

VAL-US 60/1+1/1U/FM - Type 2 surge arrester



2909630

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Universal varistor-based plug-in surge arrester for 48 - 60 V DC applications with two conductors plus ground, with remote indication contact



Your advantages

- Dual-channel, panel mountable surge protective device
- Orthogonal mounting orientation to plug
- Base element with floating remote indication contact
- Rack-mount 1U panel applications

Commercial data

Item number	2909630
Packing unit	1 pc
Minimum order quantity	6 pc
Sales key	CL18
Product key	CL1321
GTIN	4055626370538
Weight per piece (including packing)	222.22 g
Weight per piece (excluding packing)	222.22 g
Customs tariff number	85363010
Country of origin	US

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Technical data

Product properties

Product type	Surge protection for NEMA power supply units
Product family	VALVETRAB MS
IEC test classification	II T2
EN type	T2
IEC power supply system	TN-S
Type	DIN rail module, two-section, divisible
Surge protection fault message	Optical, remote indicator contact
Number of ports	One

Insulation characteristics

Pollution degree	2
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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 125 V AC (UL) 125 V DC (200 mA DC)
Operating current	5 mA AC ... 1.5 A 1 A (UL) 1 A (30 V DC)

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	2.5 Nm ... 3 Nm 22 lb _F -in. ... 26.5 lb _F -in. (UL)
Stripping length	16 mm
Conductor cross-section flexible min.	1.5 mm ²
Conductor cross-section flexible max.	25 mm ²
Conductor cross-section, rigid min.	1.5 mm ²
Conductor cross-section, rigid max.	35 mm ²
Conductor cross-section AWG	15 ... 2 10 ... 2 (UL)

Remote fault indicator contact

Connection method	Push-in spring connection
Stripping length	6 mm

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Conductor cross-section flexible min.	0.2 mm ²
Conductor cross-section flexible max.	0.5 mm ²
Conductor cross-section, rigid min.	0.14 mm ²
Conductor cross-section, rigid max.	0.5 mm ²
Conductor cross-section AWG	24 ... 20 (UL)

Dimensions

Dimensional drawing	
Width	70.6 mm
Height	40.6 mm
Rack unit	1 U
Depth	85.6 mm

Material specifications

Color	gray (RAL 7042)
	gray (RAL 7042)
Flammability rating according to UL 94	V-0
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
	N-PE
Direction of action	L-N & L(N)-PE
Nominal voltage U_N	60 V AC $\pm 10\%$ (TN-S)
	-48 V DC $\pm 10\%$ (RRH)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	75 V AC
	100 V DC
Rated load current I_L	80 A
Protective conductor current I_{PE}	≤ 0.45 mA
Standby power consumption P_C	≤ 35 mVA
Nominal discharge current I_n (8/20) μ s	15 kA
Maximum discharge current I_{max} (8/20) μ s	40 kA
Short-circuit current rating I_{SCCR}	25 kA

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Voltage protection level U_p	≤ 0.55 kV
Residual voltage U_{res}	≤ 0.55 kV (at I_n)
	≤ 0.425 kV (at 10 kA)
	≤ 0.325 kV (at 5 kA)
	≤ 0.275 kV (at 3 kA)
TOV behavior at U_T	100 V AC (5 s / withstand mode)
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A AC (gG - 16 mm ²)
Max. backup fuse with branch wiring	160 A AC (gG)

Additional technical data

Maximum discharge current I_{max} (8/20) μ s	40 kA
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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)	30g (Half-sine / 11 ms / 3x \pm X, \pm Y, \pm Z)
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-N)	75 V AC
	100 V DC
Mode of protection	N-G
	L-N
	(L+) - (L-)
	(L+) - G
(L-) - G	
Nominal voltage	60 V DC
Power distribution system	DC
SPD Type	4CA

UL indicator/remote signaling

Operating voltage	125 V AC
AC operating current	1 A AC

UL connection data

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

Mounting

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Mounting type	Panel mount
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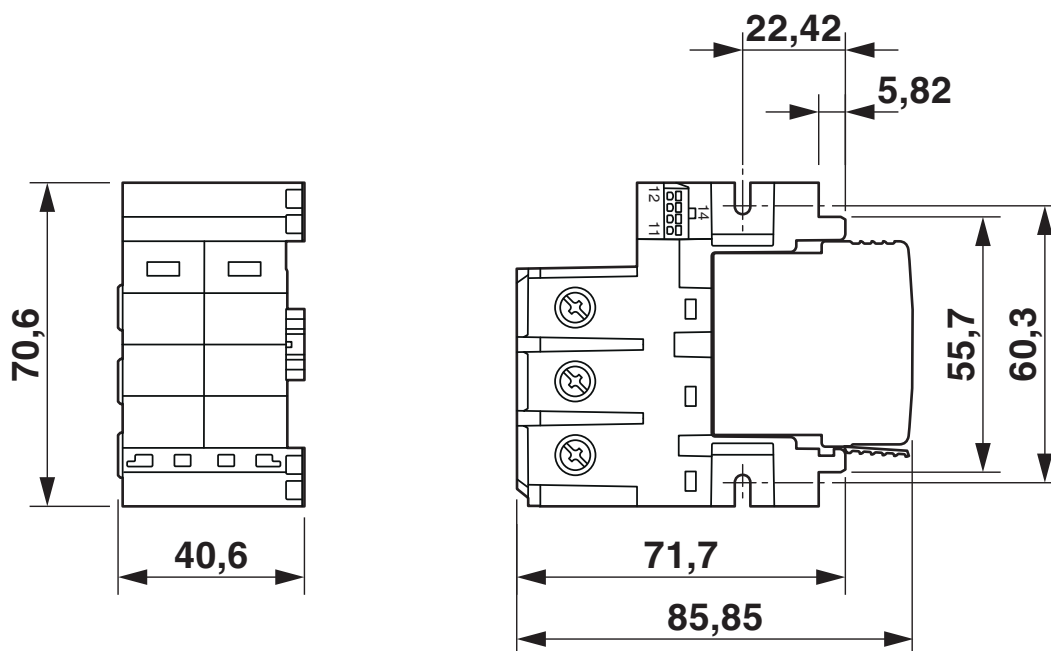


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Drawings

Dimensional drawing



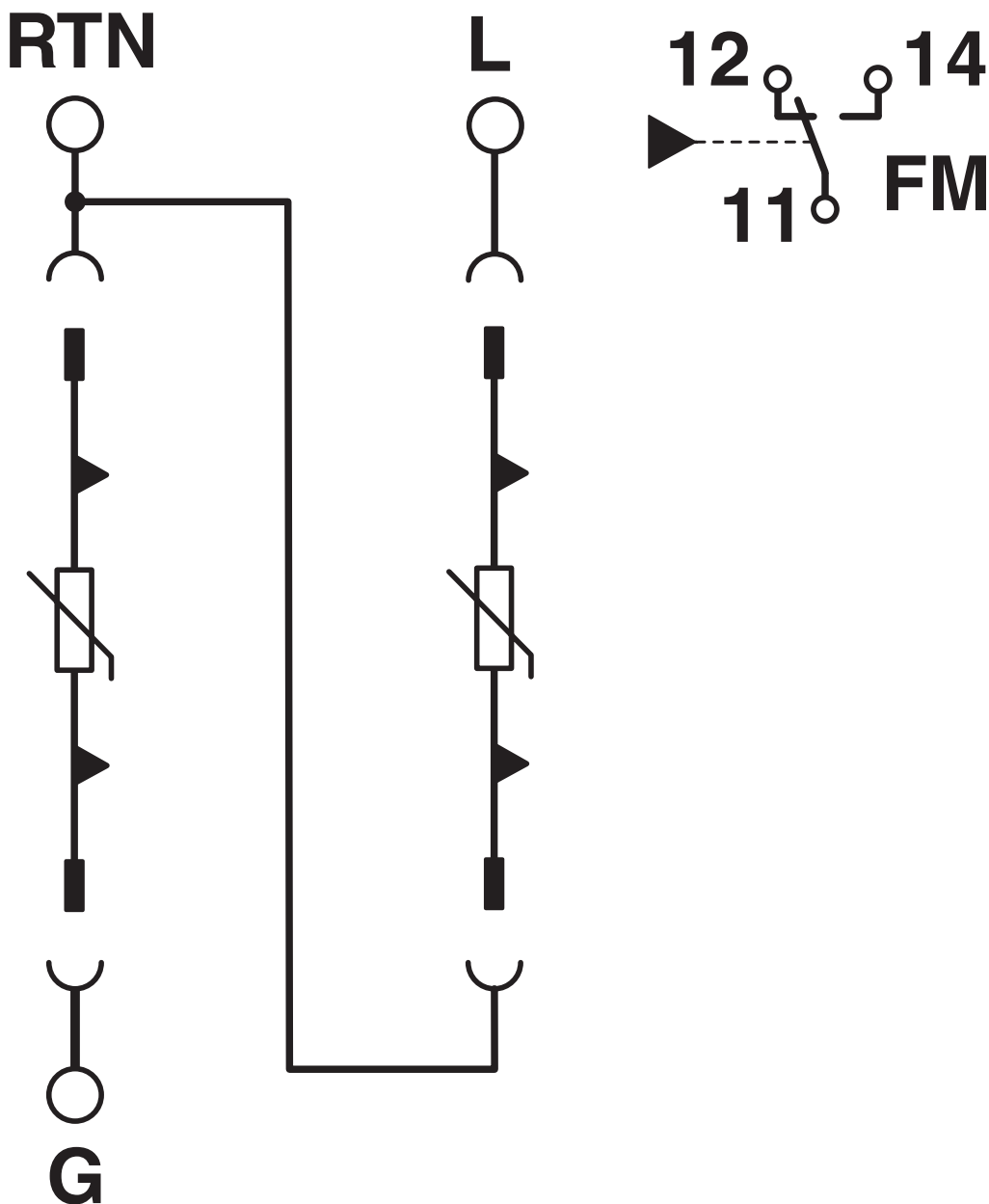
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Circuit diagram



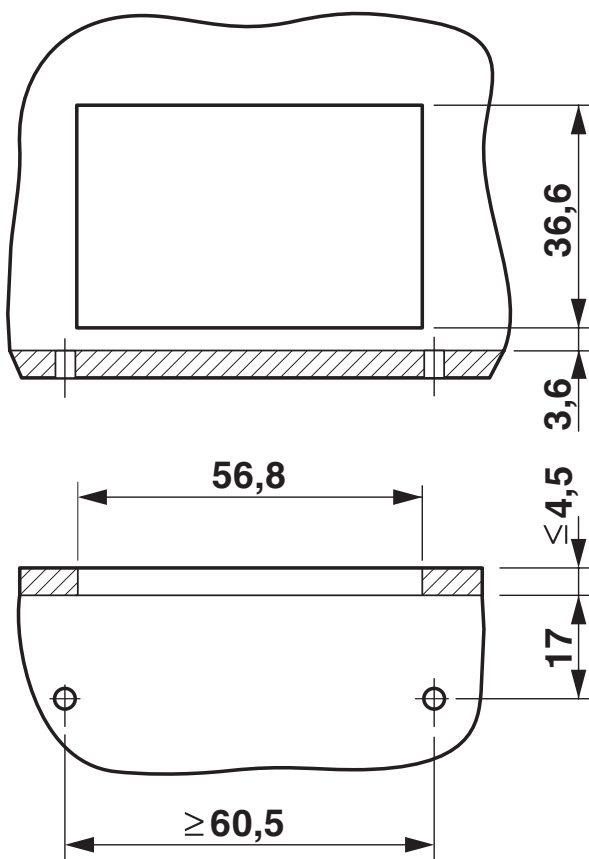
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Drilling plan/solder pad geometry



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Classifications

ECLASS

ECLASS-13.0	27171202
ECLASS-15.0	27171202

ETIM

ETIM 10.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

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