

# VAL-US-277/80/3+1V-FM - Surge protection device



2910379

<https://www.phoenixcontact.com/us/products/2910379>

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Surge protective device, UL Listed type 1 and IEC type 2, four channel with remote indicator contact for 277/480 V AC, 4-wire plus ground.

## Your advantages

- With floating remote indication contact
- UL open terminal listed SPD
- Optical, mechanical status indication for the individual arresters
- Multi-channel type 2 protective devices
- Mechanical coding of all slots
- Plugs can be checked with CHECKMASTER
- Disconnect device on each individual plug
- Secure hold of plugs in the event of high lightning current loads and strong vibrations thanks to new latching

## Commercial data

Item number	2910379
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL17
Product key	CL132U
GTIN	4055626445175
Weight per piece (including packing)	595.4 g
Weight per piece (excluding packing)	564 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	TN-S
Type	DIN rail module, two-section, divisible
Number of positions	4
Surge protection fault message	Optical, remote indicator contact

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

### 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 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	3 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
Connection method	Fork-type cable lug
Conductor cross-section flexible	1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>

### Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm

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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>
Conductor cross-section AWG	28 ... 16

## Dimensions

Dimensional drawing	
Width	71 mm
Height	98.7 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 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

Mode of protection	L-N
	N-PE
Direction of action	3L-N & N-GND
Nominal voltage U <sub>N</sub>	240/415 V AC (TN-S)
	277/480 V AC (TN-S)
Nominal frequency f <sub>N</sub>	50 Hz (60 Hz)
Maximum continuous operating voltage U <sub>C</sub> (L-N)	385 V AC
Maximum continuous operating voltage U <sub>C</sub> (N-PE)	385 V AC
Protective conductor current I <sub>PE</sub>	≤ 600 μA
Nominal discharge current I <sub>n</sub> (8/20) μs	40 kA
Maximum discharge current I <sub>max</sub> (8/20) μs	80 kA
Short-circuit current rating I <sub>SCCR</sub>	25 kA
Voltage protection level U <sub>p</sub> (L-N)	≤ 2 kV
Voltage protection level U <sub>p</sub> (N-PE)	≤ 2 kV
	≤ 2 kV (at I <sub>n</sub> )

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Residual voltage $U_{res}$	$\leq 1.3$ kV (at 10 kA)
	$\leq 1.2$ kV (at 5 kA)
	$\leq 1.15$ kV (at 3 kA)
TOV behavior at $U_T$	480 V AC (5 s / withstand mode)
	457 V AC (120 min / withstand mode)
	530 V AC (safe failure mode)
Response time $t_A$	$\leq 25$ ns
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	$\leq 2000$ 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-L)	750 V AC
Maximum continuous operating voltage MCOV (L-N)	385 V AC
Maximum continuous operating voltage MCOV (L-G)	750 V AC
Maximum continuous operating voltage MCOV (N-G)	385 V AC
Short-circuit current rating (SCCR)	200 kA
Voltage protection rating VPR (L-L)	2500 V
Voltage protection rating VPR (L-N)	1500 V
Voltage protection rating VPR (L-G)	2500 V
Voltage protection rating VPR (N-G)	1200 V
UL type	type 1
Nominal discharge current $I_n$	20 kA
Maximum Surge Current per Phase	80 kA
Mode of protection	L-N
	N-G
	L-G
Nominal voltage	277/480 V AC (Wye)
Power distribution system	Wye
Nominal frequency	50/60 Hz
SPD Type	1

### 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 <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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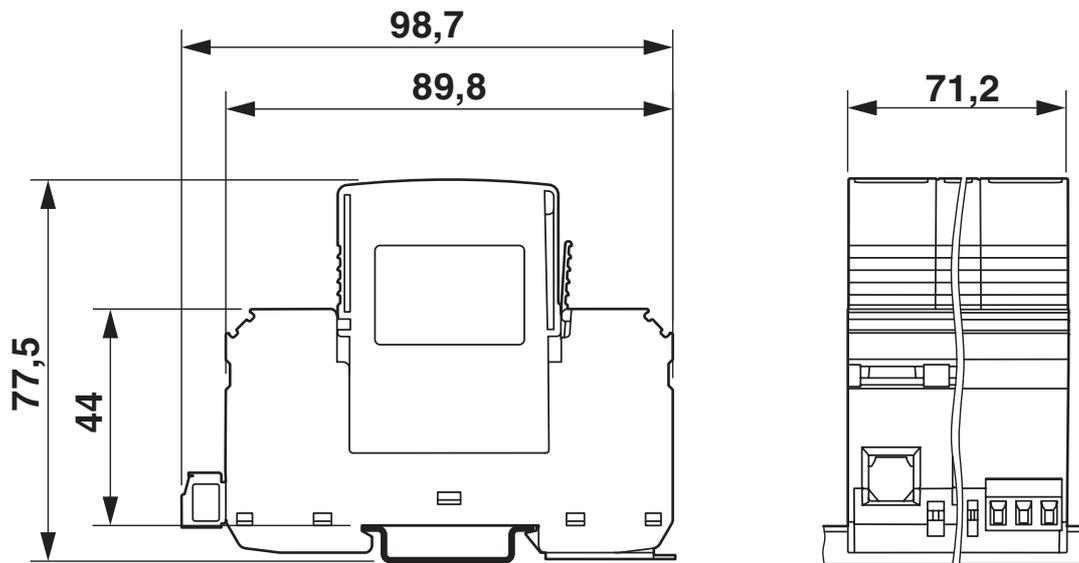


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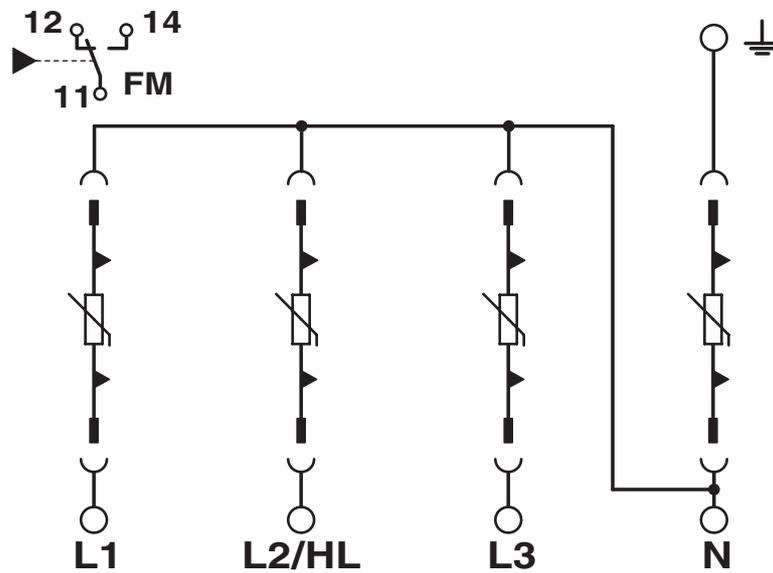
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

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**UL Listed**

Approval ID: FILE E 330181



**cUL Listed**

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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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