Type 1 surge protection device - VAL-US-120/65/1+0-FM - 2910355

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, single channel with remote indicator contact for 120 V AC.

Your advantages

- 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 444956
GTIN	4055626444956
Weight per Piece (excluding packing)	150.000 g
Custom tariff number	85363030
Country of origin	Germany
Sales Key	CL115U

Technical data

Dimensions

Height	96.8 mm
Width	17.8 mm
Depth	77.5 mm
Horizontal pitch	1 Div.

Type 1 surge protection device - VAL-US-120/65/1+0-FM - 2910355

Technical data

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 (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	1
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	120 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) µs	20 kA
Maximum discharge current I_{max} (8/20) µs	65 kA
Total discharge current I_{total} (10/350) µs	12.5 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)

Type 1 surge protection device - VAL-US-120/65/1+0-FM - 2910355

Technical data

Protective circuit

Response time t_A	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	160 A (gG)

Indicator/remote signaling

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 method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm² ... 1.5 mm²
Conductor cross section solid	0.14 mm² ... 1.5 mm²
Conductor cross section AWG	28 ... 16

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm (1.5 mm² ... 16 mm²)
	4.5 Nm (25 mm² ... 35 mm²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm² ... 25 mm²
Conductor cross section solid	1.5 mm² ... 35 mm²
Conductor cross section AWG	15 ... 2

UL specifications

SPD Type	1
Maximum continuous operating voltage MCOV	175 V AC
Nom. voltage	120 V AC (Single-phase)
Mode of protection	L-N
	L-G
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Voltage protection rating VPR	700 V
Nominal discharge current I_n	20 kA
Maximum Surge Current per Phase	65 kA
Short-circuit current rating (SCCR)	200 kA

UL indicator/remote signaling

Operating voltage	125 V AC

Type 1 surge protection device - VAL-US-120/65/1+0-FM - 2910355

Technical data

UL indicator/remote signaling

Operating current	1 A AC
Tightening torque	2 lb_f-in. ... 4 lb_f-in.
Conductor cross section AWG	30 ... 14

UL connection data

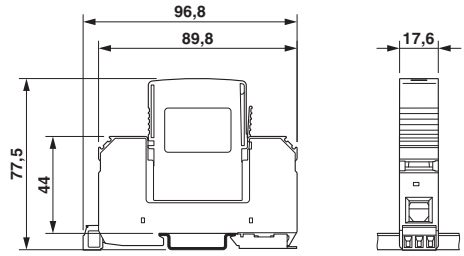
Conductor cross section AWG	10 ... 2
Tightening torque	30 lb_f-in.

Standards and Regulations

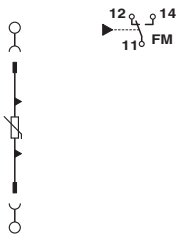
Standards/regulations	IEC 61643-11 2011
	EN 61643-11 2012

Drawings

Dimensional drawing



Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27130805
eCl@ss 11.0	27130805
eCl@ss 6.0	27130800
eCl@ss 7.0	27130805
eCl@ss 9.0	27130805

ETIM

ETIM 6.0	EC000941
ETIM 7.0	EC000941

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Type 1 surge protection device - VAL-US-120/65/1+0-FM - 2910355

Approvals

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
cULus Listed			

Accessories

Accessories

Bridge

Wiring bridge - MPB F600X16/ 1GS - 2818355

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

Wiring bridge - MPB F600X16/ 1GS - 2818355

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

Wiring bridge - MPB F200X16/ 1GS - 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-120/65/1+0-FM - 2910355

Accessories

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

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

Wiring bridge - MPB 18/4-12 - 2809296

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

Wiring bridge - MPB 18/4- 8 - 2809283

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

Wiring bridge - MPB 18/3- 6 - 2809241

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

Wiring bridge - MPB 18/1-57 - 2809238

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

Type 1 surge protection device - VAL-US-120/65/1+0-FM - 2910355

Accessories

Wiring bridge - MPB 18/1-12 - 2748593

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

Wiring bridge - MPB 18/1- 9 - 2748580

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

Wiring bridge - MPB 18/1- 8 - 2748577

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

Wiring bridge - MPB 18/1- 6 - 2748564

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

Wiring bridge - MPB 18/1- 4 - 2809225

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

Type 1 surge protection device - VAL-US-120/65/1+0-FM - 2910355

Accessories

Wiring bridge - MPB 18/1- 3 - 2809212

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

Wiring bridge - MPB 18/1- 2 - 2809209

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

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Feed-through terminal block

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

Feed-through terminal block for VAL and FLT applications

Labeled device marker

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

Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snap into tall marker groove, 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-120/65/1+0-FM - 2910355

Accessories

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576

Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snap into tall marker groove, 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

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

Spare parts

Type 1 surge protection plug - VAL-US-120/65-P - 2910330

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