

VAL-US-120/65/1+0-FM - Surge protection device



2910355

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Surge protective device, UL Listed type 1 and IEC type 2, single channel with remote indicator contact for 120 V AC

Your advantages

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

Commercial data

Item number	2910355
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL17
Product key	CL115U
GTIN	4055626444956
Weight per piece (including packing)	177.3 g
Weight per piece (excluding packing)	150 g
Customs tariff number	85363030
Country of origin	DE

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Technical data

Product properties

Product type	Surge protection for NEMA power supply units
Product family	VALVETRAB US
IEC test classification	I / II T1 / T2
EN type	T1 / T2
IEC power supply system	TN-C
Type	DIN rail module, two-section, divisible
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)
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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	4.5 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

Remote fault indicator contact

Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
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

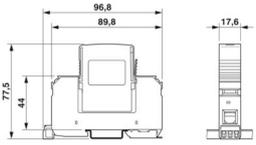
VAL-US-120/65/1+0-FM - Surge protection device

2910355

<https://www.phoenixcontact.com/us/products/2910355>

Conductor cross-section AWG	28 ... 16
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Dimensions

Dimensional drawing	
Width	17.6 mm
Height	96.8 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 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

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Mode of protection	L-PEN
Direction of action	1L-GND
Nominal voltage U_N	120 V AC (TN-C)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	175 V AC
Rated load current I_L	80 A
Protective conductor current I_{PE}	≤ 0.8 mA
Nominal discharge current I_n (8/20) μ s	20 kA
Maximum discharge current I_{max} (8/20) μ s	65 kA
Total discharge current I_{Total} (10/350) μ s	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)

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<https://www.phoenixcontact.com/us/products/2910355>

	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)
Max. backup fuse with branch wiring	160 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)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

Maximum continuous operating voltage MCOV	175 V AC
Short-circuit current rating (SCCR)	200 kA
Voltage protection rating VPR	700 V
UL type	type 1
Nominal discharge current I_n	20 kA
Maximum Surge Current per Phase	65 kA (acc. IEC61643-1) 80 kA (acc. NEMA LS1)
Mode of protection	L-N L-G
Nominal voltage	120 V AC (Single-phase)
Power distribution system	Single phase
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

VAL-US-120/65/1+0-FM - Surge protection device



2910355

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Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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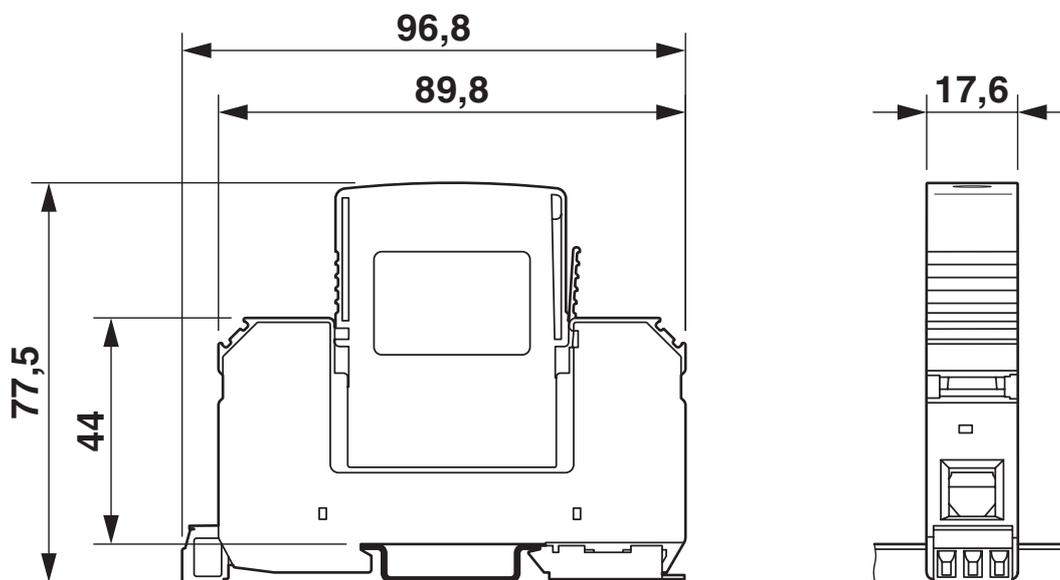
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2910355

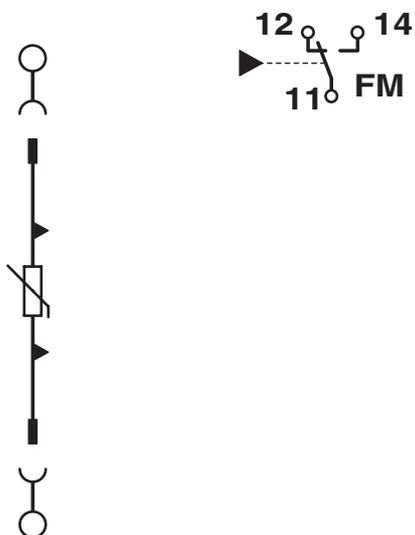
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Drawings

Dimensional drawing



Circuit diagram



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Approvals

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UL Listed

Approval ID: FILE E 330181



cUL Listed

Approval ID: FILE E 330181

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Classifications

ECLASS

ECLASS-13.0	27171202
ECLASS-15.0	27171202

ETIM

ETIM 9.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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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%
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