

# Type 2 surge protection device - 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

package_quantity	1
GTIN	4046356157087

## Technical data

### Dimensions

Height	99 mm
Width	53.4 mm
Depth	65.5 mm
Pitch unit	3 Div.

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Permissible humidity (operation)	5 % ... 95 %

### General

Housing material	PBT / PA
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	IEC 60664-1
Standards for air and creepage distances	DIN EN 61643-11

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## Technical data

### General

<b>Mounting type</b>	DIN rail: 35 mm
<b>Design</b>	DIN rail module, two-section, divisible
<b>Number of positions</b>	3
<b>Message: Surge protection fault</b>	Optical, remote indicator contact
<b>Direction of action</b>	3L-PEN

### Protective circuit

<b>IEC test classification</b>	II
<b>IEC test classification</b>	T2
<b>EN type</b>	T2
<b>Nominal voltage <math>U_N</math></b>	230 V AC (Max. 240/415 V AC)
<b>Nominal voltage <math>U_N</math></b>	400 V AC
<b>Nominal voltage <math>U_N</math></b>	230 V AC ... 415 V AC
<b>Maximum continuous operating voltage <math>U_C</math></b>	335 V AC
<b>Maximum continuous operating voltage <math>U_C</math> (L-PEN)</b>	335 V AC
<b><math>U_T</math> (TOV-proof)</b>	415 V AC (5 s)
<b>Nominal frequency <math>f_N</math></b>	50 Hz (60 Hz)
<b>Standby power consumption <math>P_C</math></b>	$\leq 330$ mVA
<b>Max. discharge current <math>I_{max}</math> (8/20) <math>\mu</math>s</b>	40 kA
<b>Max. discharge current <math>I_{max}</math> (8/20) <math>\mu</math>s maximum (L-PEN)</b>	120 kA (all channels)
<b>Max. discharge current <math>I_{max}</math> (8/20) <math>\mu</math>s maximum (L-PEN)</b>	40 kA
<b>Nominal discharge current <math>I_n</math> (8/20) <math>\mu</math>s (L-PEN)</b>	60 kA (all channels)
<b>Nominal discharge current <math>I_n</math> (8/20) <math>\mu</math>s (L-PEN)</b>	20 kA
<b>Voltage protection level <math>U_P</math> (L-PEN)</b>	$\leq 1.5$ kV
<b>Residual voltage (L-PEN)</b>	$\leq 1.5$ kV
<b>Residual voltage (L-PEN)</b>	$\leq 1.4$ kV (at 15 kA)
<b>Residual voltage (L-PEN)</b>	$\leq 1.3$ kV (at 10 kA)
<b>Residual voltage (L-PEN)</b>	$\leq 1.2$ kV (at 5 kA)
<b>Residual voltage (L-PEN)</b>	$\leq 1.1$ kV (at 3 kA)
<b>Response time (L-PEN)</b>	$\leq 25$ ns
<b>Max. required backup fuse with branch wiring</b>	125 A (gG)
<b>Short-circuit resistance <math>I_p</math> with max. backup fuse (effective)</b>	25 kA

### Connection, protective circuit

<b>Connection method</b>	Screw connection
<b>Connection type IN</b>	Biconnect screw terminal block
<b>Connection type OUT</b>	Biconnect screw terminal block
<b>Connection method</b>	Biconnect terminal block
<b>Screw thread</b>	M5
<b>Tightening torque</b>	4.5 Nm
<b>Stripping length</b>	16 mm
<b>Conductor cross section stranded min.</b>	1.5 mm <sup>2</sup>

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### Technical data

#### Connection, protective circuit

Conductor cross section stranded max.	25 mm <sup>2</sup>
Conductor cross section solid min.	1.5 mm <sup>2</sup>
Conductor cross section solid max.	35 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	15
Conductor cross section AWG/kcmil max	2

#### Remote indicator contact

Connection name	Remote fault indicator contact
Switching function	PDT contact
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section stranded min.	0.14 mm <sup>2</sup>
Conductor cross section stranded max.	1.5 mm <sup>2</sup>
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	28
Conductor cross section AWG/kcmil max	16
Maximum operating voltage U <sub>max</sub> AC	250 V AC
Maximum operating voltage U <sub>max</sub> DC	30 V DC
Max. operating current I <sub>max</sub>	1.5 A AC (250 V AC)
Max. operating current I <sub>max</sub>	1 A DC (30 V DC)

#### Standards and Regulations

Standards/regulations	EN 61643-11 2007
Standards/regulations	IEC 61643-1 2005

### 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

#### ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000941

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## classifications

### ETIM

<b>ETIM 5.0</b>	EC000941
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### UNSPSC

<b>UNSPSC 6.01</b>	30212010
<b>UNSPSC 7.0901</b>	39121610
<b>UNSPSC 11</b>	39121610
<b>UNSPSC 12.01</b>	39121610
<b>UNSPSC 13.2</b>	39121620

## approvals

UL Recognized / KEMA-KEUR / ÖVE / cUL Recognized / GOST / CCA / IECCEB Scheme / cULus Recognized /

### Approval details

UL Recognized

KEMA-KEUR

ÖVE

cUL Recognized

GOST

CCA

IECEE CB Scheme

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approvals

cULus Recognized  US

accessories

**Labeled device marker**

ZBN 18,LGS:ERDE - 2749589



ZBN 18,LGS:L1-N,ERDE - 2749576



**Device marking**

ZBN 18:UNBEDRUCKT - 2809128



**Marker pen**

B-STIFT - 1051993



**Feed-through terminal block**

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accessories

DK-BIC-35 - 2749880



### Bridge

MPB 18/3- 6 - 2809241



MPB 18/3- 9 - 2809254



MPB F200X16/ 1GS - 2818339



MPB F400X16/ 1GS - 2818342



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### accessories

MPB F600X16/ 1GS - 2818355



### accessories

ZBN 18:SO/CMS - 0800763



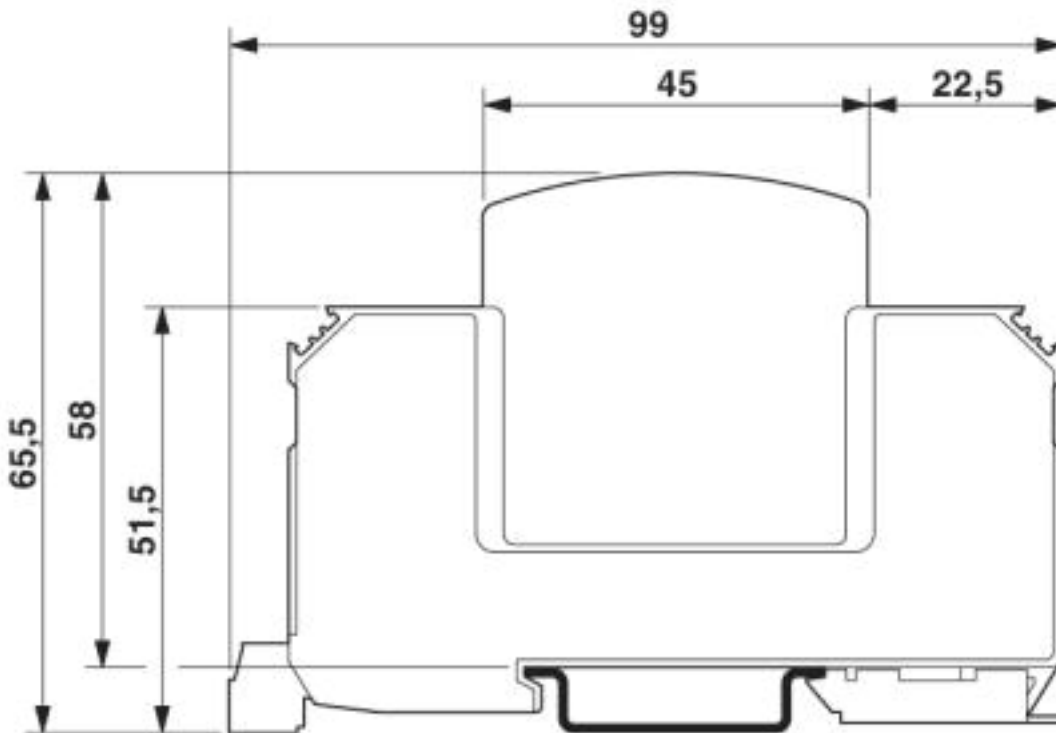
ZBN 18,LGS:L1-N,ERDE - 2830469



### Drawings

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

Dimensioned drawing





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Circuit diagram

