

VAL-MS 385/65/3+1-FM - Type 2 surge arrester



2920887

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Type 2 surge protective device for 5-conductor power supply systems (L1, L2, L3, N, PE), with plug latching and remote indication contact.

Commercial data

Item number	2920887
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1322
GTIN	4046356280907
Weight per piece (including packing)	598.8 g
Weight per piece (excluding packing)	598.8 g
Country of origin	DE

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Technical data

Product properties

Product type	Surge arrester
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TT
	TN-C
	TN-S
Type	DIN rail module, two-section, divisible
Surge protection fault message	Optical, remote indicator contact
Number of ports	One

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	5 V AC ... 250 V AC
	30 V DC
Operating current	5 mA AC ... 1.5 A AC
	1 A DC

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm (1.5 mm ² ... 16 mm ²)
	4.5 Nm (25 mm ² ... 35 mm ²)
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
Connection method	Fork-type cable lug
Conductor cross-section flexible	1.5 mm ² ... 16 mm ²

Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2

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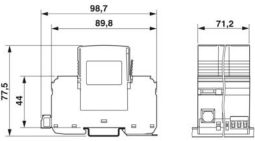


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Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross-section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross-section rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross-section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	71.2 mm
Height	98.7 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 Div.

Material specifications

Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6/PBT
Material group	I
Housing material	PA 6.6 PBT

Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Direction of action	3L-N & N-PE
Nominal voltage U_N	240/415 V AC (TN-S)
	240/415 V AC (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)	264 V AC
Rated load current I_L	80 A
Protective conductor current I_{PE}	$\leq 5 \mu\text{A}$
Standby power consumption P_C	$\leq 690 \text{ mVA}$
Nominal discharge current I_n (8/20) μs (L-N)	30 kA
Nominal discharge current I_n (8/20) μs (L-PE)	30 kA
Nominal discharge current I_n (8/20) μs (N-PE)	40 kA
Maximum discharge current I_{max} (8/20) μs (L-N)	65 kA
Maximum discharge current I_{max} (8/20) μs (L-PE)	65 kA

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Maximum discharge current I_{max} (8/20) μ s (N-PE)	80 kA
Impulse discharge current (10/350) μ s (L-N), charge	1.25 As
Impulse discharge current (10/350) μ s (L-N), specific energy	1.56 kJ/ Ω
Impulse discharge current (10/350) μ s (L-N), peak current value I_{imp}	2.5 kA
Impulse discharge current (10/350) μ s (L-PE), charge	1.25 As
Impulse discharge current (10/350) μ s (L-PE), specific energy	1.56 kJ/ Ω
Impulse discharge current (10/350) μ s (L-PE), peak current value I_{imp}	2.5 kA
Impulse discharge current (10/350) μ s (N-PE), charge	5 As
Impulse discharge current (10/350) μ s (N-PE), specific energy	25 kJ/ Ω
Impulse discharge current (10/350) μ s (N-PE), peak current value I_{imp}	10 kA
Total discharge current I_{Total} (8/20) μ s	80 kA
Total discharge current I_{Total} (10/350) μ s	10 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	≤ 1.8 kV
Voltage protection level U_p (L-PE)	≤ 2 kV
Voltage protection level U_p (N-PE)	≤ 1.7 kV
Residual voltage U_{res} (L-N)	≤ 1.8 kV (at I_n) ≤ 1.4 kV (at 10 kA) ≤ 1.25 kV (at 5 kA) ≤ 1.2 kV (at 3 kA)
Residual voltage U_{res} (L-PE)	≤ 2 kV (at I_n) ≤ 1.5 kV (at 10 kA) ≤ 1.4 kV (at 5 kA) ≤ 1.3 kV (at 3 kA)
Residual voltage U_{res} (N-PE)	≤ 0.6 kV (at I_n) ≤ 0.5 kV (at 10 kA) ≤ 0.5 kV (at 5 kA) ≤ 0.4 kV (at 3 kA)
TOV behavior at U_T (L-N)	480 V AC (5 s / withstand mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	≤ 25 ns
Response time t_A (L-PE)	≤ 100 ns
Response time t_A (N-PE)	≤ 100 ns
Max. backup fuse with V-type through wiring	80 A (gG - 16 mm ²)
Max. backup fuse with branch wiring	250 A (gG)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C

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Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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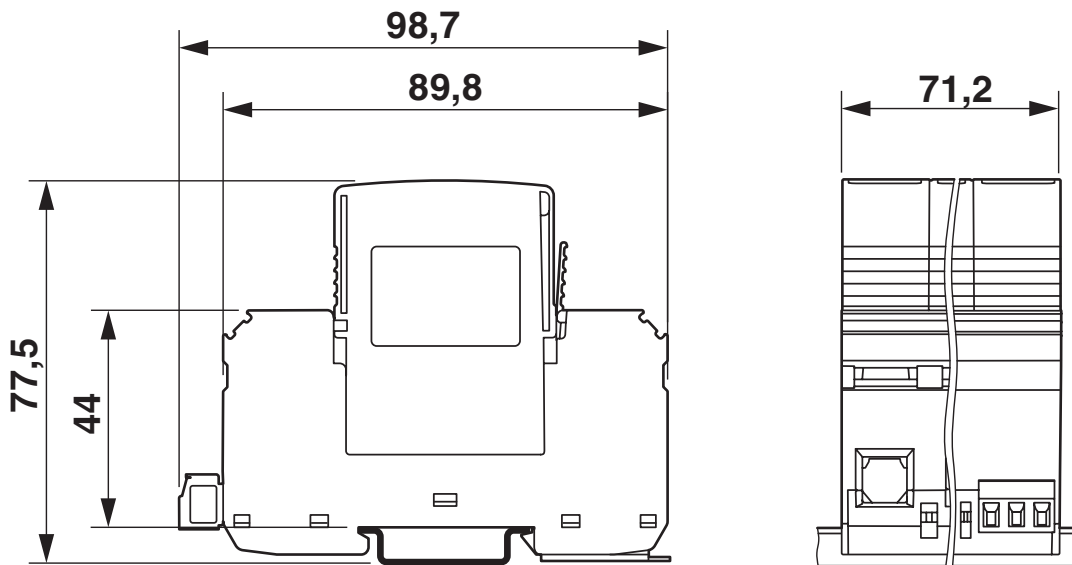
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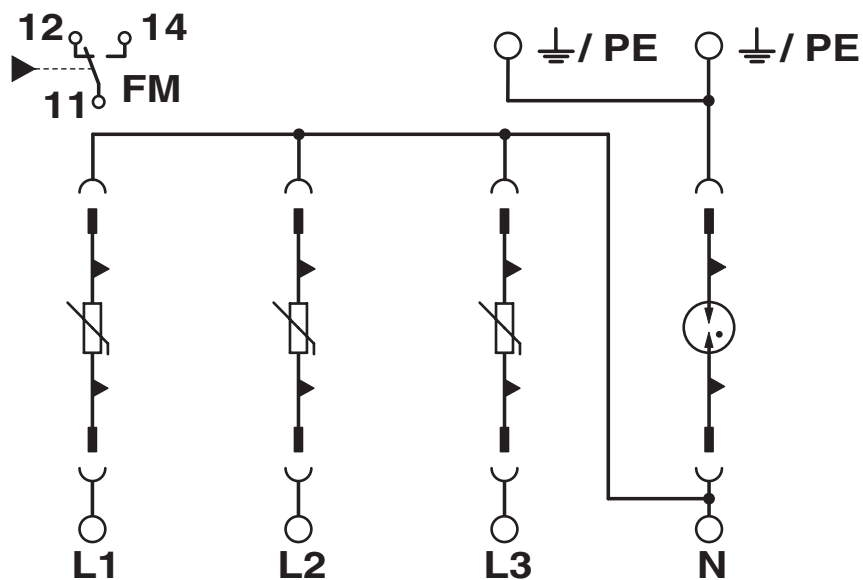
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Drawings

Dimensional drawing



Circuit diagram



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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-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
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