

VAL-MS 230/10 - Type 2 surge arrester



2859013

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Surge voltage arrester consisting of base element and ground connector with high-capacity varistor, for mounting on NS 35/7.5, nominal voltage: 230 V AC, 1-channel.

Commercial data

Item number	2859013
Packing unit	10 pc
Minimum order quantity	10 pc
Product key	CL1321
GTIN	4017918902667
Weight per piece (including packing)	111.12 g
Weight per piece (excluding packing)	109.25 g
Country of origin	TR

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Technical data

Product properties

Product type	Surge arrester
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN
	TT
Type	DIN rail module, two-section, divisible
Number of positions	1
Surge protection fault message	optical

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm (1.5 mm ² ... 16 mm ²)
	4.5 Nm (25 mm ² ... 35 mm ²)
Stripping length	16 mm
Conductor cross-section flexible	1.5 mm ² ... 25 mm ²
Conductor cross-section rigid	1.5 mm ² ... 35 mm ²
Conductor cross-section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross-section flexible	1.5 mm ² ... 16 mm ²

Dimensions

Dimensional drawing	
Width	17.6 mm
Height	89.8 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 Div.

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Material specifications

Color	black (RAL 9005)
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

Protective circuit

Mode of protection	L-N
	L-PEN
Direction of action	1L-N/PE
Nominal voltage U_N	240/415 V AC (TN)
	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	275 V AC
Rated load current I_L	80 A
Protective conductor current I_{PE}	≤ 0.45 mA
Standby power consumption P_C	≤ 120 mVA
Nominal discharge current I_n (8/20) μ s	20 kA
Maximum discharge current I_{max} (8/20) μ s	40 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 1.35 kV
Residual voltage U_{res}	≤ 1.35 kV (at I_n)
	≤ 1.1 kV (at 10 kA)
	≤ 1 kV (at 5 kA)
	≤ 0.9 kV (at 3 kA)
TOV behavior at U_T	335 V AC (5 s / withstand mode)
	440 V AC (120 min / safe failure mode)
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	125 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 ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °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)

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Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-N)	275 V AC
Nominal discharge current I_n (L-N)	20 kA
Mode of protection	L-N
Nominal voltage	230 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	1900 V
SPD Type	4CA

UL connection data

Tightening torque	30 lb _F ·in.
Conductor cross-section AWG	10 ... 2

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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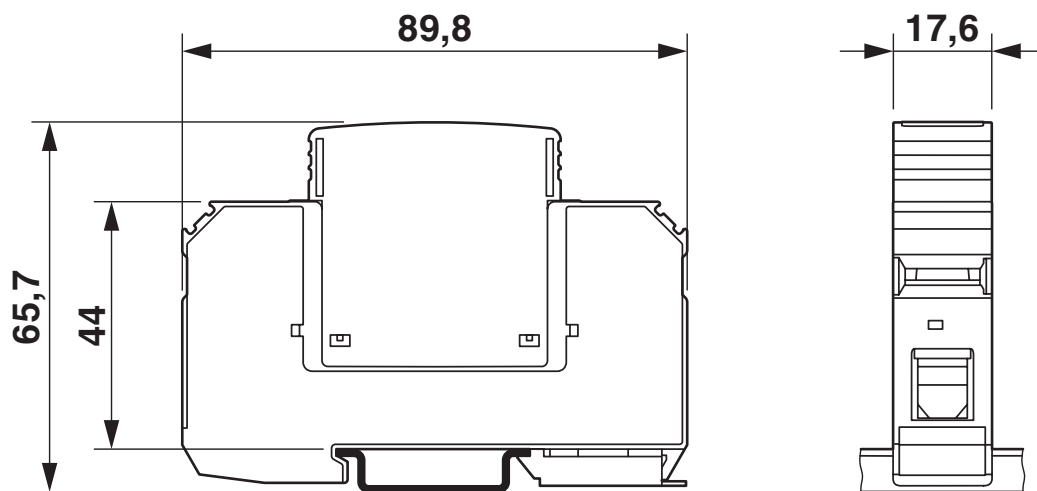
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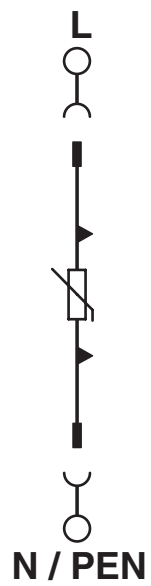


Drawings

Dimensional drawing



Circuit diagram



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Approvals

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UAE-RoHS

Approval ID: 22-09-51250

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Classifications

ECLASS

ECLASS-13.0	27171202
ECLASS-15.0	27171202

ETIM

ETIM 9.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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