

VAL-MS 1000DC/2+V-FM - Type 2 surge protection device

2920502
<https://www.phoenixcontact.com/us/products/2920502>

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Surge arrester for 2-pos. isolated and grounded DC voltage systems 1000 V DC, for DIN rail mounting, 3-pos. base element (L+, L-, ground) with remote indication contact, three pluggable temperature-monitored varistors, status message on each connector.

Commercial data

Item number	2920502
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	NULL
Product key	CL1324
Catalog page	Page 63 (TT-2011)
GTIN	4046356283977
Weight per piece (including packing)	367.1 g
Weight per piece (excluding packing)	339.74 g
Customs tariff number	85363030
Country of origin	DE

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Technical data

Product properties

Product type	PV arrester
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
Type	DIN rail module, two-section, divisible
Number of positions	3
Surge protection fault message	Optical, remote indicator contact

Electrical properties

Nominal voltage U_N	1000 V DC (Open-circuit voltage U_{OC})
Indicator/remote signaling	
Switching function	Changeover contact, 1-pos.
Maximum operating voltage U_{max} AC	250 V AC
Maximum operating voltage U_{max} DC	30 V DC
Max. operating current I_{max}	1.5 A AC (250 V AC)
	1.5 A DC (30 V DC)

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque, min	4.5 Nm
Tightening torque	30 lb _F -in. (UL)
Stripping length	16 mm
Conductor cross section flexible min.	1.5 mm ²
Conductor cross section flexible max.	25 mm ²
Conductor cross section, rigid min.	1.5 mm ²
Conductor cross section, rigid max.	35 mm ²
Conductor cross section AWG	10 ... 2 (UL)
Connection method	MC 1,5/3
Screw thread	M2
Tightening torque, min	0.25 Nm
Tightening torque	4 lb _F -in. (UL)
Stripping length	7 mm
Conductor cross section flexible min.	0.14 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section, rigid min.	0.14 mm ²
Conductor cross section, rigid max.	1.5 mm ²
Conductor cross section AWG	30 ... 14 (UL)

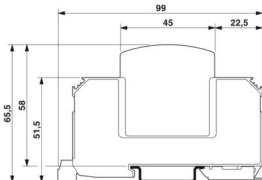
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Dimensions

Dimensional drawing	
Width	53.4 mm
Height	99 mm
Depth	65.5 mm
Horizontal pitch	3 Div.

Material specifications

Flammability rating according to UL 94	V0
Housing material	PBT/PA

Mechanical properties

Mechanical data	
Open side panel	No

Protective circuit

Direction of action	(L+)-PE & (L-)-PE & (L+)-(L-)
Maximum continuous voltage U_C	1000 V DC
Rated load current I_L	≤ 80 A DC
Residual current I_{PE}	≤ 20 μ A
Standby power consumption P_C	≤ 20.00 mW
Nominal discharge current I_n (8/20) μ s	15 kA
Maximum discharge current I_{max} (8/20) μ s	30 kA
Voltage protection level U_p (L+) - (L-)	≤ 5 kV
Voltage protection level U_p (L+/L-) - PE	≤ 5 kV
Response time t_A	≤ 25 ns
Response time t_A (L+) - (L-)	≤ 25 ns
Response time t_A (L+/L-) - PE	≤ 25 ns

Protective circuit DC voltage side (DC)

Maximum discharge current I_{max} (8/20) μ s	30 kA
Response time t_A	≤ 25 ns
Response time t_A (L+) - (L-)	≤ 25 ns
Response time t_A (L+/L-) - PE	≤ 25 ns
Nominal discharge current I_n (8/20) μ s	15 kA
Rated load current I_L	≤ 80 A DC
Short-circuit current rating I_{SCPv}	80 A
Residual current I_{PE}	≤ 20 μ A

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Voltage protection level U_p (L+) - (L-)	≤ 5 kV
Voltage protection level U_p (L+/L-) - PE	≤ 5 kV
Standby power consumption P_C	≤ 20.00 mW

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C

Standards and regulations

Air clearances and creepage distances

Standards/regulations	DIN EN 60664-1 / DIN EN 61643-11
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Standards

Standards/regulations	DIN EN 61643-11
	IEC 61643-1
	IEC 60364-7-712
Standards/specifications	DIN EN 61643-11
Note	2002
Standards/specifications	IEC 61643-1
Note	2005
Standards/specifications	IEC 60364-7-712
Note	2002

Mounting

Mounting type	DIN rail: 35 mm
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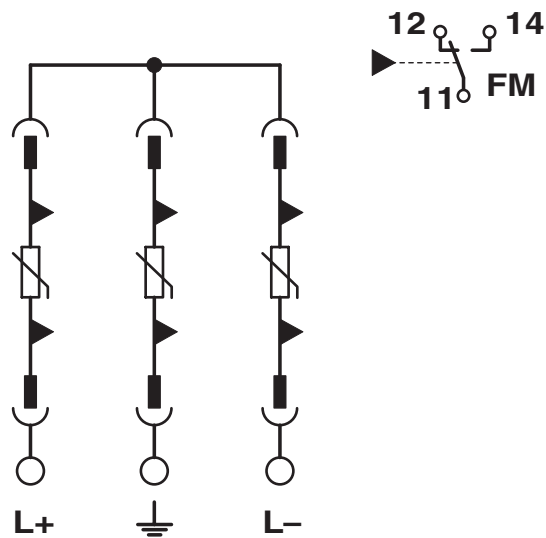
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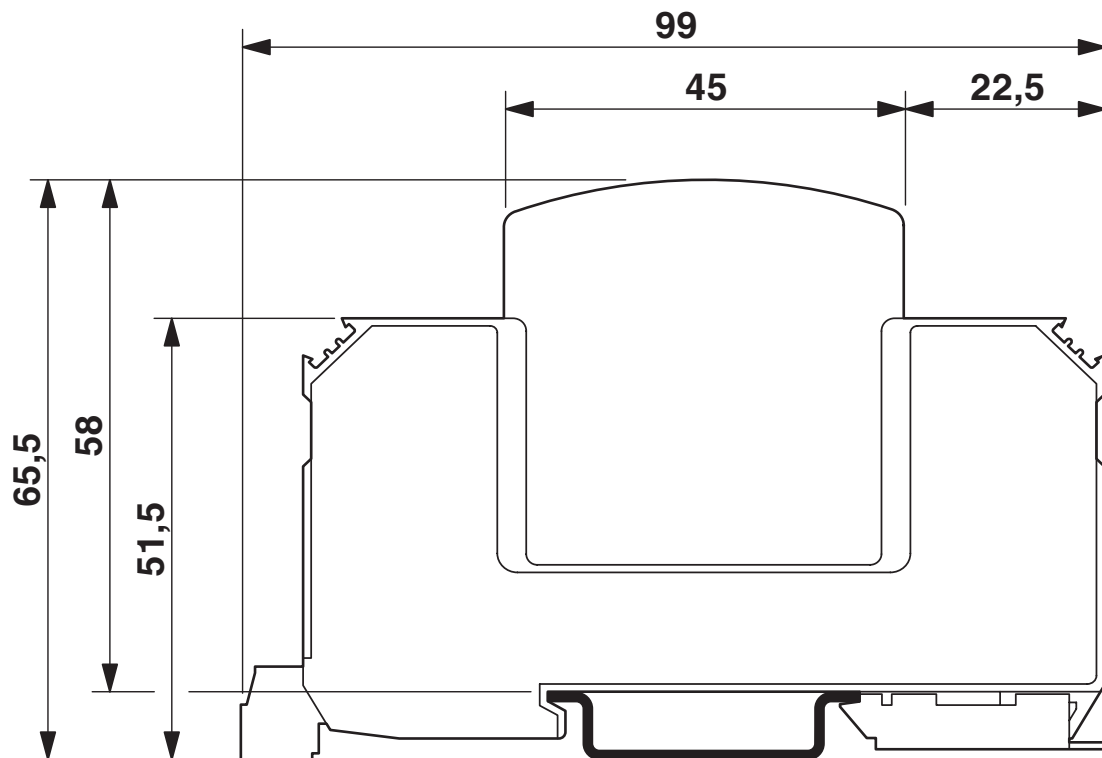
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Drawings

Circuit diagram



Dimensional drawing



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Accessories

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

<https://www.phoenixcontact.com/us/products/2749589>



Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

ZBN 18,LGS:L1-N,ERDE - Marker for terminal blocks

2749576

<https://www.phoenixcontact.com/us/products/2749576>



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/us/products/2809128>



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/us/products/1051993>



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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MPB F200X16/ 1GS - Wiring bridge

2818339

<https://www.phoenixcontact.com/us/products/2818339>



Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 200 mm

MPB F400X16/ 1GS - Wiring bridge

2818342

<https://www.phoenixcontact.com/us/products/2818342>



Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 400 mm

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MPB F600X16/ 1GS - Wiring bridge

2818355

<https://www.phoenixcontact.com/us/products/2818355>



Wiring bridge flexible, diameter: 16 mm², with a fork-type cable lug on one side, length: 600 mm

VAL-MS 1000PV ST - Type 2 surge protection plug

2805185

<https://www.phoenixcontact.com/us/products/2805185>



Replacement plug for PV arrester combinations of the VAL-MS 1000 DC... product range

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