

# Lightning/surge arrester type 1/2 - VAL-MS-T1/T2 175/12.5/3+0-FM - 2800672

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Universal varistor-based plug-in lightning/surge arrester for 3-phase power supply networks with common N and PE (4-conductor system: L1, L2, L3, PEN), with remote indication contact.

## Product Features

- ✓ With or without floating remote indication contact
- ✓ Plugs can be checked with CHECKMASTER
- ✓ 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
- ✓ Mechanical coding of all slots
- ✓ Thermal disconnect device for each individual plug



## Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	480.0 GRM
Custom tariff number	85363030
Country of origin	Germany

## Technical data

### Dimensions

Height	99 mm
Width	53.4 mm
Depth	77.5 mm
Horizontal pitch	3 Div.

### Ambient conditions

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## Technical data

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C

### General

IEC power supply system	TN-C
Housing material	PBT / PA
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	EN 60664-1
	EN 61643-11
Mounting type	DIN rail: 35 mm
Type	DIN rail module, two-section, divisible
Number of positions	3
Surge protection fault message	Optical, remote indicator contact
Direction of action	3L-PEN

### Protective circuit

IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
Nominal voltage $U_N$	120 V AC
Maximum continuous operating voltage $U_C$	175 V AC
Maximum continuous operating voltage $U_C$ (L-PEN)	175 V AC
$U_T$ (TOV-proof)	208 V AC (5 s/L-PEN)
Nominal frequency $f_N$	50 Hz (60 Hz)
Rated load current $I_L$	80 A (with serial 16mm <sup>2</sup> through wiring)
Residual current $I_{PE}$	≤ 800 μA
Standby power consumption $P_C$	≤ 140 mVA
Max. discharge current $I_{max}$ (8/20) μs maximum (L-PEN)	150 kA (3 x L)
	50 kA
Nominal discharge current $I_n$ (8/20) μs (L-PEN)	37.5 kA (3 x L)
	12.5 kA
Impulse discharge current (10/350) μs charge	18.75 As
Impulse discharge current (10/350) μs, specific energy	352 kJ/Ω
Impulse discharge current (10/350) μs, peak value $I_{imp}$	37.5 kA
Impulse discharge current (10/350) μs charge	6.25 As

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### Protective circuit

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 (1-pos.)
Voltage protection level $U_p$	$\leq 0.8$ kV
Voltage protection level $U_p$ (L-PEN)	$\leq 0.7$ kV
Residual voltage (L-PEN)	$\leq 0.7$ kV (at 10 kA)
	$\leq 0.6$ kV (at 5 kA)
	$\leq 0.55$ kV (at 3 kA)
	$\leq 0.8$ kV
Response time	$\leq 25$ ns
Response time (L-PEN)	$\leq 25$ ns
Max. backup fuse with branch wiring	160 A (gL/gG)
Max. backup fuse with V-type through wiring	80 A (gL/gG / with 16 mm <sup>2</sup> )
Short-circuit resistance $I_p$ with max. backup fuse (effective)	25 kA <sub>rms</sub>

### 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
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

### Remote indicator contact

Connection name	Remote fault indicator contact
Switching function	PDT, 1-pos.
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section stranded min.	0.14 mm <sup>2</sup>

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### Remote indicator contact

Conductor cross section stranded max.	1.5 mm <sup>2</sup>
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	28
Conductor cross section AWG/kcmil max	16
Maximum operating voltage U <sub>max</sub> AC	250 V AC
Max. operating current I <sub>max</sub>	1.5 A AC (250 V AC)
	1.5 A DC (30 V DC)

### Standards and Regulations

Standards/regulations	IEC 61643-1 2005
	EN 61643-11/A11 2007

## 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
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

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## Approvals

### Approvals

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#### Approvals

KEMA-KEUR / GL / UL Recognized / cUL Recognized / ÖVE / CCA / IEC EE CB Scheme / cULus Recognized

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#### Ex Approvals

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#### Approvals submitted


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## Approval details

KEMA-KEUR 

GL

UL Recognized 

cUL Recognized 

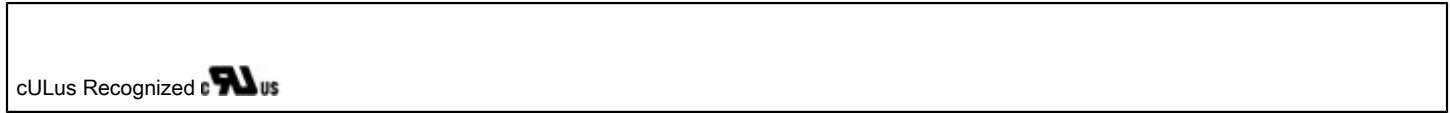
ÖVE 

CCA

IECEE CB Scheme 

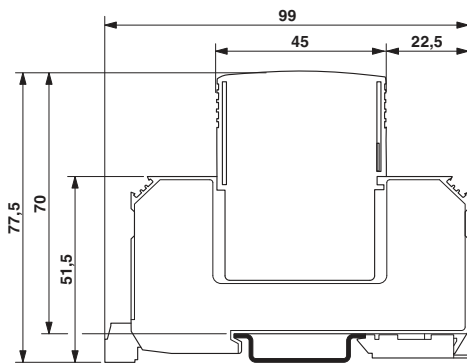
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## Approvals



## Drawings

Dimensioned drawing



Circuit diagram

