

Type 2 surge arrester - VAL-MS 350 VF/1+1-FM - 2902577


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Plug-in surge arrester free of leakage current for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE), with remote indication contact.



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 912853
GTIN	4046356912853

Technical data

Dimensions

Height	96.8 mm
Width	35.6 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 Div.

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 (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

General

IEC test classification	II
	T2
EN type	T2

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Technical data

General

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	2
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	240/415 V AC (TN-S)
	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	350 V AC
Maximum continuous operating voltage U_C (L-PE)	350 V AC
Maximum continuous voltage U_C (N-PE)	260 V AC
Rated load current I_L	80 A
Residual current I_{PE}	$\leq 5 \mu\text{A}$
Standby power consumption P_C	$\leq 2 \text{ mVA}$
Nominal discharge current I_n (8/20) μs (L-N)	10 kA
Nominal discharge current I_n (8/20) μs (L-PE)	10 kA
Nominal discharge current I_n (8/20) μs (N-PE)	20 kA
Maximum discharge current I_{max} (8/20) μs (L-N)	20 kA
Maximum discharge current I_{max} (8/20) μs (L-PE)	20 kA
Maximum discharge current I_{max} (8/20) μs (N-PE)	40 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (260 V)
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	$\leq 1.5 \text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 2 \text{ kV}$
Voltage protection level U_p (N-PE)	$\leq 1.5 \text{ kV}$
Residual voltage U_{res} (L-N)	$\leq 1.2 \text{ kV}$ (at I_n)
	$\leq 1.2 \text{ kV}$ (at 10 kA)
	$\leq 1.1 \text{ kV}$ (at 5 kA)
Residual voltage U_{res} (L-PE)	$\leq 1.35 \text{ kV}$ (at I_n)

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Protective circuit

	≤ 1.35 kV (at 10 kA)
	≤ 1.2 kV (at 5 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at I_n)
	≤ 0.25 kV (at 10 kA)
	≤ 0.15 kV (at 5 kA)
	≤ 0.1 kV (at 3 kA)
TOV behavior at U_T (L-N)	415 V AC (5 s / withstand mode)
	440 V AC (120 min / withstand mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A	≤ 100 ns
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	125 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	Plug-in/screw connection via COMBICON
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	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 solid	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

UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-N)	350 V AC

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Technical data

UL specifications

Maximum continuous operating voltage MCOV (L-G)	350 V AC
Maximum continuous operating voltage MCOV (N-G)	260 V AC
Nom. voltage	240 V AC
Mode of protection	L-N
	L-G
	N-G
Power distribution system	1
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	1610 V
Measured limiting voltage MLV (L-G)	2030 V
Measured limiting voltage MLV (N-G)	870 V
Nominal discharge current I _n (L-N)	20 kA
Nominal discharge current I _n (L-G)	20 kA
Nominal discharge current I _n (N-G)	20 kA

UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Tightening torque	4 lb _r -in.
Conductor cross section AWG	30 ... 14

UL connection data

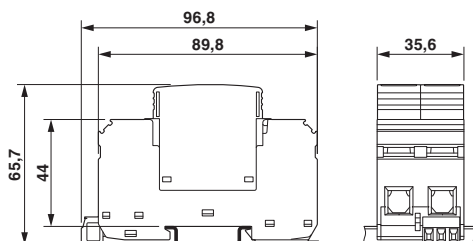
Conductor cross section AWG	10 ... 2
Tightening torque	30 lb _r -in.

Standards and Regulations

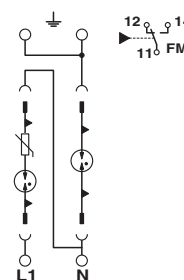
Standards/regulations	IEC 61643-11 2011
	EN 61643-11 2012

Drawings

Dimensional drawing



Circuit diagram



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Approvals




Approvals

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UL Recognized / KEMA-KEUR / ÖVE / cUL Recognized / CCA / IEC EE CB Scheme / cULus Recognized

Ex Approvals

Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
KEMA-KEUR		http://www.dekra-certification.com	2170208.01
ÖVE		https://www.ove.at/en/certification-pz/certification-register/	18583-001-13
cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
CCA			NTR-AT 1947-A
IECEE CB Scheme		http://www.iecee.org/	AT 2905/M1
cULus Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	

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