

2901861
<https://www.phoenixcontact.com/us/products/2901861>

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 documentation. Our general terms of use for downloads are valid.



Plug-in surge arrester free of leakage current for 3-phase power supply networks with N and PE in a common conductor (4-conductor system: L1, L2, L3, PEN).

Commercial data

Item number	2901861
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1321
Catalog page	Page 42 (C-6-2015)
GTIN	4046356912822
Weight per piece (including packing)	327 g
Weight per piece (excluding packing)	308.1 g
Country of origin	DE

VAL-MS 350 VF/3+0 - Type 2 surge arrester



2901861

<https://www.phoenixcontact.com/us/products/2901861>

Technical data

Notes

General

Note	Only usable in IT Systems between L-PE, if the exposed-conductive-parts (bodies) of the equipment of the low-voltage installation is connected to the earthing arrangement of the transformer substation (interconnected earthing arrangement of the HV-transformer substation with the bodies of the LV-installation. $R_E = R_A$ accordance to IEC 60364-4-442 / VDE 0100-442 Fig. 44D / Example a).
------	--

Product properties

Product type	Surge arrester
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-C
	IT
Type	DIN rail module, two-section, divisible
Number of positions	3
Surge protection fault message	optical

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
-------------------------	---------------

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

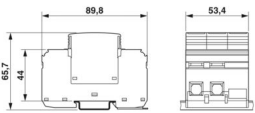
Dimensions

VAL-MS 350 VF/3+0 - Type 2 surge arrester



2901861

<https://www.phoenixcontact.com/us/products/2901861>

Dimensional drawing	
Width	53.4 mm
Height	89.8 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 Div.

Material specifications

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

Protective circuit

Mode of protection	L-PE
	L-PEN
Direction of action	3L-N/PE
Nominal voltage U_N	240/415 V AC (TN-C)
	230 V AC (IT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	350 V AC
Rated load current I_L	80 A
Residual current I_{PE}	$\leq 5 \mu A$
Standby power consumption P_C	$\leq 6.00 \text{ mVA}$
Nominal discharge current I_n (8/20) μs	10 kA
Maximum discharge current I_{max} (8/20) μs	20 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	$\leq 1.5 \text{ kV}$
Residual voltage U_{res}	$\leq 1.2 \text{ kV}$ (at I_n)
	$\leq 1.2 \text{ kV}$ (at 10 kA)
	$\leq 1.1 \text{ kV}$ (at 5 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) μs	$\leq 1.5 \text{ kV}$
TOV behavior at U_T (L-PEN)	415 V AC (5 s / withstand mode)
	440 V AC (120 min / withstand mode)
Response time t_A	$\leq 100 \text{ ns}$
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	125 A (gG)

Environmental and real-life conditions

VAL-MS 350 VF/3+0 - Type 2 surge arrester



2901861

<https://www.phoenixcontact.com/us/products/2901861>

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)	25g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-L)	700 V AC
Nominal discharge current I_n (L-L)	20 kA
Mode of protection	L-L
Nominal voltage	240 V AC
Power distribution system	Delta
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2420 V
SPD Type	4CA

UL connection data

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

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	DIN rail: 35 mm
---------------	-----------------

VAL-MS 350 VF/3+0 - Type 2 surge arrester

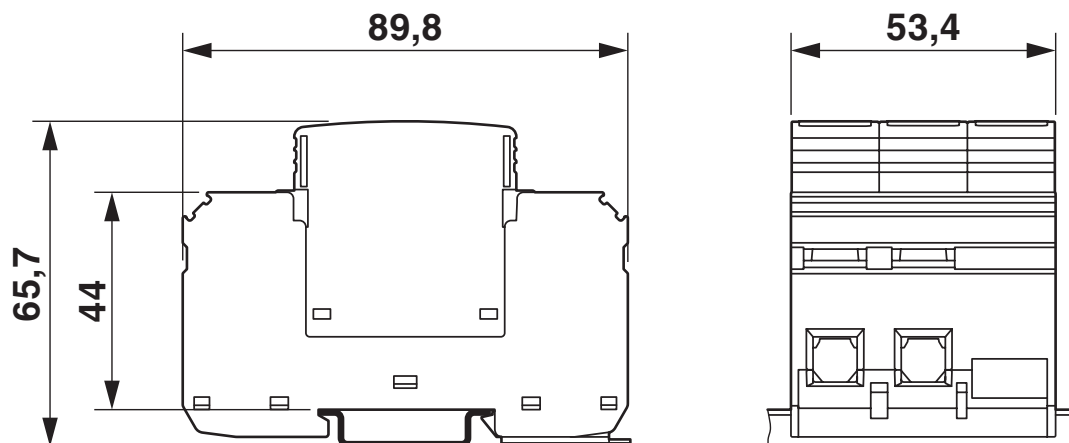
2901861

<https://www.phoenixcontact.com/us/products/2901861>

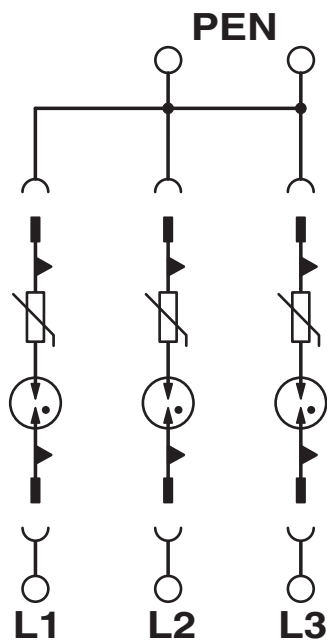


Drawings

Dimensional drawing



Circuit diagram



VAL-MS 350 VF/3+0 - Type 2 surge arrester



2901861

<https://www.phoenixcontact.com/us/products/2901861>

Environmental product compliance

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

VAL-MS 350 VF/3+0 - Type 2 surge arrester



2901861

<https://www.phoenixcontact.com/us/products/2901861>

Accessories

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

<https://www.phoenixcontact.com/us/products/2749589>



Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

ZBN 18,LGS:L1-N,ERDE - Marker for terminal blocks

2749576

<https://www.phoenixcontact.com/us/products/2749576>



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

VAL-MS 350 VF/3+0 - Type 2 surge arrester

2901861

<https://www.phoenixcontact.com/us/products/2901861>



ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/us/products/2809128>



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/us/products/1051993>



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

VAL-MS 350 VF/3+0 - Type 2 surge arrester

2901861

<https://www.phoenixcontact.com/us/products/2901861>



DK-BIC-35 - Feed-through terminal block

2749880

<https://www.phoenixcontact.com/us/products/2749880>

Feed-through terminal block for VAL and FLT applications



MPB 18/1- 2 - Wiring bridge

2809209

<https://www.phoenixcontact.com/us/products/2809209>

Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 2-pos.



VAL-MS 350 VF/3+0 - Type 2 surge arrester



2901861

<https://www.phoenixcontact.com/us/products/2901861>

MPB 18/1- 3 - Wiring bridge

2809212

<https://www.phoenixcontact.com/us/products/2809212>

Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 3-pos.



MPB 18/1- 4 - Wiring bridge

2809225

<https://www.phoenixcontact.com/us/products/2809225>

Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 4-pos.



VAL-MS 350 VF/3+0 - Type 2 surge arrester

2901861

<https://www.phoenixcontact.com/us/products/2901861>



MPB 18/1- 6 - Wiring bridge

2748564

<https://www.phoenixcontact.com/us/products/2748564>

Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 6-pos.

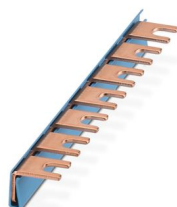


MPB 18/1- 7 BU - Wiring bridge

2856278

<https://www.phoenixcontact.com/us/products/2856278>

Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 7-pos., color: Blue



VAL-MS 350 VF/3+0 - Type 2 surge arrester



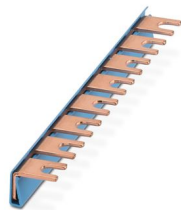
2901861

<https://www.phoenixcontact.com/us/products/2901861>

MPB 18/1- 8 BU - Wiring bridge

2858470

<https://www.phoenixcontact.com/us/products/2858470>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos., color: Blue

MPB 18/1- 8 - Wiring bridge

2748577

<https://www.phoenixcontact.com/us/products/2748577>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 8-pos.

VAL-MS 350 VF/3+0 - Type 2 surge arrester



2901861

<https://www.phoenixcontact.com/us/products/2901861>

MPB 18/1- 9 - Wiring bridge

2748580

<https://www.phoenixcontact.com/us/products/2748580>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 9-pos.

MPB 18/1-12 - Wiring bridge

2748593

<https://www.phoenixcontact.com/us/products/2748593>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 12-pos.

VAL-MS 350 VF/3+0 - Type 2 surge arrester



2901861

<https://www.phoenixcontact.com/us/products/2901861>

MPB F200X16/ 1GS - Wiring bridge

2818339

<https://www.phoenixcontact.com/us/products/2818339>



Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 200 mm

MPB F400X16/ 1GS - Wiring bridge

2818342

<https://www.phoenixcontact.com/us/products/2818342>



Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 400 mm

VAL-MS 350 VF/3+0 - Type 2 surge arrester

2901861

<https://www.phoenixcontact.com/us/products/2901861>



MPB F600X16/ 1GS - Wiring bridge

2818355

<https://www.phoenixcontact.com/us/products/2818355>



Wiring bridge flexible, diameter: 16 mm², with a fork-type cable lug on one side, length: 600 mm

VAL-MS 350 VF ST - Type 2 surge protection plug

2856595

<https://www.phoenixcontact.com/us/products/2856595>



Surge protection connector type 2 with series connection consisting of varistor and gas-filled spark gap for VAL-MS base element, thermal monitoring, visual fault warning. Design: 350 V AC

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com