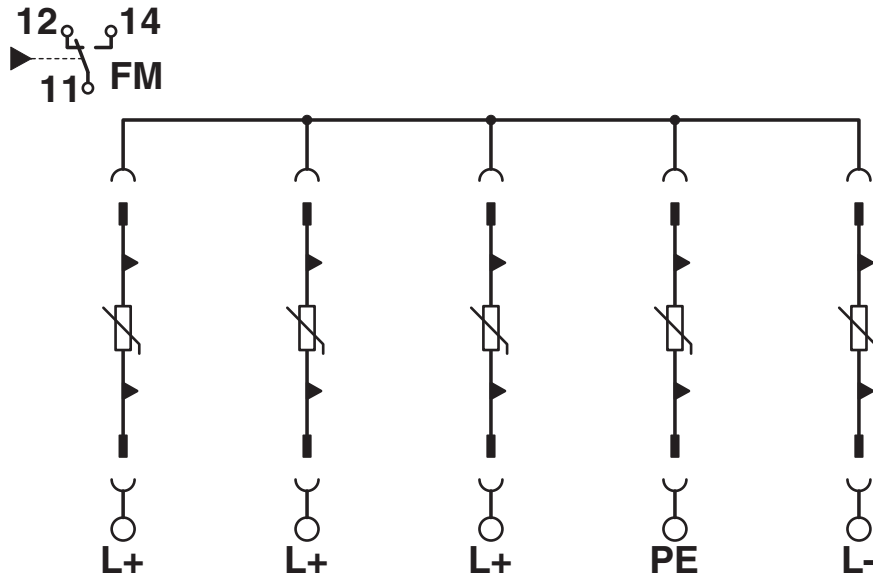
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2907820

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Circuit diagram



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Classifications

ECLASS

ECLASS-13.0	27171402
ECLASS-15.0	27171402

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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