

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 48/12.5/1+1V-FM - 2801533

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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, with remote indication contact.

The figure shows the VAL-MS-T1/T2 75/12.5/1+1V-FM version.



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	280.0 g
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	97 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)

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 48/12.5/1+1V-FM - 2801533

Technical data

Ambient conditions

Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)
-----------------------	--

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	I / II
	T1 / T2
	I
EN type	T1 / T2
IEC power supply system	TN-S
Number of ports	One
SPD design	Combination 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, remote indicator contact

Protective circuit

Nominal voltage U_N	60 V AC $\pm 10\%$ (TN-S)
	60 V DC $\pm 10\%$
	-48 V DC $\pm 10\%$ (RRH)
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	30 kA
Impulse discharge current (10/350) μ s, charge	6.25 As

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 48/12.5/1+1V-FM - 2801533

Technical data

Protective circuit

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}	25 kA
Voltage protection level U_p	≤ 0.4 kV
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 branch wiring	160 A (gG)
Max. backup fuse with V-type through wiring	80 A (gG - 16 mm ²)

Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC
	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1.5 A
	1 A (30 V DC)
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

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

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 48/12.5/1+1V-FM - 2801533

Technical data

Connection data

Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm

UL specifications

SPD Type	1CA
Maximum continuous operating voltage MCOV (L+) - (L-)	100 V DC
Maximum continuous operating voltage MCOV (L+) - G	100 V DC
Maximum continuous operating voltage MCOV (L-) - G	100 V DC
Nominal voltage	60 V DC
Mode of protection	(L+) - (L-)
	(L+) - G
	(L-) - G
Voltage protection rating VPR (L+) - (L-)	400 V
Voltage protection rating VPR (L+) - G	400 V
Voltage protection rating VPR (L-) -G	600 V
Nominal discharge current I_n (L+) - (L-)	20 kA
Nominal discharge current I_n (L+) - G	20 kA
Nominal discharge current I_n (L-) - G	20 kA
Short-circuit current rating (SCCR)	5 kA

UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A
Tightening torque	4 lb _F -in.
Conductor cross section AWG	30 ... 14

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

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 48/12.5/1+1V-FM - 2801533

Classifications

eCl@ss

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

Approvals

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

Ex Approvals

Approvals submitted

Approval details

UL Recognized

Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 48/12.5/1+1V-FM - 2801533

Approvals

cUL Recognized

KEMA-KEUR

VDE Zeichengenehmigung

EAC

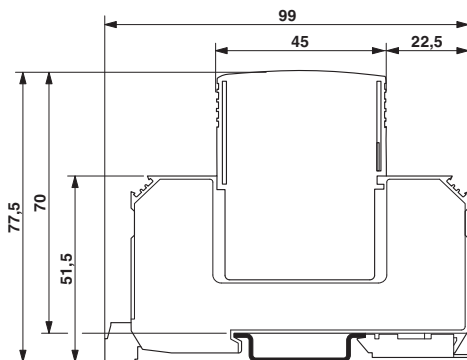
CCA

IECEE CB Scheme

cULus Recognized

Drawings

Dimensional drawing



Circuit diagram

