

VAL-US-277/80/3+0-FM - Surge protection device



1075896

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Surge protective device, UL Listed type 1 and IEC type 2, three channel with remote indicator contact for 277/480 V AC, 4-wire.

Your advantages

- With floating remote indication contact
- UL open terminal listed SPD
- Optical, mechanical status indication for the individual arresters
- Multi-channel type 2 protective devices
- Disconnect device on each individual plug
- Mechanical coding of all slots
- Secure hold of plugs in the event of high lightning current loads and strong vibrations thanks to new latching
- Multi-channel type 2 arresters

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Technical data

Product properties

Product type	Surge protection for NEMA power supply units
Product family	VALVETRAB US
IEC test classification	II
	T2
EN type	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)
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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	3 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
Connection method	Fork-type cable lug
Conductor cross-section flexible	1.5 mm ² ... 16 mm ²

Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm

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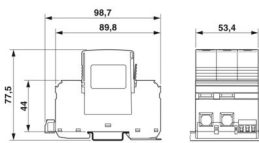


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Stripping length	7 mm
Conductor cross-section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross-section rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross-section AWG	28 ... 16

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
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Protective circuit

Mode of protection	L-PEN
Direction of action	3L-GND
Nominal voltage U_N	277/480 V AC (TN-C)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-PEN)	385 V AC
Protective conductor current I_{PE}	$\leq 600 \mu A$
Standby power consumption P_C	$\leq 0.6 VA$
Nominal discharge current I_n (8/20) μs	40 kA
Maximum discharge current I_{max} (8/20) μs	80 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	$\leq 2 kV$
Residual voltage U_{res}	$\leq 2 kV$ (at I_n) $\leq 1.5 kV$ (at 10 kA) $\leq 1.4 kV$ (at 5 kA)

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	≤ 1.3 kV (at 3 kA)
TOV behavior at U_T	480 V AC (5 s / withstand mode)
	530 V AC (120 min / safe failure mode)
Response time t_A	≤ 25 ns
Max. backup fuse with branch wiring	125 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)	750 V AC
Maximum continuous operating voltage MCOV (L-G)	385 V AC
Short-circuit current rating (SCCR)	200 kA
Voltage protection rating VPR (L-L)	2500 V
Voltage protection rating VPR (L-G)	1500 V
UL type	type 1
Nominal discharge current I_n	20 kA
Maximum Surge Current per Phase	80 kA
Mode of protection	L-L
	L-G
Nominal voltage	277/480 V AC (3-phase Wye)
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
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Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
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