

## 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).

### Key commercial data

Packing unit	1 pc
Custom tariff number	85363030
Country of origin	Germany

### Technical data

#### Dimensions

Height	90 mm
Width	17.5 mm
Depth	77.5 mm
Horizontal pitch	1 Div.

#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Altitude	≤ 2000 m (NN)

#### 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
Surge protection fault message	Optical
Direction of action	L-N / L-PEN

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## Technical data

### Protective circuit

IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
Nominal voltage $U_N$	60 V AC/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)
Residual current $I_{PE}$	$\leq 0.6$ mA
Standby power consumption $P_C$	$\leq 90$ mVA
Max. discharge current $I_{max}$ (8/20) $\mu$ s	30 kA
Nominal discharge current $I_n$ (8/20) $\mu$ s	12.5 kA
Impulse discharge current (10/350) $\mu$ s charge	6.25 As
Impulse discharge current (10/350) $\mu$ s, specific energy	39 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu$ s, peak value $I_{imp}$	12.5 kA
Voltage protection level $U_p$	$\leq 0.4$ kV
Voltage protection level $U_p$ (L+) - (L-)	$\leq 0.4$ kV
Voltage protection level $U_p$ (L+/L-) - PE	$\leq 0.4$ kV
Residual voltage	$\leq 0.4$ kV
	$\leq 0.35$ kV (at 10 kA)
	$\leq 0.3$ kV (at 5 kA)
	$\leq 0.25$ kV (at 3 kA)
Residual voltage (L+) - (L-)	$\leq 0.4$ kV
Residual voltage (L+/L-) - PE	$\leq 0.4$ kV
Response time	$\leq 25$ 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

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## Technical data

### Connection, protective circuit

Tightening torque	4.5 Nm
	30 lb <sub>F</sub> -in. (UL)
Stripping length	16 mm
Conductor cross section stranded min.	1.5 mm <sup>2</sup>
Conductor cross section stranded max.	25 mm <sup>2</sup>
Conductor cross section solid min.	1.5 mm <sup>2</sup>
Conductor cross section solid max.	35 mm <sup>2</sup>
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 <sub>F</sub> -in. (UL)

### 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 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000381
ETIM 5.0	EC000381

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610

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## Classifications

### UNSPSC

UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## Approvals

### Approvals

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### Approvals

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

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### Ex Approvals

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### Approvals submitted

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## Approval details

UL Recognized

cUL Recognized

KEMA-KEUR

VDE Zeichengenehmigung

CCA

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### Approvals

