

VAL-US-SPP-277/65/3+1-R - Surge protection device



1790779

<https://www.phoenixcontact.com/us/products/1790779>

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 3-phase power supply systems with neutral conductor for 480Y/277 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

Commercial data

Item number	1790779
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL17
Product key	CL138U
GTIN	4067923410282
Weight per piece (including packing)	520.7 g
Weight per piece (excluding packing)	466.2 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-S
	TT
Type	DIN rail module, two-section, divisible
Number of positions	4
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

VAL-US-SPP-277/65/3+1-R - Surge protection device



1790779

<https://www.phoenixcontact.com/us/products/1790779>

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

Remote fault indicator contact

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross-section flexible	0.25 mm ² ... 1.5 mm ²
Conductor cross-section rigid	0.25 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm ² ... 0.75 mm ²

Dimensions

Dimensional drawing	
Width	71.2 mm
Height	109.1 mm
Depth	71.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 Div.

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

VAL-US-SPP-277/65/3+1-R - Surge protection device



1790779

<https://www.phoenixcontact.com/us/products/1790779>

Mechanical properties

Mechanical data

Open side panel	No
-----------------	----

Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Nominal voltage U_N	277/480 V AC $\pm 10\%$ (TN-S)
	277/480 V AC $\pm 10\%$ (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	385 V AC
Maximum continuous operating voltage U_C (L-PE)	385 V AC
Maximum continuous operating voltage U_C (N-PE)	305 V AC
Rated load current I_L	80 A (25 mm ²)
Protective conductor current I_{PE}	$\leq 5\text{ }\mu\text{A}$
Standby power consumption P_C	$\leq 462\text{ mVA}$
Nominal discharge current I_n (8/20) μs	20 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A
Short-circuit current rating I_{SCCR}	50 kA
Voltage protection level U_p (L-N)	$\leq 1.8\text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 2\text{ kV}$
Voltage protection level U_p (N-PE)	$\leq 1.5\text{ kV}$
Residual voltage U_{res} (L-N)	$\leq 1.8\text{ kV}$ (at I_n)
Residual voltage U_{res} (L-PE)	$\leq 2\text{ kV}$ (at I_n)
Residual voltage U_{res} (N-PE)	$\leq 0.5\text{ kV}$ (at I_n)
TOV behavior at U_T (L-N)	403 V AC (5 s / withstand mode)
	530 V AC (120 min / safe failure mode)
TOV behavior at U_T (L-PE)	1505 V AC (200 ms/withstand mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	$\leq 25\text{ ns}$
Response time t_A (L-PE)	$\leq 100\text{ ns}$
Response time t_A (N-PE)	$\leq 100\text{ ns}$
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

VAL-US-SPP-277/65/3+1-R - Surge protection device



1790779

<https://www.phoenixcontact.com/us/products/1790779>

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)	770 V AC
Maximum continuous operating voltage MCOV (L-N)	385 V AC
Maximum continuous operating voltage MCOV (L-G)	385 V AC
Maximum continuous operating voltage MCOV (N-G)	305 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)	1500 V
Voltage protection rating VPR (N-G)	900 V
Nominal discharge current I_n	20 kA
Maximum Surge Current per Phase	1x 65 kA (IEEE C62.73)
Mode of protection	L-L
	L-N
	L-G
	N-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	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

VAL-US-SPP-277/65/3+1-R - Surge protection device



1790779

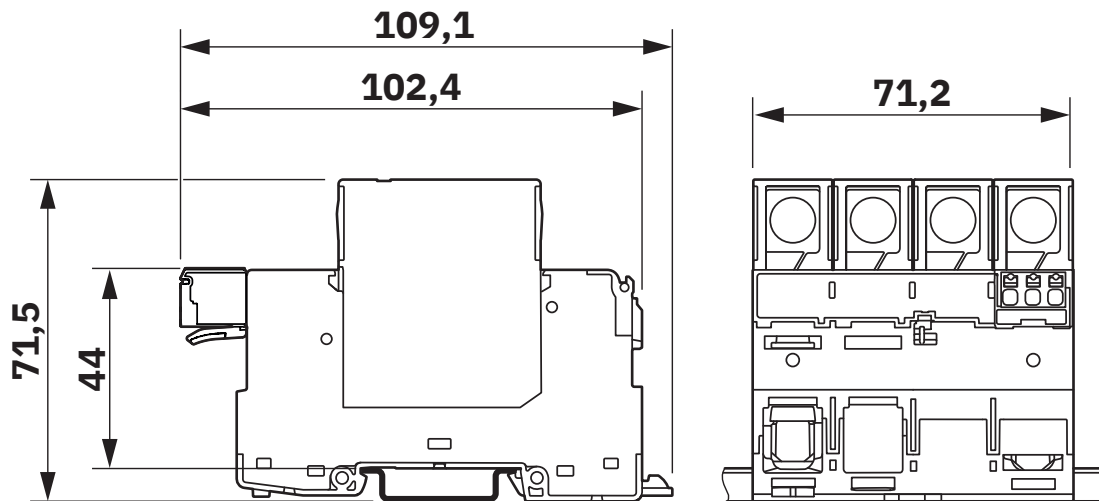
<https://www.phoenixcontact.com/us/products/1790779>

Mounting

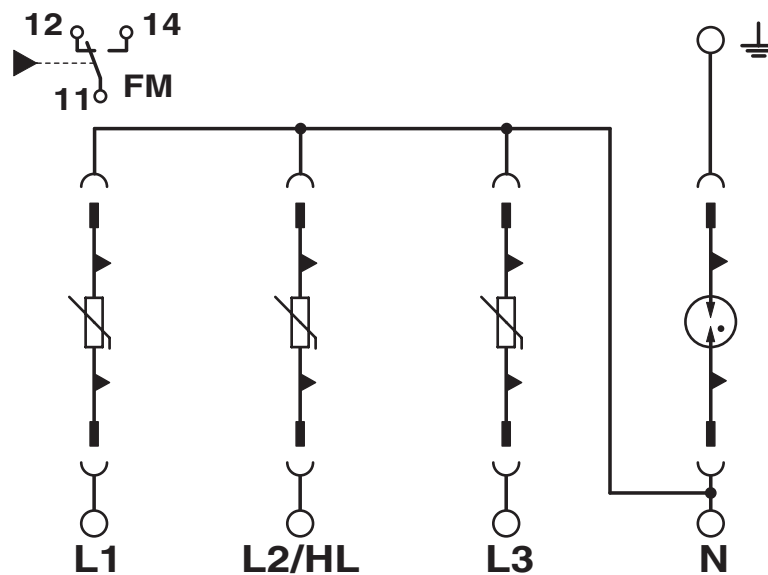
Mounting type	DIN rail: 35 mm
---------------	-----------------

Drawings

Dimensional drawing



Circuit diagram



VAL-US-SPP-277/65/3+1-R - Surge protection device



1790779

<https://www.phoenixcontact.com/us/products/1790779>

Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1790779>



cULus Listed

Approval ID: E330181-20251028

VAL-US-SPP-277/65/3+1-R - Surge protection device



1790779

<https://www.phoenixcontact.com/us/products/1790779>

Classifications

ECLASS

ECLASS-13.0	27171202
ECLASS-15.0	27171202

ETIM

ETIM 10.0	EC000941
-----------	----------

VAL-US-SPP-277/65/3+1-R - Surge protection device



1790779

<https://www.phoenixcontact.com/us/products/1790779>

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