



**Automatización Eléctrica**  
Especialistas en Automatización

At the end of this document you will find links to products related to this catalog. You can go directly to our shop by clicking [HERE](#). [HERE](#)

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

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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

## Technical data

### Dimensions

Height	97 mm
Width	35.6 mm
Depth	65.5 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 sinus / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

### General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2

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

### Technical data

#### General

EN type	T2
IEC power supply system	TN-S
	TT
Number of ports	One
SPD design	Combination type
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 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) $\mu\text{s}$ (L-N)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (L-PE)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (N-PE)	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$ (L-N)	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$ (L-PE)	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$ (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)

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

### Technical data

#### Protective circuit

	≤ 1.1 kV (at 5 kA)
Residual voltage $U_{res}$ (L-PE)	≤ 1.35 kV (at $I_n$ )
	≤ 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)
Front of wave sparkover voltage at 6 kV (1.2/50) $\mu$ s (L-N)	≤ 1.5 kV
Front of wave sparkover voltage at 6 kV (1.2/50) $\mu$ s (L-PE)	≤ 2 kV
Front of wave sparkover voltage at 6 kV (1.2/50) $\mu$ s (N-PE)	≤ 1.5 kV
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 $t_A$ (L-N)	≤ 100 ns
Response time $t_A$ (N-PE)	≤ 100 ns
Max. backup fuse with branch wiring	125 A (gG)
Max. backup fuse with V-type through wiring	80 A (gG)

#### Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC
	30 V DC
Operating current	5 mA AC ... 1.5 A
	1 A
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16

#### Connection data

Connection method	Screw connection
Conductor cross section flexible	1.5 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Conductor cross section solid	1.5 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross section AWG	15 ... 2
Screw thread	M5
Tightening torque	4.5 Nm

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

## Technical data

### Connection data

Stripping length	16 mm
------------------	-------

### UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-N)	700 V AC
Maximum continuous operating voltage MCOV (L-G)	350 V AC
Maximum continuous operating voltage MCOV (N-G)	260 V AC
Nom. voltage	240/350 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 <sub>n</sub> (L-N)	20 kA
Nominal discharge current I <sub>n</sub> (L-G)	20 kA
Nominal discharge current I <sub>n</sub> (N-G)	20 kA

### UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A
Tightening torque	4 lb <sub>r</sub> -in.
Conductor cross section AWG	30 ... 14

### UL connection data

Conductor cross section AWG	10 ... 2
Tightening torque	30 lb <sub>r</sub> -in.

## Classifications

### eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130805
eCl@ss 7.0	27130805
eCl@ss 8.0	27130806
eCl@ss 9.0	27130806

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

## Classifications

### ETIM

ETIM 5.0	EC000941
----------	----------

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## Approvals

### Approvals

#### Approvals

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

#### Ex Approvals

#### Approvals submitted

### Approval details

UL Recognized

KEMA-KEUR

ÖVE

cUL Recognized

CCA

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

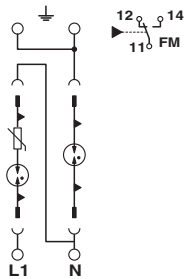
## Approvals

IECEE CB Scheme

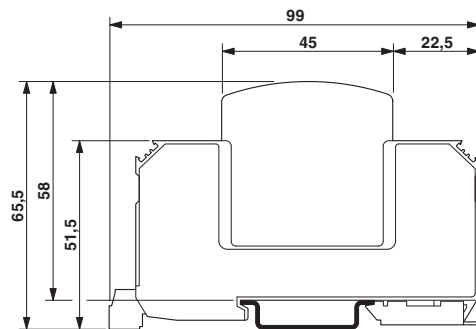
cULus Recognized

## Drawings

Circuit diagram



Dimensional drawing



Phoenix Contact 2016 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>



Below is a list of articles with direct links to our shop Electric Automation Network where you can see:

- Quote per purchase volume in real time.
- Online documentation and datasheets of all products.
- Estimated delivery time enquiry in real time.
- Logistics systems for the shipment of materials almost anywhere in the world.
- Purchasing management, order record and tracking of shipments.

To access the product, [click on the green button.](#)

Product	Code	Reference	Product link
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.	2902577	VAL-MS 350 VF/1+1-FM	<a href="#">Buy on EAN</a>