

Type 2 surge protection device - VAL-MS 230/1+1-FM - 2804432

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Surge arrester for 3-conductor power supply systems (L1, N, PE), 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
- Mechanical coding of all slots
- Multi-channel type 2 arresters
- Type 2 consistent plug-in surge arresters
- Disconnect device on each individual plug
- Optical, mechanical status indication for the individual arresters



Key commercial data

package_quantity	1
GTIN	4046356317818

Technical data

Dimensions

Height	97 mm
Width	35.6 mm
Depth	65.5 mm
Pitch unit	2 Div.

Ambient conditions

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

General

IEC power supply system	TT
IEC power supply system	TN-S
Housing material	PBT / PA
Inflammability class according to UL 94	V0
Color	black

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Technical data

General

Standards for air and creepage distances	DIN EN 60664-1
Standards for air and creepage distances	EN 61643-11
Mounting type	DIN rail: 35 mm
Design	DIN rail module, two-section, divisible
Number of positions	2
Message: Surge protection fault	Optical, remote indicator contact
Direction of action	1L-N & N-PE

Protective circuit

IEC test classification	II
IEC test classification	T2
EN type	T2
Nominal voltage U_N	230 V AC
Maximum continuous operating voltage U_C	275 V AC
Maximum continuous operating voltage U_C (L-N)	275 V AC
Maximum continuous operating voltage U_C (N-PE)	260 V AC
U_T (TOV-proof)	335 V AC (5 s / L-N)
U_T (TOV-proof)	1200 V AC (200 ms / N-PE)
Nominal frequency f_N	50 Hz (60 Hz)
Residual current I_{PE}	$\leq 1 \mu A$
Standby power consumption P_C	≤ 120 mVA
Max. discharge current I_{max} (8/20) μs	40 kA
Max. discharge current I_{max} (8/20) μs maximum (L-N)	40 kA
Max. discharge current I_{max} (8/20) μs maximum (N-PE)	40 kA
Nominal discharge current I_n (8/20) μs (L-N)	20 kA
Nominal discharge current I_n (8/20) μs (N-PE)	20 kA
Impulse discharge current (10/350) μs , peak value I_{imp}	12 kA (N-PE)
Front of wave sparkover voltage at 6 kV (1.2/50) μs (N-PE)	≤ 1.5 kV
Voltage protection level U_P (L-N)	≤ 1.35 kV
Voltage protection level U_P (L-PE)	≤ 1.6 kV
Voltage protection level U_P (N-PE)	≤ 1.5 kV
Residual voltage (L-N)	≤ 1.2 kV (at 10 kA)
Residual voltage (L-N)	≤ 1.1 kV (at 5 kA)
Residual voltage (L-N)	≤ 0.95 kV (at 3 kA)
Residual voltage (L-PE)	≤ 1.35 kV (at 10 kA)
Residual voltage (L-PE)	≤ 1.2 kV (at 5 kA)
Residual voltage (L-PE)	≤ 1 kV (at 3 kA)
Residual voltage (N-PE)	≤ 250 V (at 10 kA)
Residual voltage (N-PE)	≤ 150 V (at 5 kA)
Residual voltage (N-PE)	≤ 100 V (at 3 kA)
Response time (L-N)	≤ 25 ns

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Protective circuit

Response time (N-PE)	≤ 100 ns
Max. required backup fuse with branch wiring	125 A (gG)
Short-circuit resistance I_p with max. backup fuse (effective)	25 kA
Follow current quenching capacity I_f (N-PE)	100 A (260 V)

Connection, protective circuit

Connection method	Screw connection
Connection type IN	Biconnect screw terminal block
Connection type OUT	Biconnect screw terminal block
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm
Conductor cross section stranded min.	1.5 mm ²
Conductor cross section stranded max.	25 mm ²
Conductor cross section solid min.	1.5 mm ²
Conductor cross section solid max.	35 mm ²
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, 1-pos.
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section stranded min.	0.14 mm ²
Conductor cross section stranded max.	1.5 mm ²
Conductor cross section solid min.	0.14 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section AWG/kcmil min.	28
Conductor cross section AWG/kcmil max	16
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)
Max. operating current I_{max}	1 A DC (30 V DC)

Standards and Regulations

Standards/regulations	IEC 61643-1 2005
Standards/regulations	EN 61643-11/A11 2007

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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
ETIM 5.0	EC000941

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

approvals

UL Recognized / KEMA-KEUR / cUL Recognized / GOST / cULus Recognized /

Approval details



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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 18/1- 2 - 2809209



MPB 18/1- 3 - 2809212



MPB 18/1- 4 - 2809225



MPB 18/1- 6 - 2748564



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accessories

MPB 18/1- 7 BU - 2856278



MPB 18/1- 8 BU - 2858470



MPB 18/1- 8 - 2748577



MPB 18/1- 9 - 2748580



MPB 18/1-12 - 2748593



MPB F200X16/ 1GS - 2818339



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accessories

MPB F400X16/ 1GS - 2818342



MPB F600X16/ 1GS - 2818355



accessories

ZBN 18:SO/CMS - 0800763



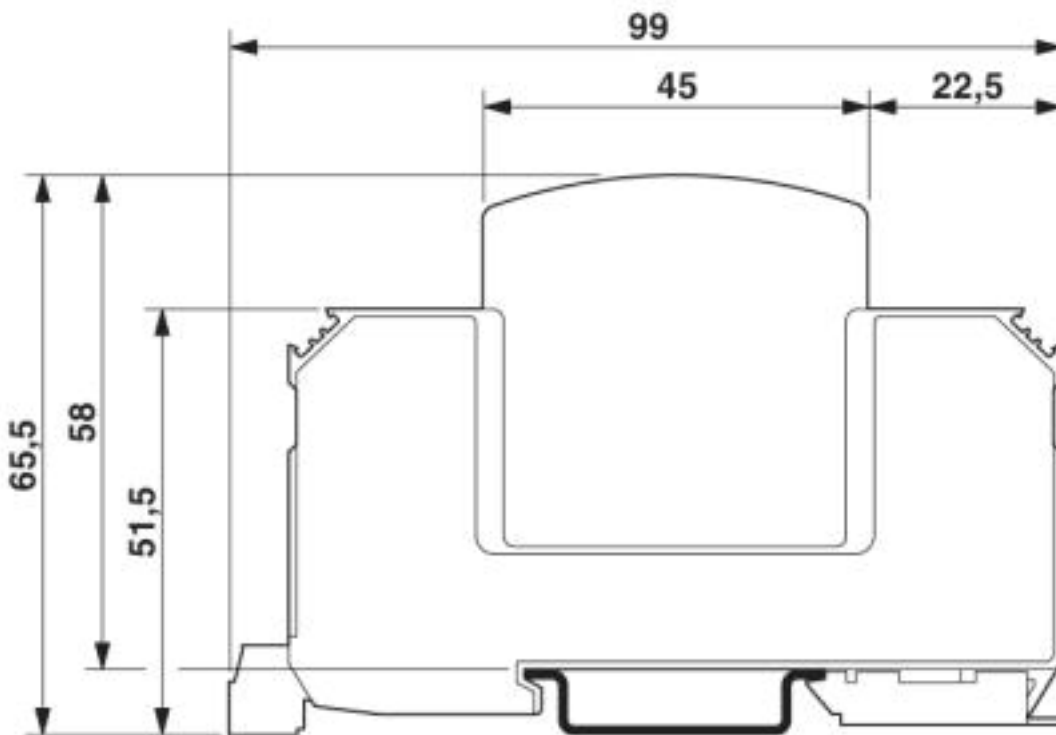
ZBN 18,LGS:L1-N,ERDE - 2830469



Drawings

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Dimensioned drawing



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Circuit diagram

