

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

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, single channel with remote indicator contact for 277 V AC.

Your advantages

- With floating remote indication contact
- Type 2 consistent plug-in surge arresters
- Optical, mechanical status indication for the individual arresters
- Multi-channel type 2 arresters
- Mechanical coding of all slots
- Plugs can be checked with CHECKMASTER
- Disconnect device on each individual plug

Commercial Data

Item number	2910377
Packing unit	1 pc
Note	Made to Order (non-returnable)
Sales Key	C06
Product Key	CL132U
Catalog Page	Page 92 (C-4-2019)
GTIN	4055626445151
Weight per Piece (including packing)	185 g
Weight per Piece (excluding packing)	160 g
Customs tariff number	85363030
Country of origin	DE

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Technical Data

Product properties

IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-C
Type	DIN rail module, two-section, divisible
Product type	Surge arrester
Number of positions	1
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)
-------------------------	---------------

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 ² ... 16 mm ²)
	4.5 Nm (25 mm ² ... 35 mm ²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm ² ... 25 mm ²
Conductor cross section solid	1.5 mm ² ... 35 mm ²
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm ² ... 16 mm ²

Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section solid	0.14 mm ² ... 1.5 mm ²

Type 1 surge protection device - VAL-US-277/80/1+0-FM

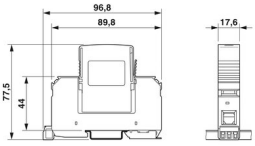


2910377

<https://www.phoenixcontact.com/us/products/2910377>

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

Dimensions

Dimensional drawing	
Width	17.6 mm
Height	98.7 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 Div.

Material specifications

Color	jet 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

Protective circuit

Mode of protection	L-PEN
Direction of action	1L-GND
Nominal voltage U_N	240/415 V AC (TN-C)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	385 V AC
Residual current I_{PE}	$\leq 600 \mu A$
Nominal discharge current I_n (8/20) μs	40 kA
Maximum discharge current I_{max} (8/20) μs	80 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	$\leq 2 kV$
Residual voltage U_{res}	$\leq 2 kV$ (at I_n) $\leq 1.3 kV$ (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) 530 V AC (120 min / safe failure mode)
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)
----------------------	---

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approval data

UL specifications

Short-circuit current rating (SCCR)	200 kA
UL type	type 1
Maximum Surge Current per Phase	80 kA
Mode of protection	L-N L-G
Nominal voltage	277/480 V AC (Single-phase)
Power distribution system	Single phase
Nominal frequency	50/60 Hz
SPD Type	1
AC operating voltage	125 V AC
AC operating current	1 A AC

UL connection data

Tightening torque	30 lb _F ·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
Standards/specifications	EN 61643-11

Mounting

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

Type 1 surge protection device - VAL-US-277/80/1+0-FM

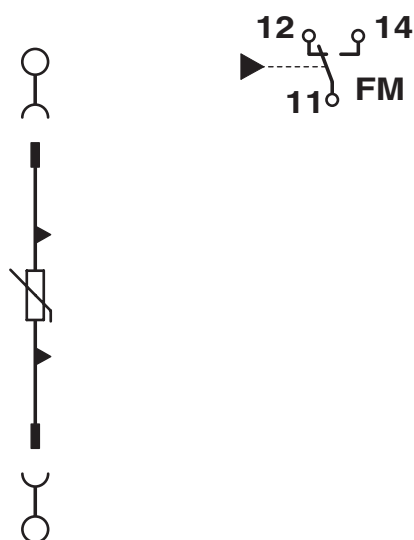


2910377

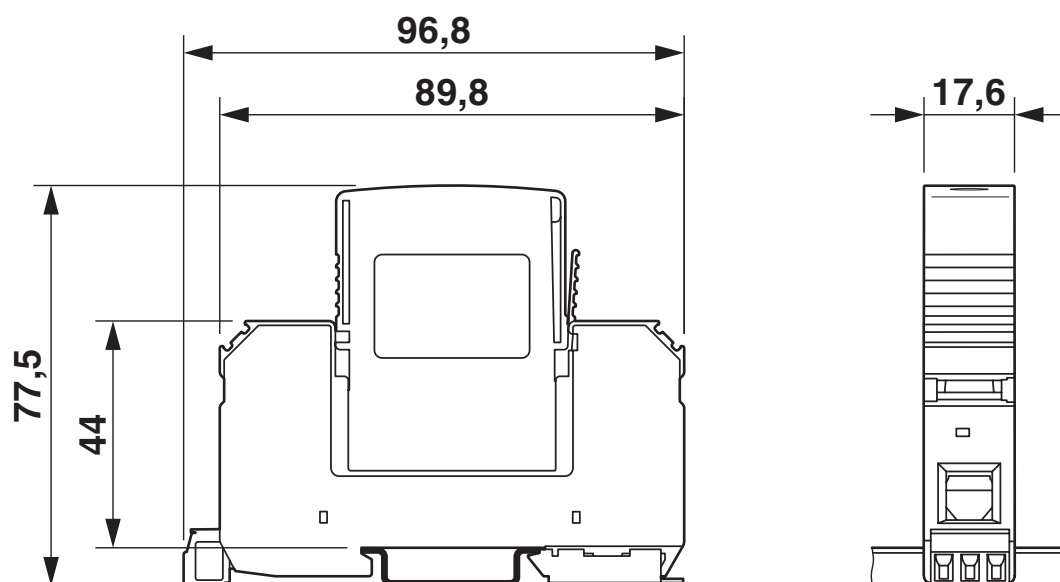
<https://www.phoenixcontact.com/us/products/2910377>

Drawings

Circuit diagram



Dimensional drawing




Type 1 surge protection device - VAL-US-277/80/1+0-FM




2910377

<https://www.phoenixcontact.com/us/products/2910377>

Approvals

**UL Listed**
Approval ID: FILE E 330181

**cUL Listed**
Approval ID: FILE E 330181

cULus Listed

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Classifications

ECLASS

ECLASS-9.0	27130805
ECLASS-10.0.1	27130805
ECLASS-11.0	27130805
ECLASS-12.0	27171202

ETIM

ETIM 8.0	EC000941
----------	----------

UNSPSC

UNSPSC 21.0	39121600
-------------	----------

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Accessories

Wiring bridge

Wiring bridge - MPB F600X16/ 1GS - 2818355

<https://www.phoenixcontact.com/us/products/2818355>



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

Wiring bridge

Wiring bridge - MPB F200X16/ 1GS - 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

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Wiring bridge

Wiring bridge - MPB 18/1-10/1.0.0 - 2830443

<https://www.phoenixcontact.com/us/products/2830443>

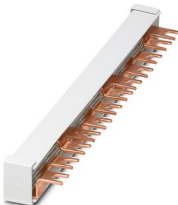


Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 10 pitches with contact sequence 1-0-0

Wiring bridge

Wiring bridge - MPB 18/4-12 - 2809296

<https://www.phoenixcontact.com/us/products/2809296>



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Wiring bridge

Wiring bridge - MPB 18/4- 8 - 2809283

<https://www.phoenixcontact.com/us/products/2809283>

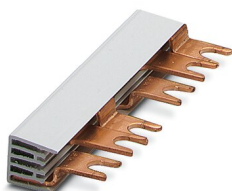


Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.

Wiring bridge

Wiring bridge - MPB 18/3- 6 - 2809241

<https://www.phoenixcontact.com/us/products/2809241>



Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 6-pos.

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Wiring bridge

Wiring bridge - MPB 18/1-57 - 2809238

<https://www.phoenixcontact.com/us/products/2809238>

Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 57-pos.



Wiring bridge

Wiring bridge - MPB 18/1-12 - 2748593

<https://www.phoenixcontact.com/us/products/2748593>

Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 12-pos.



Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Wiring bridge

Wiring bridge - MPB 18/1- 9 - 2748580

<https://www.phoenixcontact.com/us/products/2748580>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 9-pos.

Wiring bridge

Wiring bridge - MPB 18/1- 8 - 2748577

<https://www.phoenixcontact.com/us/products/2748577>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos.

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Wiring bridge

Wiring bridge - MPB 18/1- 6 - 2748564

<https://www.phoenixcontact.com/us/products/2748564>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 6-pos.

Wiring bridge

Wiring bridge - MPB 18/1- 4 - 2809225

<https://www.phoenixcontact.com/us/products/2809225>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 4-pos.

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Wiring bridge

Wiring bridge - MPB 18/1- 3 - 2809212

<https://www.phoenixcontact.com/us/products/2809212>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 3-pos.

Wiring bridge

Wiring bridge - MPB 18/1- 2 - 2809209

<https://www.phoenixcontact.com/us/products/2809209>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 2-pos.

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Marker for terminal blocks

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589

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

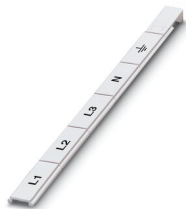


Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker for terminal blocks

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

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Zack marker strip

Zack marker strip - ZBN 18:UNBEDRUCKT - 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

Marker pen

Marker pen - B-STIFT - 1051993

<https://www.phoenixcontact.com/us/products/1051993>



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

Type 1 surge protection device - VAL-US-277/80/1+0-FM



2910377

<https://www.phoenixcontact.com/us/products/2910377>

Feed-through terminal block

Feed-through terminal block - DK-BIC-35 - 2749880

<https://www.phoenixcontact.com/us/products/2749880>

Feed-through terminal block for VAL and FLT applications



Type 1 surge protection plug

Type 1 surge protection plug - VAL-US-277/80-P - 2910331

<https://www.phoenixcontact.com/us/products/2910331>

UL Recognized type 1 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



Phoenix Contact 2022 © - 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