

Type 1/2 surge protection device - VAL-US-120/65/3+1-FM - 2910360

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

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 445007
GTIN	4055626445007

Technical data

Dimensions

Height	98.7 mm
Width	71.2 mm
Depth	77.5 mm
Horizontal pitch	4 Div.

Ambient conditions

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

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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-S
	TT
Mode of protection	L-N
	L-PE
	N-PE
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	4
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	120/208 V AC (TN-S)
	120/208 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	175 V AC
Maximum continuous voltage U_C (N-PE)	264 V AC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 5 μA
Nominal discharge current I_n (8/20) μs (L-N)	12.5 kA
Nominal discharge current I_n (8/20) μs (L-PE)	12.5 kA
Nominal discharge current I_n (8/20) μs (N-PE)	50 kA
Total discharge current I_{total} (10/350) μs	50 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (264 V AC)
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	≤ 0.8 kV
Voltage protection level U_p (L-PE)	≤ 2 kV

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Protective circuit

Voltage protection level U_p (N-PE)	≤ 1.7 kV
Residual voltage U_{res} (L-N)	≤ 0.8 kV (at I_n)
	≤ 0.75 kV (at 10 kA)
	≤ 0.65 kV (at 5 kA)
	≤ 0.6 kV (at 3 kA)
Residual voltage U_{res} (L-PE)	≤ 2 kV (at I_n)
	≤ 1.5 kV (at 10 kA)
	≤ 1.4 kV (at 5 kA)
	≤ 1.3 kV (at 3 kA)
Residual voltage U_{res} (N-PE)	≤ 0.6 kV (at I_n)
	≤ 0.5 kV (at 10 kA)
	≤ 0.5 kV (at 5 kA)
	≤ 0.4 kV (at 3 kA)
TOV behavior at U_T (L-N)	208 V AC (5 s / withstand mode)
	240 V AC (120 min / safe failure mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	≤ 25 ns
Response time t_A (L-PE)	≤ 100 ns
Response time t_A (N-PE)	≤ 100 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	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 ² ... 1.5 mm ²
Conductor cross section solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

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)

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Connection data

Stripping length	16 mm
Conductor cross section flexible	1.5 mm ² ... 25 mm ²
Conductor cross section solid	1.5 mm ² ... 35 mm ²
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-N)	175 V AC
Maximum continuous operating voltage MCOV (L-G)	175 V AC
Maximum continuous operating voltage MCOV (N-G)	264 V AC
Nom. voltage	120/208 V AC (Wye)
Mode of protection	L-L
	L-N
	L-G
	N-G
Power distribution system	3Y
Nominal frequency	50/60 Hz
Voltage protection rating VPR (L-L)	1200 V
Voltage protection rating VPR (L-N)	700 V
Voltage protection rating VPR (L-G)	1500 V
Voltage protection rating VPR (N-G)	1200 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
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.

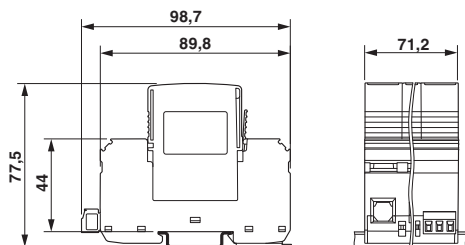
Standards and Regulations

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

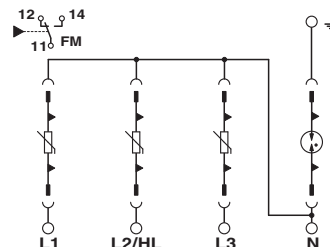
Drawings

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Dimensional drawing



Circuit diagram



Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

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