

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 75/12.5/1+1V - 2801150

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Universal varistor-based plug-in lightning/surge arrester for 48 V DC applications with grounded return conductor (positive pole), without risk assessment for Lightning Protection Levels III and IV.



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	320.0 g
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	90 mm
Width	35.6 mm
Depth	77.5 mm
Horizontal pitch	2 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))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (half sinus / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

General

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

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Technical data

General

IEC test classification	I / II
	T1 / T2
	T1
	I
EN type	T1 / T2
	T1
Number of ports	One
SPD design	Voltage-limiting type
Mode of protection	L-N
	N-PE
	(L+) - (L-)
	(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 $\pm 10\%$ (TN)
	60 V DC $\pm 10\%$
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	75 V AC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 0.6 mA
Standby power consumption P_C	≤ 90 mVA
Nominal discharge current I_n (8/20) μ s	12.5 kA
Maximum discharge current I_{max} (8/20) μ s	50 kA
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
Total discharge current I_{Total} (8/20) μ s	50 kA
Total discharge current I_{Total} (10/350) μ s	12.5 kA
Short-circuit current rating I_{SCCR}	0.5 kA

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Protective circuit

Voltage protection level U_p	≤ 0.7 kV
Residual voltage U_{res}	≤ 0.7 kV (at I_n)
	≤ 0.65 kV (at 10 kA)
	≤ 0.6 kV (at 5 kV)
	≤ 0.55 kV (at 4 kA)
	≤ 0.55 kV (at 3 kA)
TOV behavior at U_T	208 V AC (5 s / withstand mode)
	100 V DC (5 s / withstand mode)
Response time t_A	≤ 25 ns
Max. backup fuse with branch wiring	160 A (gG)
Max. backup fuse with V-type through wiring	80 A (gG - 16 mm ²)

Connection data

Connection method	Screw connection
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
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm

UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-N)	75 V DC
Maximum continuous operating voltage MCOV (L-G)	75 V DC
Maximum continuous operating voltage MCOV (N-G)	75 V DC
Nominal voltage	60 V AC
Mode of protection	L-N
	L-G
	N-G
Power distribution system	1
Measured limiting voltage MLV (L-N)	2080 V
Measured limiting voltage MLV (L-G)	2080 V
Measured limiting voltage MLV (N-G)	3010 V
Nominal discharge current I_n (L-N)	20 kA
Nominal discharge current I_n (L-G)	20 kA
Nominal discharge current I_n (N-G)	20 kA

UL connection data

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UL connection data

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

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
eCl@ss 9.0	27130802

ETIM

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

Approvals

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UL Recognized / cUL Recognized / cULus Recognized

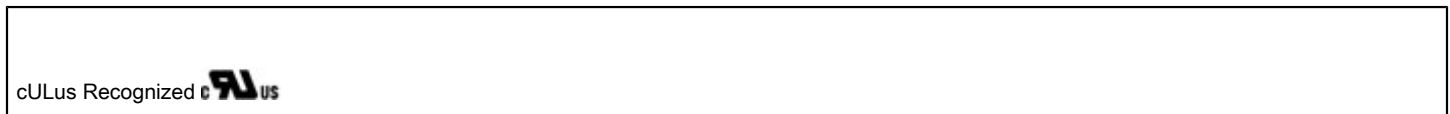
Ex Approvals

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Approvals

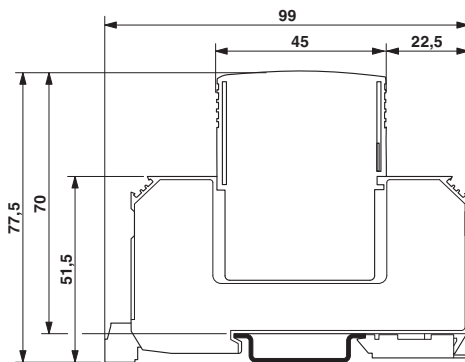
Approvals submitted

Approval details

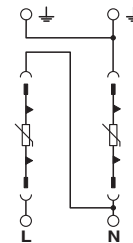


Drawings

Dimensional drawing



Circuit diagram



The illustration shows the dimensional drawing for a version with remote indicator contact