VAL-US-SPP-120/50/2+0-R - Surge protection device

1790747

https://www.phoenixcontact.com/us/products/1790747

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Surge protective device, UL Listed type 1 and IEC type 2, for power supply systems with two live conductors for 120/240 V AC, replaceable surge protection plugs with local status indicator (green/red), with plug-in remote signaling.

Your advantages

- Universal surge protective device (SPD) with UL Listed type 1 and IEC type 2: suitable for all common supply system configurations and supply voltages in North America
- Minimal maintenance with replaceable surge protection plugs
- Clear status indication with local optical green/red display and plug-in remote signaling for quick and easy installation
- Simple planning with comprehensive digital data
- Miswiring and touch protection for safe installation

ELEKTROGERÄTE RÜCKNAHME

Commercial data

Item number	1790747
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL17
Product key	CL138U
GTIN	4067923410732
Weight per piece (including packing)	257.9 g
Weight per piece (excluding packing)	257.9 g
Customs tariff number	85363030
Country of origin	DE

Technical data

Product properties

Product type	Surge protection for NEMA power supply units
Product family	VAL-SPP
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-C
Type	DIN rail module, two-section, divisible
Number of positions	2
End-of-life mode	OCM
Surge protection fault message	Optical, remote indicator contact
Number of ports	One

Insulation characteristics

Overvoltage category	III
Pollution degree	3

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)

Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Max. required back-up fuse	1 A (gG)
AC operating voltage	5 V AC ... 250 V AC
AC operating current	5 mA AC ... 1 A AC
DC operating voltage	30 V DC
DC operating current	1 A DC
DC operating voltage	125 V DC
DC operating current	200 mA DC
Insulation type	The product has double/reinforced insulation between the main and auxiliary circuit.

Connection data

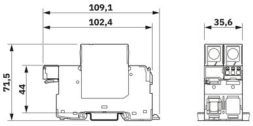
Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm ... 3.5 Nm
Stripping length	18 mm
Conductor cross-section flexible	1.5 mm² ... 35 mm² (without ferrule)
	2x 1.5 mm² ... 16 mm² (2 conductors with the same cross-section)
Conductor cross-section rigid	1.5 mm² ... 50 mm²
	2x 1.5 mm² ... 16 mm² (2 conductors with the same cross-

	section)
Conductor cross-section AWG	15 ... 2
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	1.5 mm² ... 16 mm²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	1.5 mm² ... 35 mm²
	2x 1.5 mm² ... 10 mm² (2 conductors with the same cross-section)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	1.5 mm² ... 25 mm²
	2x 1.5 mm² ... 16 mm² (2 conductors with the same cross-section)
Connection method	Fork-type cable lug
Conductor cross-section flexible	1.5 mm² ... 25 mm²

Remote fault indicator contact

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross-section flexible	0.25 mm² ... 1.5 mm²
Conductor cross-section rigid	0.25 mm² ... 1.5 mm²
Conductor cross-section AWG	24 ... 16
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm²
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm² ... 0.75 mm²

Dimensions

Dimensional drawing	
Width	35.6 mm
Height	109.1 mm
Depth	71.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 HP

Material specifications

Color	gray (RAL 7042)
	light gray (RAL 7035)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6-FR 20 % GF
	PBT
Material group	I
Housing material	PA 6.6-FR 20 % GF
	PBT

Mechanical properties

Mechanical data

Open side panel	No

Protective circuit

Mode of protection	L-PEN
Nominal voltage U_N	120/240 V AC ±10 % (TN-C)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	175 V AC
Rated load current I_L	80 A (25 mm²)
Standby power consumption P_C	≤ 140 mVA
Operating effective current I_C at U_N	≤ 0.8 mA
Nominal discharge current I_n (8/20) µs	20 kA
Short-circuit current rating I_{SCCR}	50 kA
Voltage protection level U_p	≤ 1 kV
Residual voltage U_{res}	≤ 1 kV (at I_n)
TOV behavior at U_T	175 V AC (5 s / withstand mode)
	230 V AC (120 min / safe failure mode)
Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	315 A (gG)

Additional technical data

Short-circuit current rating I_{SCCR}	100 kA

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20C (Installed)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Ambient temperature (assembly)	-5 °C ... 50 °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

Maximum continuous operating voltage MCOV (L-L)	350 V AC
Maximum continuous operating voltage MCOV (L-G)	175 V AC
Short-circuit current rating (SCCR)	200 kA
Voltage protection rating VPR (L-L)	1200 V
Voltage protection rating VPR (L-G)	700 V
Nominal discharge current I_n	20 kA

Maximum Surge Current per Phase	1x 50 kA (IEEE C62.73)
Mode of protection	L-L
	L-G
Nominal voltage	120/240 V AC (Split phase)
Power distribution system	Split phase
Nominal frequency	50/60 Hz
SPD Type	1

UL indicator/remote signaling

Operating voltage	250 V AC
DC operating voltage	30 V DC
AC operating current	5 mA AC ... 1 A AC
DC operating current	1 A DC

UL connection data

Tightening torque	30 lb_f-in.
Conductor cross-section AWG	14 ... 2

Standards and regulations

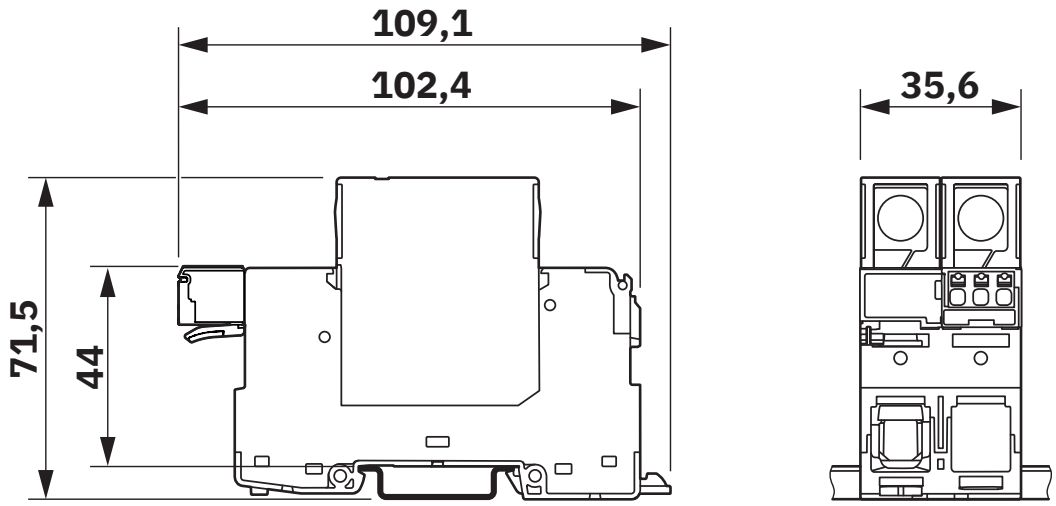
Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012 + A11:2018

Mounting

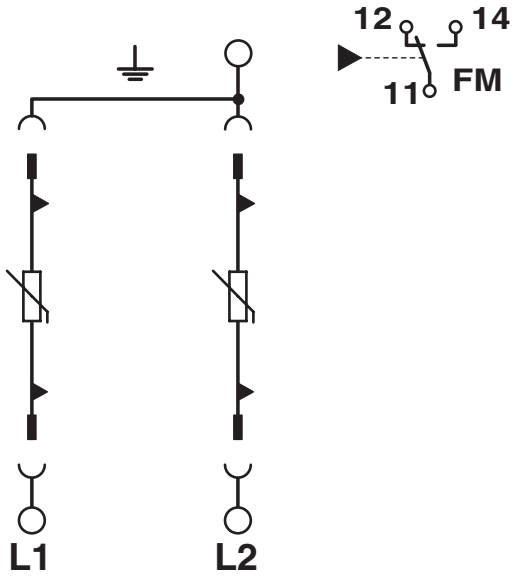
Mounting type	DIN rail: 35 mm

Drawings

Dimensional drawing



Circuit diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1790747

cULus Listed
Approval ID: E330181-20251028

Classifications

ECLASS

ECLASS-13.0	27171202
ECLASS-15.0	27171202

ETIM

ETIM 10.0	EC000941

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride(CAS: 552-30-7)

Phoenix Contact 2026 © - all rights reserved
https://www.phoenixcontact.com

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com