

# VAL-MS 320/4+0-FM - Type 2 surge arrester



2905362

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Plug-in surge arrester for 3-phase power supply systems with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with remote indication contact.

## Commercial data

Item number	2905362
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	CL18
Product key	CL1321
GTIN	4046356950121
Weight per piece (including packing)	461 g
Weight per piece (excluding packing)	461 g
Customs tariff number	85363030
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	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	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

Connection method	Screw connection
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>
Conductor cross-section AWG	28 ... 16

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## Dimensions

Dimensional drawing	
Width	71 mm
Height	99 mm
Depth	65.5 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-PE N-PE
Direction of action	3L-N/PE
Nominal voltage $U_N$	240/415 V AC (TN-S)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$	335 V AC
Rated load current $I_L$	80 A
Protective conductor current $I_{PE}$	$\leq 1.8$ mA
Standby power consumption $P_C$	$\leq 600$ mVA
Nominal discharge current $I_n$ (8/20) $\mu$ s	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s	40 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$	$\leq 1.8$ kV
Residual voltage $U_{res}$	$\leq 1.8$ kV (at $I_n$ ) $\leq 1.5$ kV (at 10 kA) $\leq 1.3$ kV (at 5 kA) $\leq 1.2$ kV (at 3 kA)
TOV behavior at $U_T$ (L-PE)	415 V AC (5 s / withstand mode) 440 V AC (120 min / safe failure mode)
Response time $t_A$	$\leq 25$ ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	125 A (gG)

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## 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
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %

## Approvals

### UL specifications

Maximum continuous operating voltage MCOV (L-L)	670 V AC
Maximum continuous operating voltage MCOV (L-N)	670 V AC
Maximum continuous operating voltage MCOV (L-G)	335 V AC
Maximum continuous operating voltage MCOV (N-G)	335 V AC
Nominal discharge current $I_n$ (L-L)	20 kA
Nominal discharge current $I_n$ (L-N)	20 kA
Nominal discharge current $I_n$ (L-G)	20 kA
Nominal discharge current $I_n$ (N-G)	20 kA
Mode of protection	L-L L-N L-G N-G
Nominal voltage	240/415 V AC
Power distribution system	Wye
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2900 V
Measured limiting voltage MLV (L-N)	2030 V
Measured limiting voltage MLV (L-G)	2720 V
Measured limiting voltage MLV (N-G)	2030 V
SPD Type	4CA

### UL indicator/remote signaling

Operating voltage	125 V AC
AC operating current	1 A AC

### UL connection data

Tightening torque	30 lb <sub>F</sub> -in.
Conductor cross-section AWG	10 ... 2

## Standards and regulations

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

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Note	2012
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## Mounting

Mounting type	DIN rail: 35 mm
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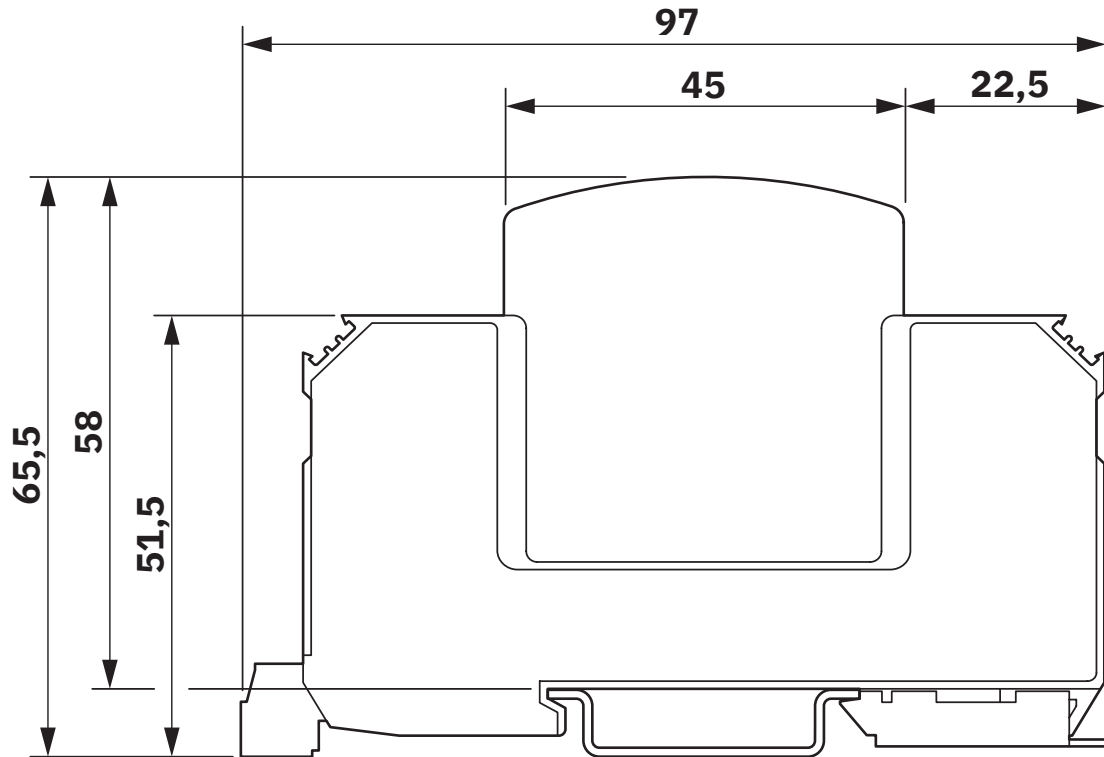
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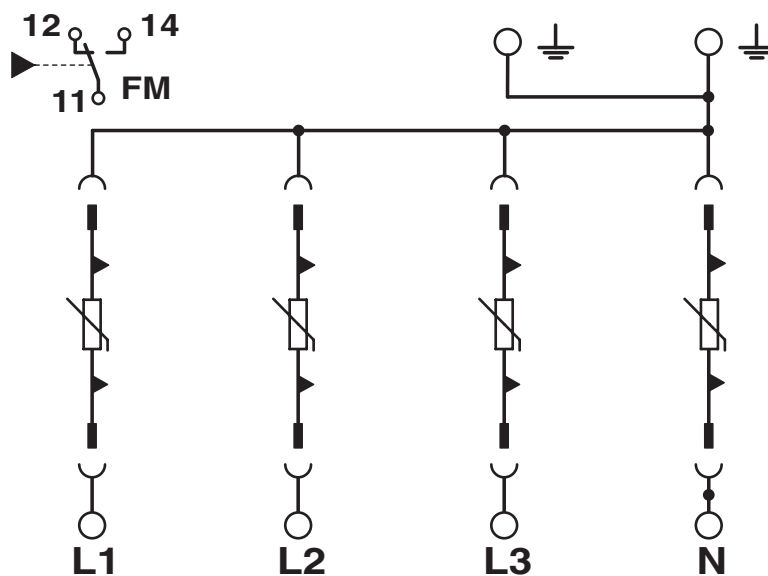
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## Drawings

Dimensional drawing



Circuit diagram



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## Environmental product compliance

EU REACH SVHC

REACH candidate substance (CAS No.)	
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	No substance above 0.1 wt%
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