

Type 1 surge protection device - VAL-MS-T1/T2 335/12.5/1+1 - 2800187

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Universal varistor-based plug-in lightning arrester for single-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE), for Lightning Protection Levels III and IV.

Product Features

- ✓ Plugs can be checked with CHECKMASTER
- ✓ With or without floating remote indication contact
- ✓ Secure hold of plugs in the event of high lightning current loads and strong vibrations thanks to new latching
- ✓ Thermal disconnect device for each individual plug
- ✓ Optical, mechanical status indication for the individual arresters
- ✓ Mechanical coding of all slots



Key commercial data

package_quantity	1
GTIN	4046356518581

Technical data

Dimensions

Height	90 mm
Width	35.6 mm
Depth	77.5 mm
Pitch unit	2 Div.

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C

General

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

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Technical data

General

Color	black
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
Direction of action	1L-N & N-PE

Protective circuit

IEC test classification	I, II
IEC test classification	T1, T2
EN type	T1, T2
Nominal voltage U_N	240 V AC (230 V AC ... 240 V AC)
Maximum continuous operating voltage U_C	335 V AC
Maximum continuous operating voltage U_C (L-N)	335 V AC
Maximum continuous operating voltage U_C (N-PE)	264 V AC
U_T (TOV-proof)	415 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)
Rated load current I_L	80 A (with serial 16mm ² through wiring)
Residual current I_{PE}	≤ 5 µA (Per phase)
Standby power consumption P_c	≤ 268 mVA
Max. discharge current I_{max} (8/20) µs maximum (L-N)	50 kA
Max. discharge current I_{max} (8/20) µs maximum (N-PE)	50 kA
Nominal discharge current I_n (8/20) µs (L-N)	12.5 kA
Nominal discharge current I_n (8/20) µs (N-PE)	50 kA
Impulse discharge current (10/350) µs, charge	25 As
Impulse discharge current (10/350) µs, specific energy	625.00 kJ/Ω
Impulse discharge current (10/350) µs, peak value I_{imp}	50 kA (N-PE)
Impulse discharge current (10/350) µs, charge	6.25 As
Impulse discharge current (10/350) µs, specific energy	39.00 kJ/Ω
Impulse discharge current (10/350) µs, peak value I_{imp}	12.5 kA (L-N)
Impulse discharge current (10/350) µs, charge	12.5 As
Impulse discharge current (10/350) µs, specific energy	160.00 kJ/Ω
Impulse discharge current (10/350) µs, peak value I_{imp}	25 kA
Front of wave sparkover voltage at 6 kV (1.2/50) µs (N-PE)	≤ 1.7 kV
Voltage protection level U_P (L-N)	≤ 1.2 kV
Voltage protection level U_P (L-N)	≤ 1.6 kV (30 kA - 8/20µs)
Voltage protection level U_P (L-PE)	≤ 2 kV

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Protective circuit

Voltage protection level U_p (N-PE)	≤ 1.7 kV
Residual voltage (L-N)	≤ 1.1 kV (at 10 kA)
Residual voltage (L-N)	≤ 1 kV (at 5 kA)
Residual voltage (L-N)	≤ 0.9 kV (at 3 kA)
Residual voltage (L-N)	≤ 1.2 kV
Residual voltage (L-PE)	≤ 1.5 kV (at 10 kA)
Residual voltage (L-PE)	≤ 1.2 kV (at 5 kA)
Residual voltage (L-PE)	≤ 1.1 kV (at 3 kA)
Residual voltage (L-PE)	≤ 2 kV
Residual voltage (N-PE)	≤ 0.5 kV (at 10 kA)
Residual voltage (N-PE)	≤ 0.5 kV (at 5 kA)
Residual voltage (N-PE)	≤ 0.4 kV (at 3 kA)
Residual voltage (N-PE)	≤ 0.6 kV
Response time (L-N)	≤ 25 ns
Response time (L-PE)	≤ 100 ns
Response time (N-PE)	≤ 100 ns
Max. required backup fuse with branch wiring	160 A (gL/gG)
Max. required backup fuse with V-type through wiring	80 A (gL/gG / with 16 mm ²)
Short-circuit resistance I_p with max. backup fuse (effective)	25 kA
Follow current quenching capacity I_f (N-PE)	100 A (264 V AC)

Connection, protective circuit

Connection method	Screw connection
Connection type IN	Biconnect screw terminal block
Connection type OUT	Biconnect screw terminal block
Connection method	Biconnect 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

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	27130802
eCl@ss 7.0	27130802
eCl@ss 8.0	27130802

ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000381
ETIM 5.0	EC000381

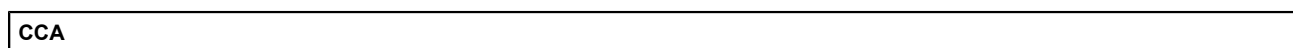
UNSPSC

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

approvals

KEMA-KEUR / ÖVE / CCA / IEC EE CB Scheme / GL / IEC EE CB Scheme / UL Recognized / cUL Recognized / cULus Recognized /

Approval details



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approvals

GL

CB
10kV

UL Recognized 

cUL Recognized 

cULus Recognized 

accessories

Labeled device marker

ZBN 18,LGS:ERDE - 2749589



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



Device marking

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accessories

ZBN 18:UNBEDRUCKT - 2809128



Marker pen

B-STIFT - 1051993



Feed-through terminal block

DK-BIC-35 - 2749880



accessories

ZBN 18:SO/CMS - 0800763



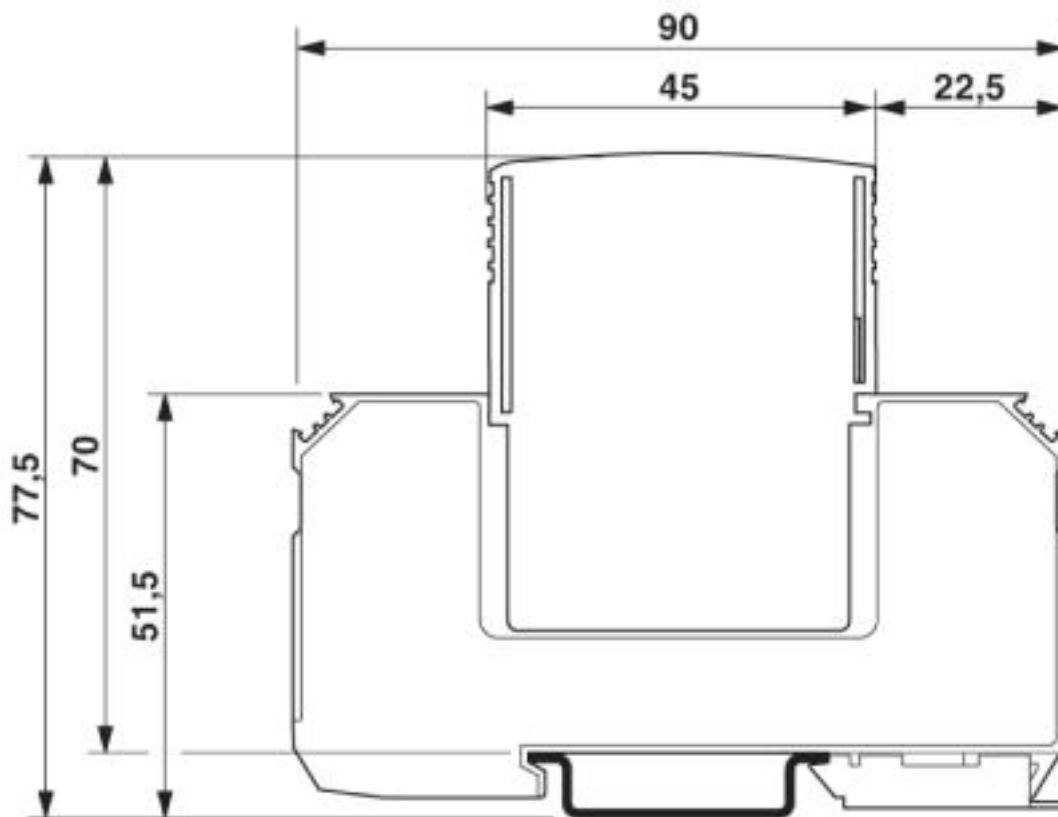
ZBN 18,LGS:L1-N,ERDE - 2830469



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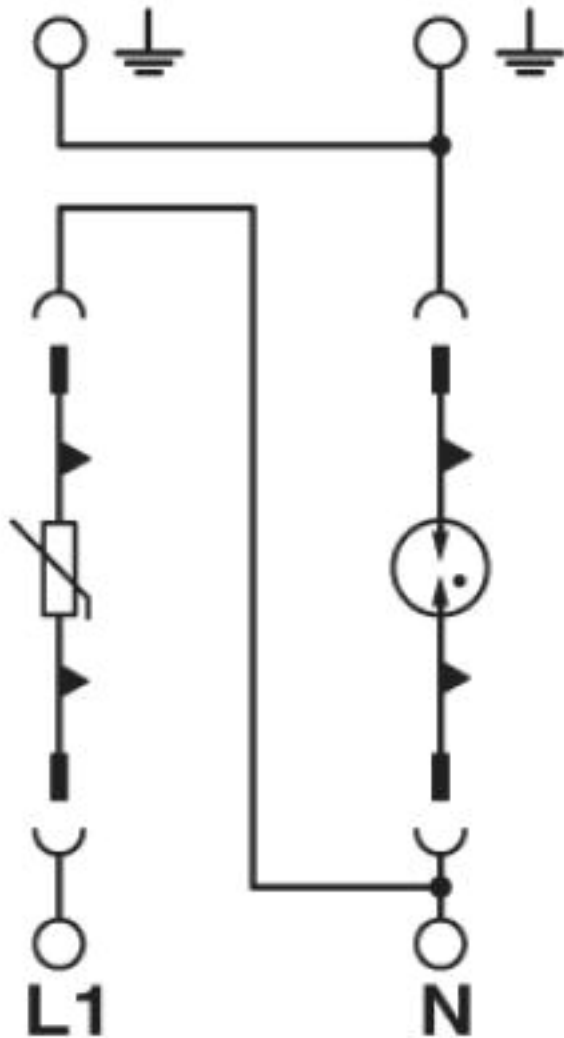
Drawings

Dimensioned drawing



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Circuit diagram



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