

VAL-US 60/2+0/1U/FM - Type 2 surge protection device

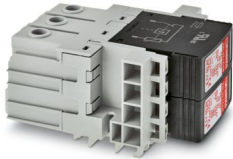


2907043

<https://www.phoenixcontact.com/us/products/2907043>

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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	2907043
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
GTIN	4055626248981
Weight per piece (including packing)	222.222 g
Weight per piece (excluding packing)	222.222 g
Customs tariff number	85363030
Country of origin	DE

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Technical data

Notes

General

Note	For installation into a touch protected cabinet. For applications with $U_C > 500$ V distances at the side and distances at the connection area must be minimum of 5 mm between different active parts including earthed parts.
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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

Data management status

Article revision	03
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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

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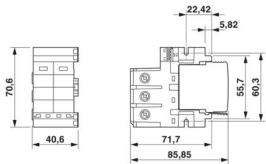
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Conductor cross section flexible max.	25 mm ²
Conductor cross section, rigid min.	1.5 mm ²
Conductor cross section, rigid max.	35 mm ²
Conductor cross section AWG	15 ... 2
	10 ... 2 (UL)

Remote fault indicator contact

Connection method	Push-in spring connection
Stripping length	6 mm
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)
Flammability rating according to UL 94	V-0
Housing material	PA 6.6
	PBT

Protective circuit

Mode of protection	L-PE
	N-PE
Direction of action	N-PE
	L-PE
Nominal voltage U_N	60 V AC ± 10 % (TN-S)
	60 V DC ± 10 %
	-48 V DC ± 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

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Residual current I_{PE}	$\leq 0.45 \text{ mA}$
Standby power consumption P_C	$\leq 35.00 \text{ mVA}$
Nominal discharge current I_n (8/20) μs	15 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	$\leq 0.55 \text{ kV}$
Residual voltage U_{res}	$\leq 0.55 \text{ kV}$ (at I_n)
	$\leq 0.425 \text{ kV}$ (at 10 kA)
	$\leq 0.325 \text{ kV}$ (at 5 kA)
	$\leq 0.275 \text{ kV}$ (at 3 kA)
TOV behavior at U_T	100 V AC (5 s / withstand mode)
Response time t_A	$\leq 25 \text{ ns}$
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) μs	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	$\leq 2000 \text{ m}$ (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-G
	(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

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UL connection data	
Tightening torque	30 lb _F ·in.
Conductor cross section AWG	10 ... 2

Mounting

Mounting type	Panel mount
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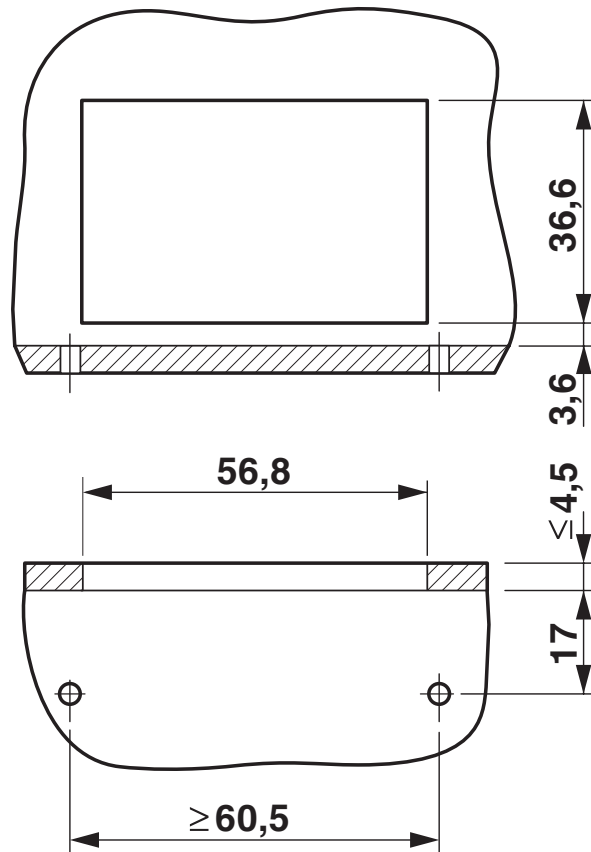
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Drawings

Drilling plan/solder pad geometry



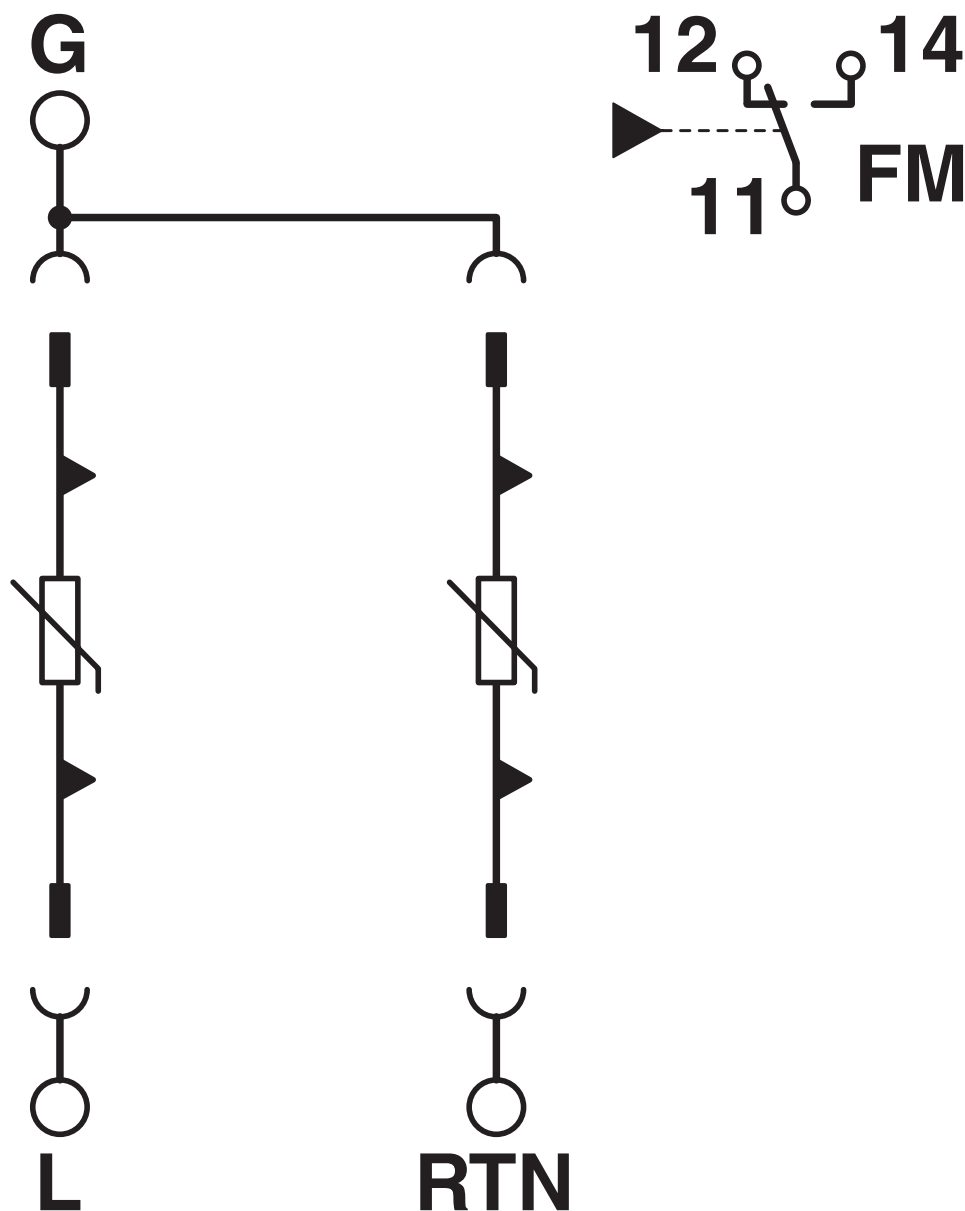
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Circuit diagram

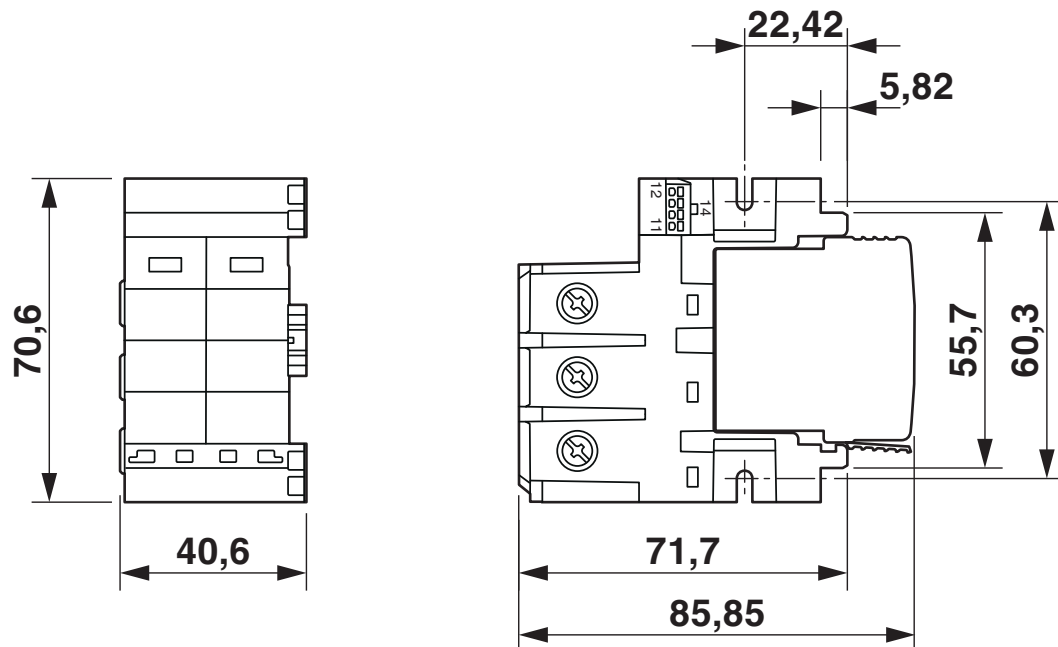


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Dimensional drawing




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Approvals

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cUL Recognized
Approval ID: FILE E 330181



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Classifications

ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171202

ETIM

ETIM 8.0	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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Accessories

MPB F600X16/ 1GS - Wiring bridge

2818355

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Wiring bridge flexible, diameter: 16 mm², with a fork-type cable lug on one side, length: 600 mm

MPB F400X16/ 1GS - Wiring bridge

2818342

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Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 400 mm

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MPB F200X16/ 1GS - Wiring bridge

2818339

<https://www.phoenixcontact.com/us/products/2818339>



Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 200 mm

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

<https://www.phoenixcontact.com/us/products/2749589>



Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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

2749576

<https://www.phoenixcontact.com/us/products/2749576>



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/us/products/2809128>



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

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B-STIFT - Marker pen

1051993

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

SZK PZ2 VDE - Screwdriver

1206463

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Screwdriver, PZ crosshead, VDE insulated, size: PZ 2 x 100 mm, 2-component grip, with non-slip grip

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

2910333

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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

VAL-MS BE/2+0/1U/FM - Base element

2907037

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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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