

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

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



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 370538
GTIN	4055626370538

Technical data

Dimensions

Height	40.6 mm
Width	70.6 mm
Depth	85.6 mm
Height unit	1 U

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 (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)

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Ambient conditions

Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)
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General

IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-S
Mode of protection	L-N
	N-PE
Mounting type	Panel mount
Color	gray
Housing material	PA 6.6
	PBT
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	-48 V DC $\pm 10\%$ (RRH)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	75 V AC
	100 V DC
Rated load current I_L	80 A
Residual 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
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)

Indicator/remote signaling

Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC

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Indicator/remote signaling

	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 method	Push-in spring connection
Stripping length	6 mm
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	0.5 mm ²
Conductor cross section solid min.	0.14 mm ²
Conductor cross section solid max.	0.5 mm ²
Conductor cross section AWG	24 ... 20 (UL)

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 solid min.	1.5 mm ²
Conductor cross section solid max.	35 mm ²
Conductor cross section AWG	15 ... 2
	10 ... 2 (UL)

UL specifications

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

UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Conductor cross section AWG	30 ... 14

UL connection data

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Technical data

UL connection data

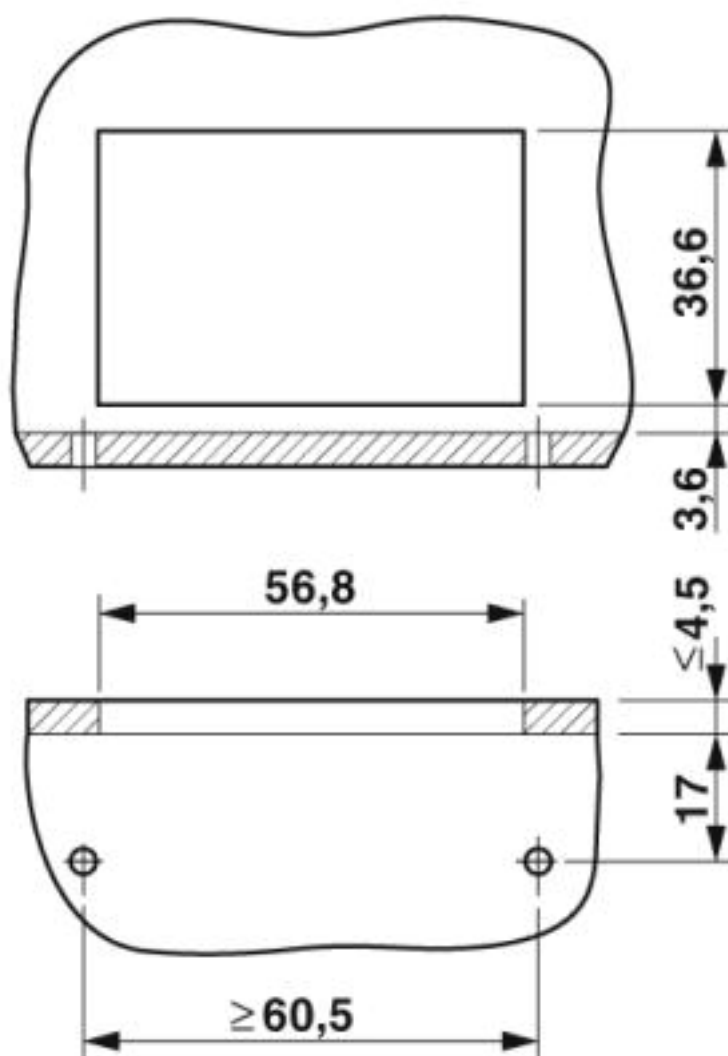
Conductor cross section AWG	10 ... 2
Tightening torque	22 lb _f -in. ... 26.5 lb _f -in.

Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

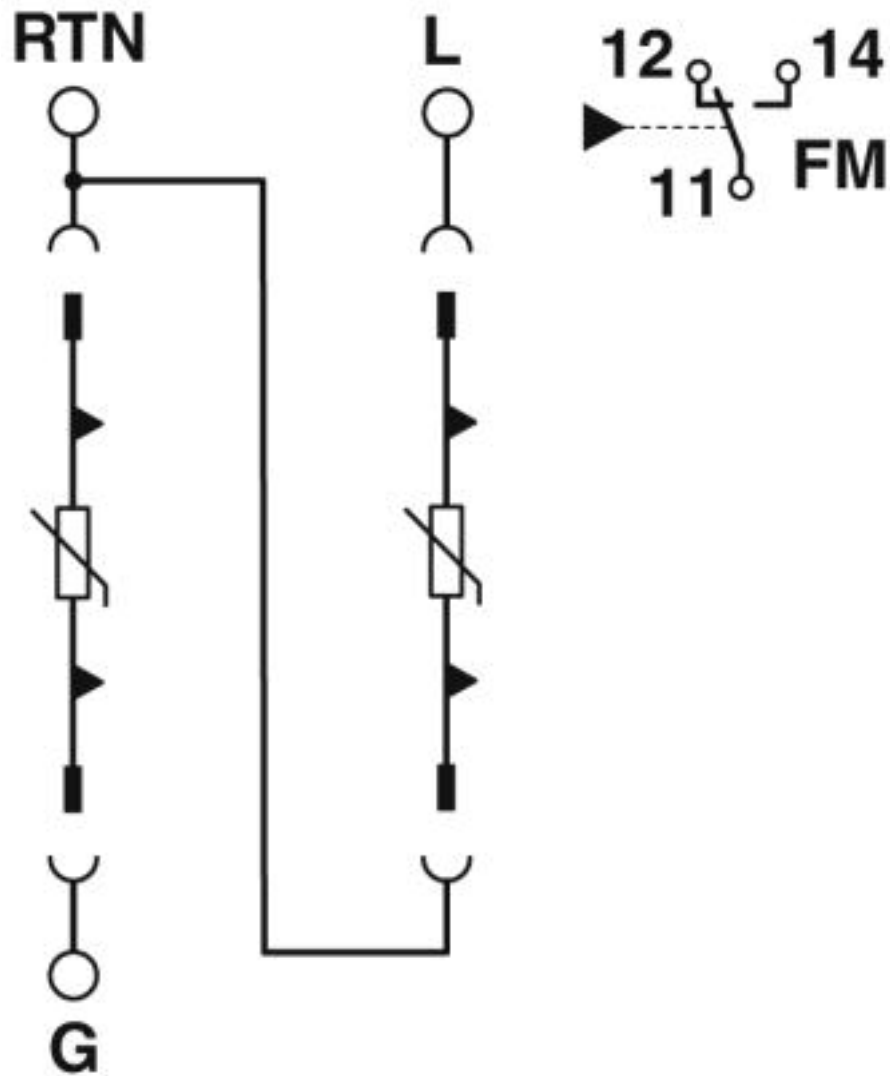
Drawings

Drilling diagram



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Circuit diagram



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Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27130805
eCl@ss 5.1	27130801
eCl@ss 6.0	27130800
eCl@ss 7.0	27130805
eCl@ss 8.0	27130805
eCl@ss 9.0	27130805

ETIM

ETIM 5.0	EC000941
ETIM 6.0	EC000941
ETIM 7.0	EC000941

UNSPSC

UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

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Accessories

Accessories

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, Horizontal: Grounding symbol, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, Strip, white, labeled, Horizontal: L1, L2, L3, N, GND, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Spare parts

Type 2 surge protection plug - VAL-US-48/40-P - 2910333



UL Recognized type 2 SPD and IEC type 2 surge protection plug with a varistor and thermal disconnect for use with VAL-US base elements, mechanical and visual fault warning

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Accessories

Base element - VAL-MS BE/1+1/1U/FM - 2909628



Universal plug-in surge arrester base for up to 240 V applications with two conductors plus ground, with remote indication contact

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