

# VAL-US-48/40/1+1V-FM - Surge protection device



2910344

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Surge protective device, two channels with remote indicator contact for 48 V DC, 2-wire plus ground

## Your advantages

- Single-channel, DIN-rail mountable protective devices
- Disconnect device on each individual plug
- Mechanical coding of all slots
- Consists of base element and plug
- Optical, mechanical status indication for the individual arresters
- Base element with/without floating remote indication contact

## Commercial data

Item number	2910344
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL17
Product key	CL132U
GTIN	4055626444864
Weight per piece (including packing)	214.3 g
Weight per piece (excluding packing)	190 g
Customs tariff number	85363030
Country of origin	DE

## Technical data

### Product properties

Product type	Surge protection for NEMA power supply units
Product family	VALVETRAB US
IEC test classification	II
	T2
EN type	T2
IEC power supply system	DC
Type	DIN rail module, two-section, divisible
Number of positions	2
Surge protection fault message	Optical, remote indicator contact
Number of ports	One

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

### Electrical properties

#### 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 ... 1.5 A AC
	1 A DC

### Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm (1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> )
	4.5 Nm (25 mm <sup>2</sup> ... 35 mm <sup>2</sup> )
Stripping length	16 mm
Conductor cross-section flexible	1.5 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Conductor cross-section rigid	1.5 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross-section AWG	15 ... 2

#### Remote fault indicator contact

Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>

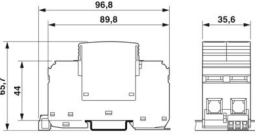
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Conductor cross-section AWG	28 ... 16
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## Dimensions

Dimensional drawing	
Width	35.6 mm
Height	96.8 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 Div.

## 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

## Mechanical properties

### Mechanical data

Open side panel	No
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## Protective circuit

Direction of action	1L-N & N-GND
Nominal voltage $U_N$	60 V AC $\pm 10$ % (TN-S)
	60 V DC $\pm 10$ %
	-48 V DC $\pm 10$ % (RRH)
Maximum continuous operating voltage $U_C$	100 V DC
	75 V AC
Rated load current $I_L$	80 A
Protective conductor current $I_{PE}$	$\leq 0.45$ mA
Nominal discharge current $I_n$ (8/20) $\mu$ s	15 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s	40 kA
Short-circuit current rating $I_{SCCR}$	5 kA
Voltage protection level $U_p$	$\leq 0.55$ kV
Response time $t_A$	$\leq 25$ 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

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## 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 ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approvals

### UL specifications

UL type	type 4
Nominal discharge current $I_n$	20 kA
Maximum Surge Current per Phase	40 kA
Mode of protection	(DC+) - (DC-) (DC+) - 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 <sub>f</sub> -in.
Conductor cross-section AWG	14 ... 2

## Standards and regulations

### Air clearances and creepage distances

Standards/regulations	EN 60664-1 / EN 61643-11
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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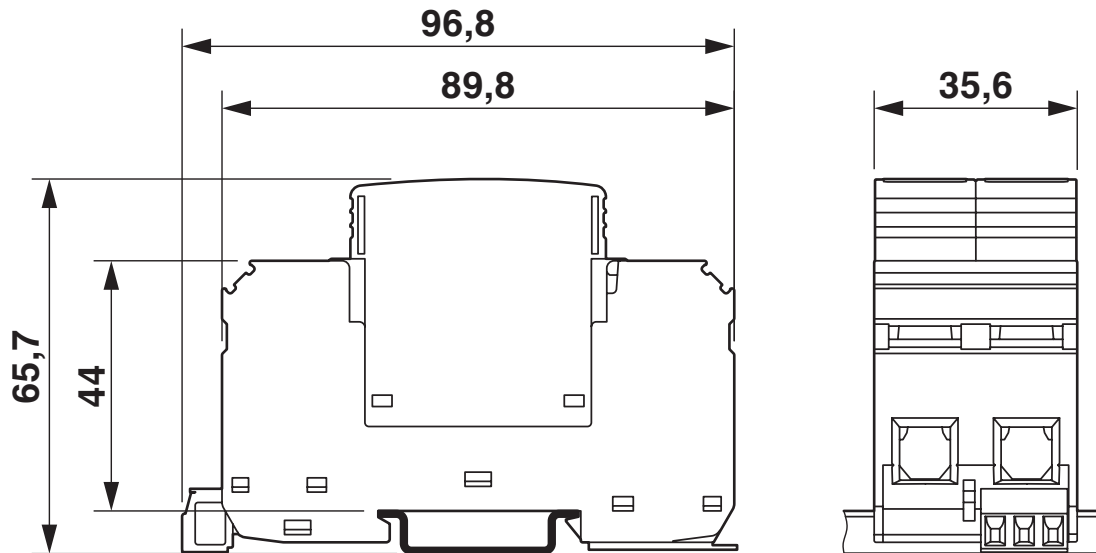


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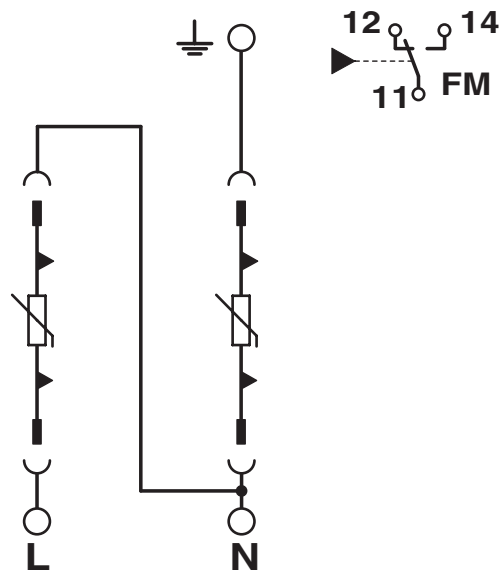
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## Drawings

Dimensional drawing



Circuit diagram



Base marked 'L' and 'N' for AC applications can be connected to '-' and '+' respectively for DC applications.

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2910344>



**cUL Recognized**

Approval ID: FILE E 330181



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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

### 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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