

VAL-MS-T1/T2 335/12.5/3+1-FM-PT - Lightning/surge arrester type 1/2



1266417

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Universal varistor-based plug-in lightning/surge protective device for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), for lightning protection levels III and IV, with remote indication contact. Cables connected via Push-in connection technology.

Your advantages

- Push-in connection technology for easy installation and uniform connection technology in the entire control cabinet
- Time savings when wiring thanks to not having to check the recommended connection torque
- Savings on additional installation materials thanks to through-wiring
- Permanent protective device monitoring due to optional remote indication contact with through-wiring

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Technical data

Product properties

Product type	Arrester combination
Product family	VALVETRAB MS
IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
IEC power supply system	TT
	TN-S
Type	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	Optical, remote indicator contact

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	5 V AC ... 250 V AC
	30 V DC
Operating current	5 mA AC ... 750 mA AC
	1 A DC

Connection data

Connection method	Push-in connection
Stripping length	10 mm ... 12 mm
Conductor cross section rigid	0.5 mm ² ... 10 mm ²
Conductor cross section AWG	20 ... 8
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm ² ... 6 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm ² ... 10 mm ²

Remote fault indicator contact

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	30 ... 12

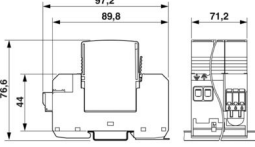
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Dimensions

Dimensional drawing	
Width	71.2 mm
Height	97.2 mm
Depth	76.6 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 Div.

Material specifications

Color (Base element)	gray (RAL 7042)
Color (Male connector)	light grey (RAL 7035)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6/PBT
Material group	I
Housing material	PA 6.6 PBT

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Direction of action	3L-N & N-PE
Nominal voltage U_N	240/415 V AC (TN-S)
	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	335 V AC
Maximum continuous operating voltage U_C (L-PE)	335 V AC
Maximum continuous operating voltage U_C (N-PE)	264 V AC
Rated load current I_L	32 A (at 6 mm ²)
	40 A (at 10 mm ²)
Residual current I_{PE}	≤ 5 μA
Standby power consumption P_C	≤ 810.00 mVA
Nominal discharge current I_n (8/20) μs (L-N)	12.5 kA

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Nominal discharge current I_n (8/20) μ s (L-PE)	12.5 kA
Nominal discharge current I_n (8/20) μ s (N-PE)	50 kA
Maximum discharge current I_{max} (8/20) μ s	50 kA
Impulse discharge current (10/350) μ s (L-N), charge	6.25 As
Impulse discharge current (10/350) μ s (L-N), specific energy	39 kJ/ Ω
Impulse discharge current (10/350) μ s (L-N), peak current value I_{imp}	12.5 kA
Impulse discharge current (10/350) μ s (L-PE), charge	6.25 As
Impulse discharge current (10/350) μ s (L-PE), specific energy	39 kJ/ Ω
Impulse discharge current (10/350) μ s (L-PE), peak current value I_{imp}	12.5 kA
Impulse discharge current (10/350) μ s (N-PE), charge	25 As
Impulse discharge current (10/350) μ s (N-PE), specific energy	625 kJ/ Ω
Impulse discharge current (10/350) μ s (N-PE), peak current value I_{imp}	50 kA
Total discharge current I_{total} (8/20) μ s	50 kA
Total discharge current I_{total} (10/350) μ s	50 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	≤ 1.2 kV ≤ 1.6 kV (30 kA - 8/20 μ s)
Voltage protection level U_p (L-PE)	≤ 2 kV
Voltage protection level U_p (N-PE)	≤ 1.7 kV
Residual voltage U_{res} (L-N)	≤ 1.2 kV (at I_n) ≤ 1.1 kV (at 10 kA) ≤ 1 kV (at 5 kA) ≤ 0.9 kV (at 3 kA)
Residual voltage U_{res} (L-PE)	≤ 2 kV (at I_n) ≤ 1.5 kV (at 10 kA) ≤ 1.2 kV (at 5 kA) ≤ 1.1 kV (at 3 kA)
Residual voltage U_{res} (N-PE)	≤ 0.6 kV (at I_n) ≤ 0.5 kV (at 10 kA) ≤ 0.5 kV (at 5 kA) ≤ 0.4 kV (at 3 kA)
TOV behavior at U_T (L-N)	415 V AC (5 s / withstand mode) 457 V AC (120 min / safe failure mode)
TOV behavior at U_T (L-PE)	415 V AC (5 s / withstand mode) 457 V AC (120 min / safe failure mode) 1657 V AC (200 ms / withstand mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	≤ 25 ns
Response time t_A (L-PE)	≤ 100 ns

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Response time t_A (N-PE)	≤ 100 ns
Max. backup fuse with V-type through wiring	32 A (gG - 6 mm ²)
	35 A (gG - 10 mm ²)
	40 A (MCB C - 10 mm ²)
Max. backup fuse with branch wiring	160 A (gG)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$, $\pm Y$, $\pm Z$)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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