


# VAL-MS-T1/T2 175/12.5/1+0-FM

Order No.: 2801044



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Universal varistor-based plug-in lightning arrester for single-phase power supply networks with common N and PE (2-conductor system: L1, PEN), for Lightning Protection Levels III and IV, with remote indication contact.

Commercial data	
EAN	4  046356 698122
Note	Made-to-order
sales group	J004
Pack	1 Pcs.
Customs tariff	85363030
Gross weight in pieces	0.222222 KG
Net weight per piece	0.222222 KG

#### Product notes

WEEE/RoHS-compliant since:  
09/13/2011



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Technical data	
<b>Standards</b>	
Housing material	PBT / PA
Inflammability class according to UL 94	V0
Standards for air and creepage distances	EN 60664-1
	EN 61643-11

Degree of protection	IP20
Mounting type	DIN rail: 35 mm
Design	DIN rail module, two-section, divisible
Ambient temperature (operation)	-40 °C ... 80 °C
Message: Surge protection fault	Optical, remote indicator contact
Direction of action	L-N / L-PEN
Width	17.5 mm
Height	99 mm
Depth	77.5 mm
Pitch unit	1 Div.

**Protective circuit**

IEC category	I, II
	T1, T2
EN type	T1, T2
Nominal voltage $U_N$	120 V AC
Arrester rated voltage $U_C$	175 V AC
Arrester rated voltage $U_C$ (L-N)	175 V AC
$U_T$ (TOV-proof)	208 V AC (5 s)
Nominal frequency $f_N$	50 Hz (60 Hz)
Nominal load current $I_L$	80 A (with serial 16mm <sup>2</sup> through wiring)
Ground conductor current $I_{PE}$	≤ 800 μA
Standby power consumption $P_C$	≤ 140 mVA
Max. discharge surge current $I_{max}$ (8/20) μs maximum (L-PEN)	50 kA
Nominal discharge surge current $I_n$ (8/20) μs (L-PEN)	12.5 kA
Lightning test current (10/350) μs, charge	6.25 As
Lightning test current (10/350) μs, specific energy	39.00 kJ/Ω
Lightning test current (10/350) μs, peak value $I_{imp}$	12.5 kA
Protection level $U_P$ (L-N)	≤ 0.8 kV
	≤ 1.5 kV (30 kA - 8/20μs)
Residual voltage (L-N)	≤ 0.8 kV
	≤ 0.7 kV (at 10 kA)
	≤ 0.6 kV (at 5 kA)
	≤ 0.55 kV (at 3 kA)

Response time	≤ 25 ns
Response time (L-N)	≤ 25 ns
Max. required backup fuse with branch wiring	160 A (gL/gG)
Max. required backup fuse with V-type through wiring	80 A (gL/gG / with 16 mm <sup>2</sup> )
Short-circuit resistance I <sub>p</sub> 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**

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>
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 $I_{\max}$	1.5 A AC (250 V AC)
	1.5 A DC (30 V DC)

### Standards

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

### Certificates / Approvals

Certification

Certifications applied for:

Certification Ex:

### Accessories

Item	Designation	Description
<b>General</b>		
2749880	DK-BIC-35	Feed-through terminal block for VAL and FLT applications
<b>Marking</b>		
1051993	B-STIFT	Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm
0800763	ZBN 18:SO/CMS	Zack marker strip, white, For terminal block width: 18 mm
2809128	ZBN 18:UNBEDRUCKT	Zack marker strip, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

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