

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 335/12.5/3+0 - 2800189

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Universal varistor-based plug-in lightning/surge arrester for 3-phase power supply networks with common N and PE (4-conductor system: L1, L2, L3, PEN).

Your advantages

- ✓ Plugs can be checked with CHECKMASTER
- ✓ 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
- ✓ Pluggable
- ✓ Thermal disconnect device for each individual plug
- ✓ Mechanical coding of all slots



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 518604
GTIN	4046356518604

Technical data

Dimensions

Height	89.8 mm
Width	53.4 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	3 Div.

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C

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Ambient conditions

Altitude	≤ 2000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

General

IEC test classification	I / II
	T1 / T2
	T1
	I
EN type	T1 / T2
	T1
IEC power supply system	TN-C
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

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}	≤ 2400 µA
Standby power consumption P_C	≤ 810 mVA
Nominal discharge current I_n (8/20) µs	12.5 kA
Maximum discharge current I_{max} (8/20) µs	50 kA
Impulse discharge current (10/350) µs, charge	6.25 As
Impulse discharge current (10/350) µs, specific energy	39 kJ/Ω
Impulse discharge current (10/350) µs, peak value I_{imp}	12.5 kA
Total discharge current I_{total} (8/20) µs	150 kA
Total discharge current I_{total} (10/350) µs	37.5 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 1.2 kV

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Protective circuit

	$\leq 1.6 \text{ kV (30 kA - 8/20 } \mu\text{s)}$
Residual voltage U_{res}	$\leq 1.2 \text{ kV (at } I_n)$
	$\leq 1.1 \text{ kV (at 10 kA)}$
	$\leq 1 \text{ kV (at 5 kA)}$
	$\leq 0.9 \text{ kV (at 3 kA)}$
TOV behavior at U_T	415 V AC (5 s / withstand mode)
	457 V AC (120 min / safe failure mode)
Response time t_A	$\leq 25 \text{ ns}$
Max. backup fuse with V-type through wiring	80 A (gG - 16 mm ²)
Max. backup fuse with branch wiring	160 A (gG)

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm (1,5 mm ² ... 16 mm ²)
	4.5 Nm (25 mm ² ... 35 mm ²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm ² ... 25 mm ²
Conductor cross section solid	1.5 mm ² ... 35 mm ²
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm ² ... 16 mm ²

UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-L)	335 V AC
Maximum continuous operating voltage MCOV (L-G)	335 V AC
Nom. voltage	240 V AC
Mode of protection	L-L
	L-G
Power distribution system	3D
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	3570 V
Measured limiting voltage MLV (L-G)	2630 V
Nominal discharge current I_n (L-L)	20 kA
Nominal discharge current I_n (L-G)	20 kA

UL connection data

Conductor cross section AWG	10 ... 2
Tightening torque	30 lb _F -in.

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Standards and Regulations

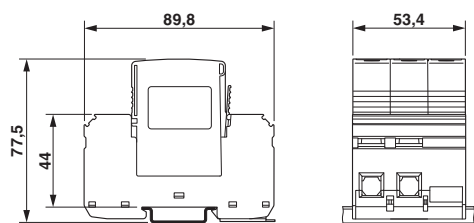
Standards/regulations	IEC 61643-11 2011
	EN 61643-11 2012

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

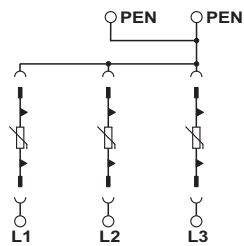
Dimensional drawing



Product drawing



Circuit diagram



Approvals

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KEMA-KEUR / ÖVE / CCA / IECCE CB Scheme / UL Recognized / cUL Recognized / EAC / EAC / DNV GL / cULus Recognized

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Approvals

Ex Approvals

Approval details

KEMA-KEUR		http://www.dekra-certification.com	2162496-01
ÖVE		https://www.ove.at/en/certification-pz/certification-register/	18583-009-06
CCA			NTR-AT 1906
IECEE CB Scheme		http://www.iecee.org/	AT 2584
UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
EAC			RU C- DE.A*30.B01561
EAC			EAC-Zulassung
DNV GL		http://exchange.dnv.com/tari/	TAE00001N9
cULus Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	

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