

## Type 2 surge arrester - VAL-MS 320/3+0-FM - 2920243

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Surge arrester for 4-conductor power supply systems (L1, L2, L3, PEN), consisting of a base element with remote indication contact and protective connectors, for mounting on NS 35.

### Product Features

- With or without floating remote indication contact
- Disconnect device on each individual plug
- Type 2 consistent plug-in surge arresters
- Multi-channel type 2 arresters
- Optical, mechanical status indication for the individual arresters
- Mechanical coding of all slots



### Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	353.8 g
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

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

#### Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
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### Technical data

#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (half sinus / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

#### General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-C
Number of ports	One
SPD design	Voltage-limiting type
Mode of protection	L-PEN
Mounting type	DIN rail: 35 mm
Color	jet black RAL 9005
Housing material	PA 6.6
	PBT
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	3
Surge protection fault message	Optical, remote indicator contact

#### Protective circuit

Nominal voltage $U_N$	240/415 V AC (TN-C)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous voltage $U_C$	335 V AC
Rated load current $I_L$	80 A
Residual current $I_{PE}$	≤ 1.35 mA
Standby power consumption $P_C$	≤ 450 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 $U_p$	≤ 1.5 kV

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#### Protective circuit

Residual voltage $U_{res}$	$\leq 1.5$ kV (at $I_n$ )
	$\leq 1.3$ kV (at 10 kA)
	$\leq 1.2$ kV (at 5 kA)
	$\leq 1.1$ kV (at 3 kA)
TOV behavior at $U_T$	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 branch wiring	125 A (gG)
Max. backup fuse with V-type through wiring	80 A (gG)

#### Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC
	30 V DC
Operating current	5 mA AC ... 1.5 A
	1 A
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 solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16

#### Connection data

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

#### UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-L)	640 V AC
Maximum continuous operating voltage MCOV (L-G)	320 V AC
Nom. voltage	240 V AC

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#### UL specifications

Mode of protection	L-L
	L-G
Power distribution system	3D
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2900 V
Measured limiting voltage MLV (L-G)	2720 V
Nominal discharge current $I_n$ (L-L)	20 kA
Nominal discharge current $I_n$ (L-G)	20 kA

#### UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A
Tightening torque	4 lb <sub>F</sub> -in.
Conductor cross section AWG	30 ... 14

#### UL connection data

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

### Classifications

#### eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130805
eCl@ss 7.0	27130805
eCl@ss 8.0	27130805
eCl@ss 9.0	27130805

#### ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000941
ETIM 5.0	EC000941

#### UNSPSC

UNSPSC 6.01	30212010
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## Classifications

### UNSPSC

UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## Approvals

### Approvals

#### Approvals

UL Recognized / KEMA-KEUR / ÖVE / cUL Recognized / CCA / IEC/IEE CB Scheme / EAC / EAC / CSA / cULus Recognized

#### Ex Approvals

#### Approvals submitted

### Approval details

UL Recognized

KEMA-KEUR

ÖVE

cUL Recognized

CCA

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## Approvals

IECEE CB Scheme

EAC

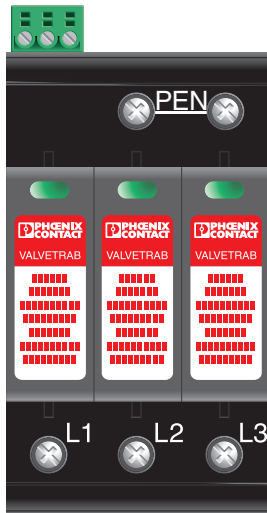
EAC

CSA

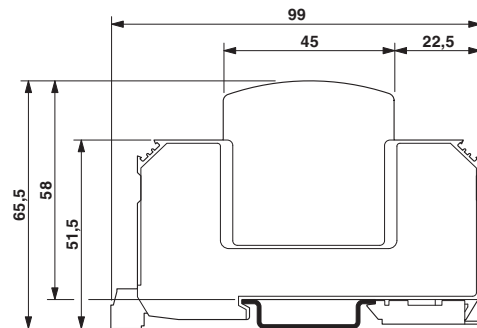
cULus Recognized

## Drawings

Product drawing



Dimensional drawing



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Circuit diagram

