

VAL-US 60/O-FM - Type 2 surge protection device



2906280

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Surge arresters consisting of base element and protective connector with high-capacity varistor, for mounting on NS 35/7.5, 1-channel

Your advantages

- Rack-mount 2U panel applications
- Plug-in direction parallel to the conductor axis
- Versions with and without floating remote indication contact
- DIN rail mounting
- Accepts Type 1 and Type 2 VAL-MS plugs
- Coding when protective plug is inserted for the first time

Commercial data

Item number	2906280
Packing unit	12 pc
Minimum order quantity	12 pc
Sales key	CL18
Product key	CL1321
GTIN	4055626063058
Weight per piece (including packing)	129.075 g
Weight per piece (excluding packing)	129.075 g
Customs tariff number	85363090
Country of origin	DE

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Technical data

Product properties

Product type	Surge protection for NEMA power supply units
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
Type	DIN rail module, two-section, divisible
Number of positions	1
Surge protection fault message	Optical, remote indicator contact

Insulation characteristics

Pollution degree	2
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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
	125 V AC (UL)
	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1.5 A
	1 A (UL)
	1 A (30 V DC)

Connection data

Connection method	Biconnect terminal blocks
Screw thread	M5
Tightening torque	3 Nm ... 4.5 Nm (UL)
	27 lb _F -in. ... 40 lb _F -in. (UL)
Stripping length	16 mm
Conductor cross section flexible min.	1.5 mm ²
Conductor cross section flexible max.	25 mm ²
Conductor cross section, rigid min.	1.5 mm ²
Conductor cross section, rigid max.	35 mm ²
Conductor cross section AWG	15 ... 2 (IEC)
	14 ... 2 (UL)
Connection method	Screw connection
Screw thread	M5
Tightening torque	4.5 Nm
	30 lb _F -in. (UL)

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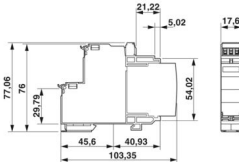
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Stripping length	16 mm
Conductor cross section flexible min.	1.5 mm ²
Conductor cross section flexible max.	25 mm ²
Conductor cross section, rigid min.	1.5 mm ²
Conductor cross section, rigid max.	35 mm ²
Conductor cross section AWG	15 ... 2
	14 ... 2 (UL)

Remote fault indicator contact

Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible min.	0.14 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section, rigid min.	0.14 mm ²
Conductor cross section, rigid max.	1.5 mm ²
Conductor cross section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	17.6 mm
Height	77.1 mm
Depth	89.2 mm

Material specifications

Color	black (RAL 9005)
Flammability rating according to UL 94	V0
Housing material	PBT

Protective circuit

Mode of protection	L-PEN
	(L+) - (L-)
	(L-) - PE
	(L+) - PE
Direction of action	L-N / L-PEN
Nominal voltage U_N	60 V DC
	-48 V DC (RRH)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	75 V AC

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	100 V DC
Maximum continuous operating voltage U_C (L-N)	75 V AC
	100 V DC
Maximum continuous operating voltage U_C (L-PEN)	75 V AC
	100 V DC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 0.45 mA
Standby power consumption P_C	≤ 35.00 mVA
Nominal discharge current I_n (8/20) μ s	15 kA
Nominal discharge current I_n (8/20) μ s (L-N)	15 kA
Nominal discharge current I_n (8/20) μ s (L-PEN)	15 kA
Maximum discharge current I_{max} (8/20) μ s	40 kA
Maximum discharge current I_{max} (8/20) μ s (L-N)	40 kA
Maximum discharge current I_{max} (8/20) μ s (L-PEN)	40 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 0.55 kV
Voltage protection level U_p (L-N)	≤ 0.55 kV
Voltage protection level U_p (L-PEN)	≤ 0.55 kV
Residual voltage U_{res}	≤ 0.55 kV (at I_n)
	≤ 0.425 kV (at 10 kA)
	≤ 0.325 kV (at 5 kA)
	≤ 0.275 kV (at 3 kA)
TOV behavior at U_T	100 V AC (5 s / withstand mode)
TOV behavior at U_T (L-N)	100 V AC (5 s / withstand mode)
TOV behavior at U_T (L-PEN)	100 V AC (5 s / withstand mode)
Response time t_A	≤ 25 ns
Response time t_A (L-N)	≤ 25 ns
Response time t_A (L-PEN)	≤ 25 ns
Max. backup fuse with V-type through wiring	80 A AC (gG)
Max. backup fuse with branch wiring	125 A AC (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	max. 2000 m
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$, $\pm Y$, $\pm Z$)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

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Maximum continuous operating voltage MCOV	75 V AC
Maximum continuous operating voltage MCOV (L-N)	75 V AC
Maximum continuous operating voltage MCOV (L-G)	75 V AC
Maximum continuous operating voltage MCOV (L+) - (L-)	100 V DC
Maximum continuous operating voltage MCOV (L+/L-) - G	100 V DC
Voltage protection rating VPR	500 V
Voltage protection rating VPR (L-N)	0.5 kV
Voltage protection rating VPR (L+) - (L-)	0.33 kV
Voltage protection rating VPR (L+/L-) -G	0.33 kV
Nominal discharge current I_n	10 kA
Nominal discharge current I_n (L-N)	10 kA
Nominal discharge current I_n (L+) - (L-)	10 kA
Nominal discharge current I_n (L+/L-) - G	10 kA
Mode of protection	L-L
	L-G
	(L+) - (L-)
	(L+) - G
	(L-) - G
Nominal voltage	60 V DC
Power distribution system	Single phase
Measured limiting voltage MLV	630 V
Measured limiting voltage MLV (L-N)	630 V
SPD Type	4CA

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 61643-11 / UL 840
Standards/specifications	EN 61643-11/A11
Note	2007

Mounting

Mounting type	DIN rail: 35 mm
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