

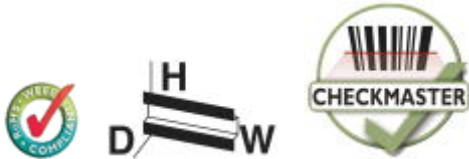
Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 48/12.5/1+1V-FM - 2801533

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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, 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 GRM
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
	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Altitude	≤ 2000 m (NN)

General

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Technical data

General

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	1
Surge protection fault message	Optical, remote indicator contact
Direction of action	L-L / L-PE

Protective circuit

IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
Nominal voltage U_N	60 V AC
	60 V DC
	- 48 V DC (RRH)
Maximum continuous operating voltage U_C	75 V AC
	100 V DC
U_T (TOV-proof)	100 V AC (5 s)
	130 V DC (5 s)
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}	≤ 0.6 mA
Standby power consumption P_C	≤ 90 mVA
Max. discharge current I_{max} (8/20) μ s	30 kA
Nominal discharge current I_n (8/20) μ s	12.5 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
Voltage protection level U_p	≤ 0.4 kV
Residual voltage	≤ 0.4 kV
	≤ 0.35 kV (at 10 kA)
	≤ 0.3 kV (at 5 kA)
	≤ 0.25 kV (at 3 kA)

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Protective circuit

	≤ 0.275 kV (at 4 kA)
Response time	≤ 25 ns
Max. backup fuse with branch wiring	160 A (gL/gG)
Max. backup fuse with V-type through wiring	80 A (gL / gG)
Short-circuit resistance I _p with max. backup fuse (effective)	25 kA

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
	30 lb _F -in. (UL)
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
AWG conductor cross section	2 ... 10 (UL)
Tightening torque	30 lb _F -in. (UL)

Remote indicator contact

Switching function	PDT, 1-pos.
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
	4 lb _F -in. (UL)
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

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Remote indicator contact

AWG conductor cross section	30 ... 14 (UL)
Maximum operating voltage U_{max} AC	250 V AC
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 61643-11 2011
	EN 61643-11 2012
	UL 1449 ed. 3

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 3.0	EC000941
ETIM 4.0	EC000381
ETIM 5.0	EC000943

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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Approvals


Approvals


UL Recognized / cUL Recognized / KEMA-KEUR / VDE Zeichengenehmigung / CCA / IEC EE CB Scheme / cULus Recognized


Ex Approvals

Approvals submitted

Approval details

UL Recognized 


cUL Recognized 

KEMA-KEUR 

VDE Zeichengenehmigung 

CCA

IECEE CB Scheme 

cULus Recognized 

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Drawings

Circuit diagram

