

## Type 1/2 surge protection device - VAL-US-120/65/3+0-FM - 2910359

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)




Surge protective device, three channel with remote indicator contact for 120/208 V split phase AC, 4-wire.

### Why buy this product

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



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 444994
GTIN	4055626444994

### Technical data

#### Dimensions

Height	98.7 mm
Width	53.4 mm
Depth	77.5 mm
Horizontal pitch	3 Div.

#### Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C

# Type 1/2 surge protection device - VAL-US-120/65/3+0-FM - 2910359

## Technical data

### Ambient conditions

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)

### General

IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
IEC power supply system	TN-C
Mode of protection	L-PEN
Mounting type	DIN rail: 35 mm
Color	jet black RAL 9005
Housing material	PA 6.6
	PBT
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	3
Surge protection fault message	Optical, remote indicator contact

### Protective circuit

Nominal voltage $U_N$	120/208 V AC (TN-C)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$ (L-PEN)	175 V AC
Rated load current $I_L$	80 A
Residual current $I_{PE}$	≤ 0.8 mA
Nominal discharge current $I_n$ (8/20) $\mu$ s	20 kA
Nominal discharge current $I_n$ (8/20) $\mu$ s (L-PEN)	12.5 kA
Total discharge current $I_{total}$ (10/350) $\mu$ s	37.5 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$	≤ 0.8 kV
Residual voltage $U_{res}$	≤ 0.8 kV (at $I_n$ )
	≤ 0.75 kV (at 10 kA)
	≤ 0.65 kV (at 5 kA)
	≤ 0.5 kV (at 3 kA)
TOV behavior at $U_T$	208 V AC (5 s / withstand mode)
	240 V AC (120 min / safe failure mode)
Response time $t_A$	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A (gG)

# Type 1/2 surge protection device - VAL-US-120/65/3+0-FM - 2910359

## Technical data

### Protective circuit

Max. backup fuse with branch wiring	160 A (gG)
-------------------------------------	------------

### Indicator/remote signaling

Switching function	PDT 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 method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16

### Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 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 solid	1.5 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross section AWG	15 ... 2

### UL specifications

SPD Type	1
Maximum continuous operating voltage MCOV (L-L)	350 V AC
Maximum continuous operating voltage MCOV (L-G)	175 V AC
Nom. voltage	120/208 V AC (Wye)
Mode of protection	L-L
	L-N
	L-G
Power distribution system	3Y
Nominal frequency	50/60 Hz
Voltage protection rating VPR (L-L)	1200 V
Voltage protection rating VPR (L-N)	1200 V
Voltage protection rating VPR (L-G)	700 V
Nominal discharge current I <sub>n</sub>	20 kA
Maximum Surge Current per Phase	65 kA
Short-circuit current rating (SCCR)	200 kA

# Type 1/2 surge protection device - VAL-US-120/65/3+0-FM - 2910359

## Technical data

### UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Tightening torque	2 lb <sub>F</sub> -in. ... 4 lb <sub>F</sub> -in.
Conductor cross section AWG	30 ... 14

### UL connection data

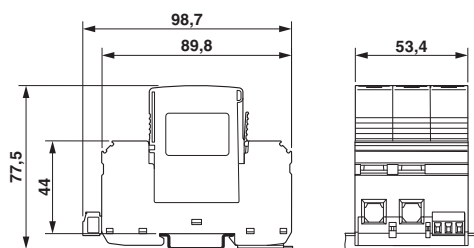
Conductor cross section AWG	10 ... 2
Tightening torque	30 lb <sub>F</sub> -in.

### Standards and Regulations

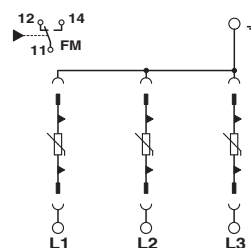
Standards/regulations	IEC 61643-11 2011
	EN 61643-11 2012

## Drawings

Dimensional drawing



Circuit diagram



## Approvals

### Approvals

Approvals

UL Listed / cUL Listed / cULus Listed


Ex Approvals


### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
-----------	--	---	---------------

## Type 1/2 surge protection device - VAL-US-120/65/3+0-FM - 2910359

### Approvals

cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
------------	---	---	---------------

cULus Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>
--------------	---	---

Phoenix Contact 2018 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>