

VAL-US-277/40/3+1-FM - Type 1 surge protection device

2910374
<https://www.phoenixcontact.com/pc/products/2910374>

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, four channel with remote indicator contact for 277/480 V AC, 4-wire plus ground.

Your advantages

- With floating remote indication contact
- Optical, mechanical status indication for the individual arresters
- Multi-channel type 2 protective devices
- Mechanical coding of all slots

Commercial data

Item number	2910374
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL132U
Catalog page	Page 96 (C-4-2019)
GTIN	4055626445137
Weight per piece (including packing)	435 g
Weight per piece (excluding packing)	406 g
Customs tariff number	85363030
Country of origin	DE

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

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
	TT
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)
-------------------------	---------------

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 ... 750 mA 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 rigid	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

VAL-US-277/40/3+1-FM - Type 1 surge protection device

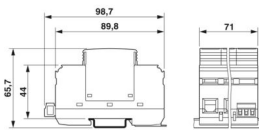


2910374

<https://www.phoenixcontact.com/pc/products/2910374>

Stripping length	7 mm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	71.2 mm
Height	98.7 mm
Depth	65.7 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

Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Direction of action	3L-N & N-GND
Nominal voltage U_N	277/480 V AC (TN-S)
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 (N-PE)	305 V AC
Residual current I_{PE}	$\leq 5 \mu A$
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (305 V AC)
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	$\leq 2 kV$
Voltage protection level U_p (L-PE)	$\leq 2.2 kV$
Voltage protection level U_p (N-PE)	$\leq 1.5 kV$
Residual voltage U_{res} (L-N)	$\leq 2 kV$ (at I_n)
	$\leq 1.7 kV$ (at 10 kA)

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

Residual voltage U_{res} (L-PE)	≤ 1.5 kV (at 5 kA)
	≤ 1.3 kV (at 3 kA)
	≤ 2.2 kV (at I_n)
	≤ 1.7 kV (at 10 kA)
	≤ 1.5 kV (at 5 kA)
Residual voltage U_{res} (N-PE)	≤ 1.4 kV (at 3 kA)
	≤ 0.4 kV (at I_n)
	≤ 0.25 kV (at 10 kA)
	≤ 0.15 kV (at 5 kA)
TOV behavior at U_T (L-N)	≤ 0.1 kV (at 3 kA)
	480 V AC (5 s / withstand mode)
	530 V AC (120 min / safe failure mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand 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)
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 $\pm X$, $\pm Y$, $\pm Z$)
Vibration (operation)	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)	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)	2000 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	40 kA
Mode of protection	L-N
	N-G
	L-G
Nominal voltage	277/480 V AC (Wye)

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

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

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
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

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

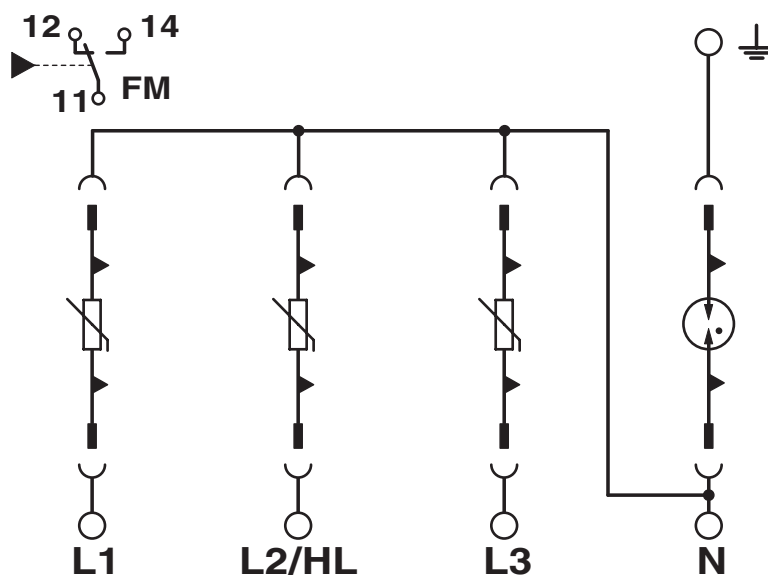
VAL-US-277/40/3+1-FM - Type 1 surge protection device

2910374

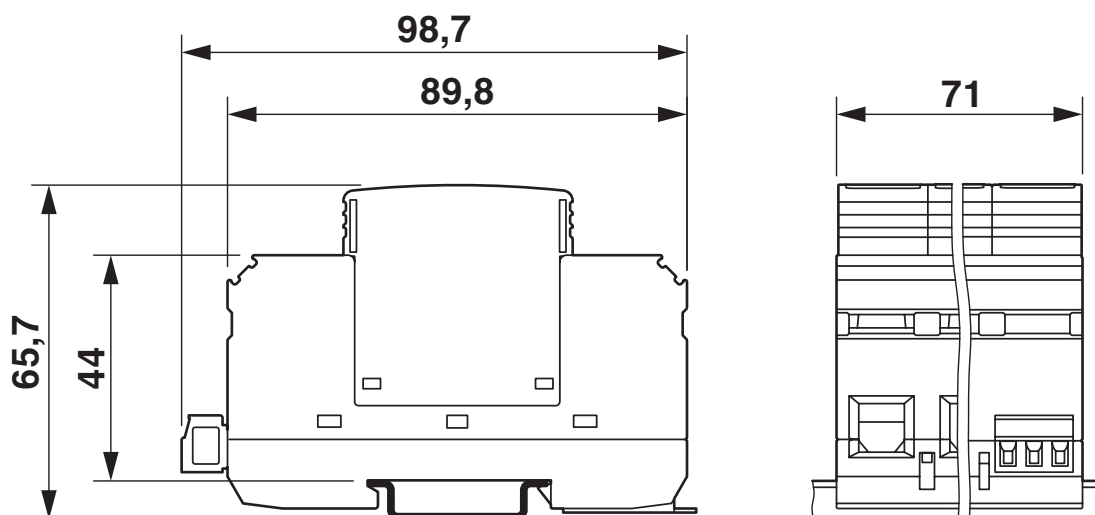
<https://www.phoenixcontact.com/pc/products/2910374>

Drawings

Circuit diagram



Dimensional drawing



VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374
<https://www.phoenixcontact.com/pc/products/2910374>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/2910374>



UL Listed
Approval ID: FILE E 330181



cUL Listed
Approval ID: FILE E 330181

cULus Listed

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374
<https://www.phoenixcontact.com/pc/products/2910374>

Classifications

ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171202

ETIM

ETIM 9.0	EC000941
----------	----------

UNSPSC

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

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374
<https://www.phoenixcontact.com/pc/products/2910374>

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.)	No substance above 0.1 wt%

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

Accessories

MPB F600X16/ 1GS - Wiring bridge

2818355

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



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

MPB F200X16/ 1GS - Wiring bridge

2818339

<https://www.phoenixcontact.com/pc/products/2818339>



Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 200 mm

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

MPB 18/1-10/1.0.0 - Wiring bridge

2830443

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



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

MPB 18/4-12 - Wiring bridge

2809296

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



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

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

MPB 18/4- 8 - Wiring bridge

2809283

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

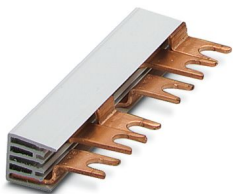


Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.

MPB 18/3- 6 - Wiring bridge

2809241

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



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

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

MPB 18/1-57 - Wiring bridge

2809238

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



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

MPB 18/1-12 - Wiring bridge

2748593

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



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

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

MPB 18/1- 9 - Wiring bridge

2748580

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



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

MPB 18/1- 8 - Wiring bridge

2748577

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



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

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

MPB 18/1- 6 - Wiring bridge

2748564

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



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

MPB 18/1- 4 - Wiring bridge

2809225

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



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

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

MPB 18/1- 3 - Wiring bridge

2809212

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



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

MPB 18/1- 2 - Wiring bridge

2809209

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



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

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

<https://www.phoenixcontact.com/pc/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

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

2749576

<https://www.phoenixcontact.com/pc/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

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/pc/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

DK-BIC-35 - Feed-through terminal block

2749880

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



Feed-through terminal block for VAL and FLT applications

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

B-STIFT - Marker pen

1051993

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



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

SZK PZ2 VDE - Screwdriver

1206463

<https://www.phoenixcontact.com/pc/products/1206463>



Screwdriver, PZ crosshead, VDE insulated, size: PZ 2 x 100 mm, 2-component grip, with non-slip grip

VAL-US-277/40/3+1-FM - Type 1 surge protection device



2910374

<https://www.phoenixcontact.com/pc/products/2910374>

VAL-US-277/40-P - Type 1 surge protection plug

2910338

<https://www.phoenixcontact.com/pc/products/2910338>



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

GDT-US-NG/40-P - Type 1 surge protection plug

2910342

<https://www.phoenixcontact.com/pc/products/2910342>



UL Recognized type 1 SPD and IEC type 2 surge protection plug with a gas discharge tube and thermal disconnect for use with VAL-US base elements, mechanical and visual fault warning

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
D-32825 Blomberg
+49 (0) 5235-3 00
info@phoenixcontact.com