

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 335/12.5/3+1-FM - 2800183

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Universal varistor-based plug-in lightning/surge arrester for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), for Lightning Protection Levels III and IV, with remote indication contact.

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
- ✓ Optical, mechanical status indication for the individual arresters
- ✓ Thermal disconnect device for each individual plug
- ✓ Mechanical coding of all slots



Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	660.0 GRM
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	99 mm
Width	71.2 mm
Depth	77.5 mm
Horizontal pitch	4 Div.

Ambient conditions

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Technical data

Ambient conditions

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

General

IEC power supply system	TT
	TN-C
	TN-S
Housing material	PBT / PA
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	DIN EN 60664-1
	EN 61643-11
Mounting type	DIN rail: 35 mm
Type	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	Optical, remote indicator contact
Direction of action	3L-N & N-PE

Protective circuit

IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
Lightning protection class	III-IV /50 kA (TT, TN-C-S)
Nominal voltage U_N	240 V AC (230/400 V AC ... 240/415 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)
	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

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Protective circuit

Nominal discharge current I_n (8/20) μ s (N-PE)	50 kA
Impulse discharge current (10/350) μ s charge	25 As
Impulse discharge current (10/350)# μ s, specific energy	625 kJ/ Ω
Impulse discharge current (10/350)# μ s, peak value I_{imp}	50 kA
Impulse discharge current (10/350) μ s charge	25 As
Impulse discharge current (10/350)# μ s, specific energy	625 kJ/ Ω
Impulse discharge current (10/350)# μ s, peak value I_{imp}	50 kA (N-PE)
Impulse discharge current (10/350) μ s charge	6.25 As
Impulse discharge current (10/350)# μ s, specific energy	39 kJ/ Ω
Impulse discharge current (10/350)# μ s, peak value I_{imp}	12.5 kA (L-N)
Front of wave sparkover voltage at 6 kV (1.2/50) μ s (N-PE)	≤ 1.7 kV
Voltage protection level U_p (L-N)	≤ 1.2 kV
	≤ 1.6 kV (30 kA - 8/20 μ s)
Voltage protection level U_p (L-PE)	≤ 2 kV
Voltage protection level U_p (N-PE)	≤ 1.7 kV
Residual voltage (L-N)	≤ 1.1 kV (at 10 kA)
	≤ 1 kV (at 5 kA)
	≤ 0.9 kV (at 3 kA)
	≤ 1.2 kV (at I_n)
Residual voltage (L-PE)	≤ 1.5 kV (at 10 kA)
	≤ 1.2 kV (at 5 kA)
	≤ 1.1 kV (at 3 kA)
	≤ 2 kV (at I_n)
Residual voltage (N-PE)	≤ 0.5 kV (at 10 kA)
	≤ 0.5 kV (at 5 kA)
	≤ 0.4 kV (at 3 kA)
	≤ 0.6 kV (at I_n)
Response time (L-N)	≤ 25 ns
Response time (L-PE)	≤ 100 ns
Response time (N-PE)	≤ 100 ns
Max. backup fuse with branch wiring	160 A (gL/gG)
Max. 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 _{rms}
Follow current quenching capacity I_f (N-PE)	100 A (264 V AC)

Connection, protective circuit

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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

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)
	1.5 A DC (30 V DC)

Standards and Regulations

Standards/regulations	IEC 61643-1 2005
	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

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

Ex Approvals

Approvals submitted

Approval details

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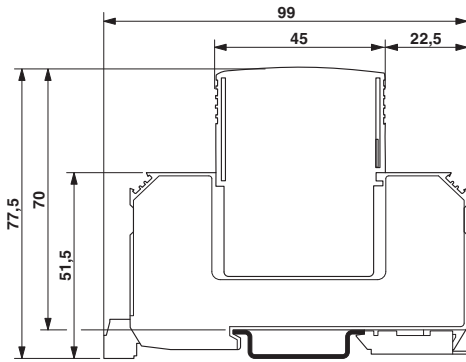
IECEE CB Scheme 

cULus Recognized 

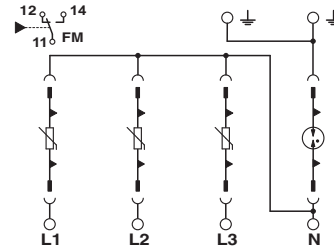
Drawings

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 335/12.5/3+1-FM - 2800183

Dimensioned drawing



Circuit diagram



Application drawing

