VAL-US-120/65/3+0-FM - Surge protection device

2910359

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Surge protective device,UL Listed type 1 and IEC type 2, three-channel with remote indicator contact for 120/240 V split-phase or 120/208 V Wye three-phase AC, 4-wire.

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	2910359
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL17
Product key	CL115U
GTIN	4055626444994
Weight per piece (including packing)	436.7 g
Weight per piece (excluding packing)	405 g
Customs tariff number	85363030
Country of origin	DE

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	3
Surge protection fault message	Optical, remote indicator contact
Number of ports	One

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

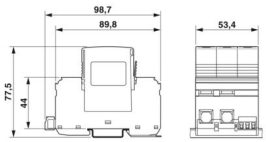
Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm (1.5 mm² ... 16 mm²)
	4.5 Nm (25 mm² ... 35 mm²)
Stripping length	16 mm
Conductor cross-section flexible	1.5 mm² ... 25 mm²
Conductor cross-section rigid	1.5 mm² ... 35 mm²
Conductor cross-section AWG	15 ... 2

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 mm² ... 1.5 mm²

Conductor cross-section rigid	0.14 mm² ... 1.5 mm²
Conductor cross-section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	53.4 mm
Height	98.7 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	3 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

Protective circuit

Mode of protection	L-PEN
Direction of action	3L-GND
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
Protective conductor current I_{PE}	≤ 0.8 mA
Nominal discharge current I_n (8/20) µs	20 kA
Nominal discharge current I_n (8/20) µs (L-PEN)	12.5 kA
Maximum discharge current I_{max} (8/20) µs	65 kA
Total discharge current I_{Total} (10/350) µs	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)
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 (L-L)	350 V AC
Maximum continuous operating voltage MCOV (L-N)	350 V (120/240S)
Maximum continuous operating voltage MCOV (L-G)	175 V AC
Maximum continuous operating voltage MCOV (N-G)	175 V (120/240S)
Short-circuit current rating (SCCR)	200 kA
Voltage protection rating VPR (L-L)	1200 V
Voltage protection rating VPR (L-N)	1200 V (120/240S)
Voltage protection rating VPR (L-G)	700 V
Voltage protection rating VPR (N-G)	700 V (120/240S)
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-L
	L-G
Nominal voltage	120/208 V AC (3-phase Wye)
	120/240 V AC (Split phase)
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

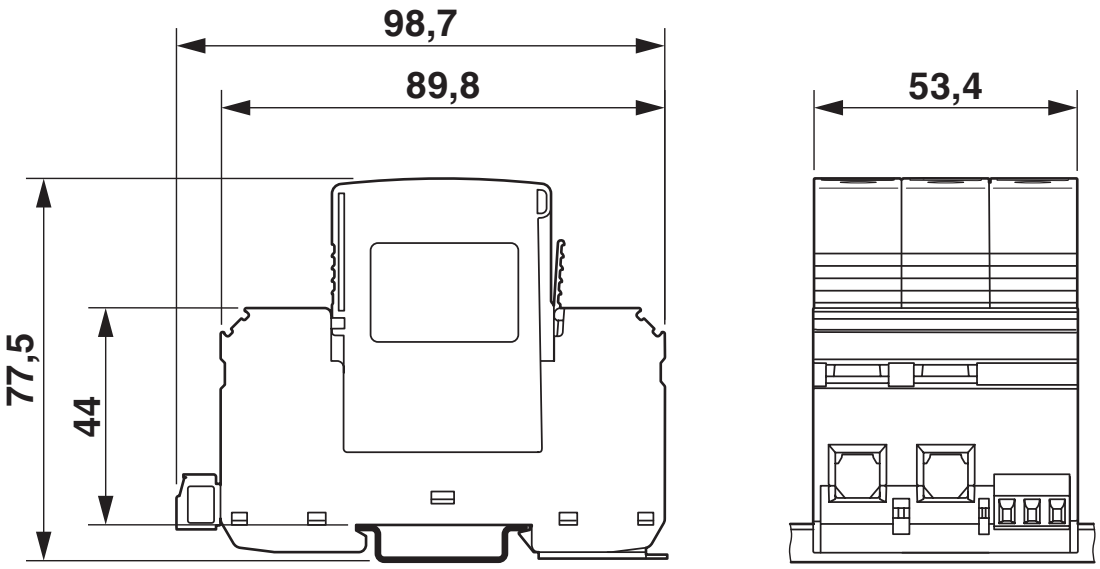
Standards/regulations	EN 60664-1 / EN 61643-11
Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

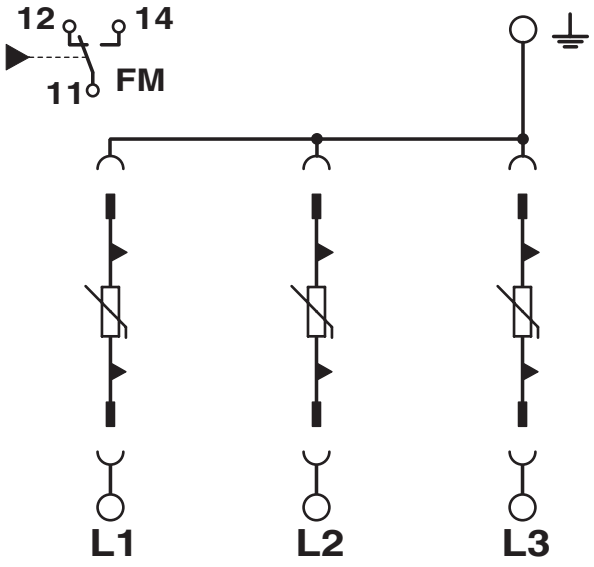
Mounting type	DIN rail: 35 mm

Drawings

Dimensional drawing



Circuit diagram



Approvals

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UL Listed
Approval ID: FILE E 330181

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Classifications

ECLASS

ECLASS-13.0	27171202
ECLASS-15.0	27171202

ETIM

ETIM 10.0	EC000941

UNSPSC

UNSPSC 21.0	39121600

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%

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