

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 48/12.5/1+0 - 2801241

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Universal varistor-based plug-in lightning/surge arrester for 1-phase power supply networks with common N and PE (2-conductor system: L1, PEN).

Your advantages

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



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 750172
GTIN	4046356750172

Technical data

Dimensions

Height	89.8 mm
Width	17.6 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 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
Altitude	≤ 2000 m (amsl (above mean sea level))

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Ambient conditions

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
	I
EN type	T1 / T2
IEC power supply system	TN-C
Mode of protection	L-N
	L-PEN
	(L+) - (L-)
	(L-) - PE
	(L+) - PE
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
Surge protection fault message	optical

Protective circuit

Nominal voltage U_N	60 V AC ±10 % (TN)
	60 V DC ±10 %
	-48 V DC ±10 % (RRH)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	75 V AC
	100 V DC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 0.6 mA
Standby power consumption P_C	≤ 45 mVA
Nominal discharge current I_n (8/20) μs	12.5 kA
Maximum discharge current I_{max} (8/20) μs	30 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
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 0.4 kV

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Protective circuit

Residual voltage U_{res}	≤ 0.4 kV (at I_n)
	≤ 0.35 kV (at 10 kA)
	≤ 0.3 kV (at 5 kA)
	≤ 0.275 kV (at 4 kA)
	≤ 0.25 kV (at 3 kA)
TOV behavior at U_T	100 V AC (5 s / withstand mode)
	130 V DC (5 s / withstand mode)
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A (gG - 16 mm ²)
Max. backup fuse with branch wiring	160 A (gG)

Additional technical data

Maximum discharge current I_{max} (8/20) μ s	65 kA
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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	1CA
Maximum continuous operating voltage MCOV (L+) - (L-)	100 V DC
Nominal voltage	60 V DC
Mode of protection	(L+) - (L-)
Voltage protection rating VPR (L+) - (L-)	400 V
Nominal discharge current I_n (L+) - (L-)	20 kA
Short-circuit current rating (SCCR)	5 kA

UL connection data

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

Standards and Regulations

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

Environmental Product Compliance

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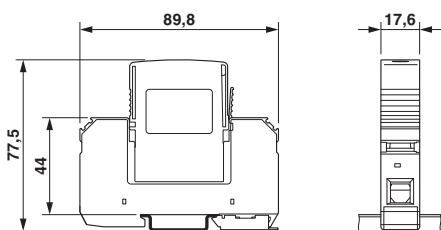
Technical data

Environmental Product Compliance

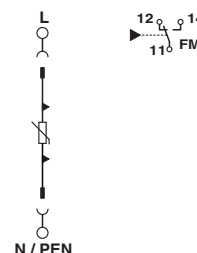
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

Dimensional drawing



Circuit diagram



The figure shows the circuit diagram for a version with remote indicator contact

Approvals

Approvals

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UL Recognized / cUL Recognized / KEMA-KEUR / VDE Zeichengenehmigung / EAC / CCA / IECEE CB Scheme / cULus Recognized

Ex Approvals

Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
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cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
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KEMA-KEUR		http://www.dekra-certification.com	2158241.01
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Approvals

VDE Zeichengenehmigung		http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx	40037097
EAC			RU C- DE.A*30.B01561
CCA			DE1-34244
IECEE CB Scheme		http://www.iecee.org/	DE1-51927
cULus Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	

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