

VAL-MS 800/30 VF/FM - Type 2 surge arrester



2805402

<https://www.phoenixcontact.com/us/products/2805402>

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Surge arrester consisting of 2-channel base element with remote indication contact and protective plugs connected in series with a varistor and a gas-filled spark gap.

Your advantages

- Quality proven millions of times over in the widest range of applications
- Rapid installation with bridges, thanks to industry-standard overall width of 1 HP
- Easy testing and insulation measurement, thanks to pluggable protection modules
- Can be used in power electronics applications and wind turbine generators (rotor) due to application-specific response behavior

Commercial data

Item number	2805402
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
Catalog page	Page 65 (C-4-2019)
GTIN	4046356498821
Weight per piece (including packing)	251.5 g
Weight per piece (excluding packing)	244.2 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Notes

General

Note	For use in all low-voltage systems between L-PEN. Only for use in IT systems between L-PE if the bodies of the equipment in the low-voltage system are connected to the grounding system of the transformer station. (common grounding of the HV transformer station and the bodies of the LV consumer's installation. $R_E = R_A$ according to IEC 60364-4-442/VDE 0100-442 Figure 44D/example a) $V_{SDC} > 2500 \text{ V}$
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Product properties

Product type	Surge arrester
Product family	VALVETRAB MS
IEC test classification	II T2
EN type	T2
IEC power supply system	TN IT
Type	DIN rail module, two-section, divisible
Distance between live and grounded parts	8 mm
Number of positions	2
Surge protection fault message	Optical, remote indicator contact

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)

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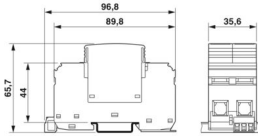
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Stripping length	16 mm
Conductor cross section flexible	1.5 mm ² ... 25 mm ²
Conductor cross section rigid	1.5 mm ² ... 35 mm ²
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm ² ... 16 mm ²

Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm
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	35.6 mm
Height	96.8 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	2 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

Protective circuit

Mode of protection	L-PE L-PEN
Direction of action	1L-GND
Nominal voltage U_N	400/690 V AC (TN-C) 690 V AC (IT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	800 V AC

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Rated load current I_L	80 A
Residual current I_{PE}	$\leq 3 \mu A$
Standby power consumption P_C	$\leq 3.00 \text{ mVA}$
Nominal discharge current I_n (8/20) μs	15 kA
Maximum discharge current I_{max} (8/20) μs	30 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	$\leq 5 \text{ kV}$
Residual voltage U_{res}	$\leq 3 \text{ kV}$ (at I_n)
	$\leq 2.6 \text{ kV}$ (at 10 kA)
	$\leq 2.4 \text{ kV}$ (at 5 kA)
	$\leq 2.3 \text{ kV}$ (at 3 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) μs	$\leq 5 \text{ kV}$
TOV behavior at U_T	1550 V AC (5 s / 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	100 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	$\leq 2000 \text{ m}$ (amsl)
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)

Standards and regulations

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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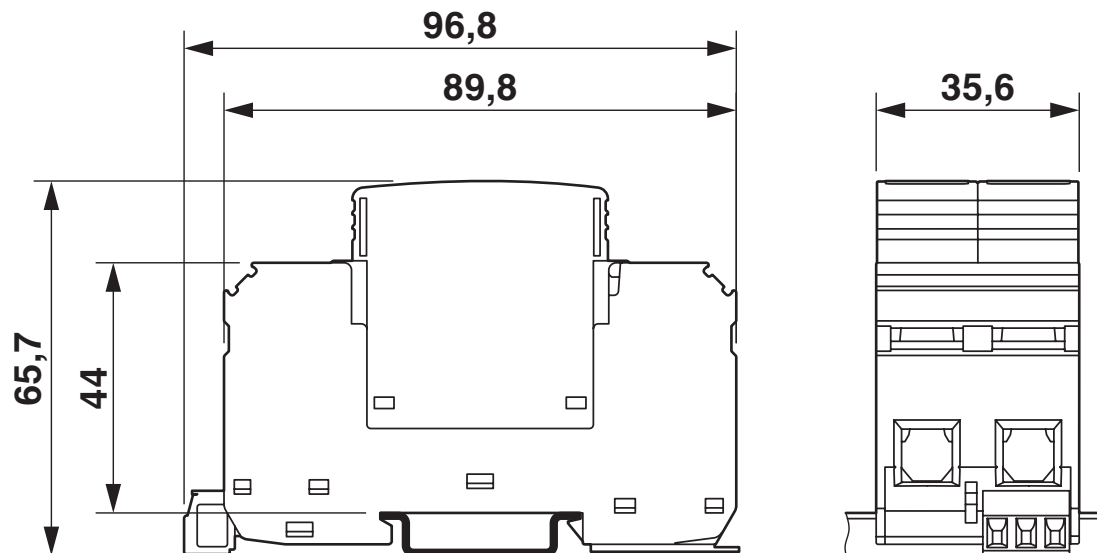
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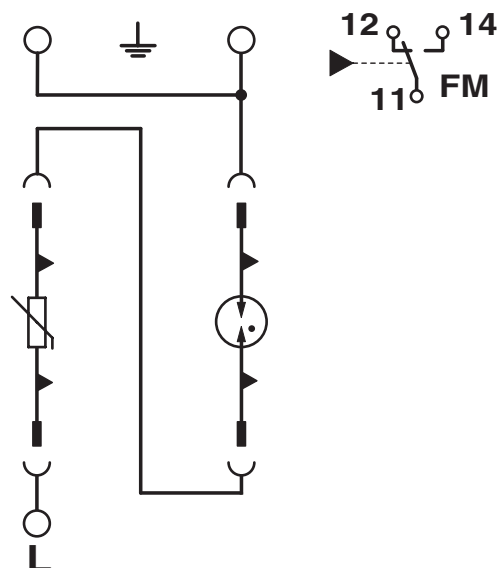


Drawings

Dimensional drawing



Circuit diagram



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Approvals

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IECEE CB Scheme

Approval ID: AT 2905/M1



EAC

Approval ID: RU C-DE.*09.B.00169

CCA

Approval ID: NTR-AT 1947-A



KEMA-KEUR

Approval ID: 71-113273 REV.1



DNV GL

Approval ID: TAE000041M



ÖVE

Approval ID: 18583-001-17

UAE-RoHS

Approval ID: 22-09-51251

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Classifications

ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171202

ETIM

ETIM 9.0	EC000941
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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Accessories

MPB 18/1- 2 - Wiring bridge

2809209

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



MPB 18/1- 3 - Wiring bridge

2809212

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



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MPB 18/1- 4 - Wiring bridge

2809225

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



MPB 18/1- 6 - Wiring bridge

2748564

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



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MPB 18/1- 7 BU - Wiring bridge

2856278

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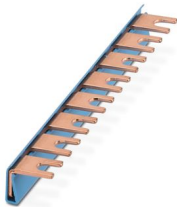


Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 7-pos., color: Blue

MPB 18/1- 8 BU - Wiring bridge

2858470

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

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MPB 18/1- 8 - Wiring bridge

2748577

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

MPB 18/1- 9 - Wiring bridge

2748580

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

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MPB 18/1-12 - Wiring bridge

2748593

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

MPB 18/1-57 - Wiring bridge

2809238

<https://www.phoenixcontact.com/us/products/2809238>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 57-pos.

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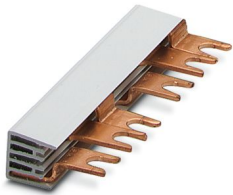
<https://www.phoenixcontact.com/us/products/2805402>

MPB 18/3- 6 - Wiring bridge

2809241

<https://www.phoenixcontact.com/us/products/2809241>

Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 6-pos.



MPB 18/4- 8 - Wiring bridge

2809283

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Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 8-pos.



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ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

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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

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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

DK-BIC-35 - Feed-through terminal block

2749880

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



Feed-through terminal block for VAL and FLT applications

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ATP-QTTCB - Partition plate

3206238

<https://www.phoenixcontact.com/us/products/3206238>

Partition plate, depth: 54 mm, width: 2 mm, height: 102 mm, color: gray



ZBN 18 CUS - Zack marker strip

0825059

<https://www.phoenixcontact.com/us/products/0825059>



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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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

SZK PZ2 VDE - Screwdriver

1206463

<https://www.phoenixcontact.com/us/products/1206463>



Screwdriver, PZ crosshead, VDE insulated, size: PZ 2 x 100 mm, 2-component grip, with non-slip grip

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VAL-MS 750/30-ST - Type 2 surge protection plug

2920256

<https://www.phoenixcontact.com/us/products/2920256>



Type 2 surge protection plug with a varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 750 V AC

F-MS 2200/30 ST - Type 2 surge protection plug

2805392

<https://www.phoenixcontact.com/us/products/2805392>



Surge protection plug type 2, spark gap with high insulation voltage strength, used only as replacement plug for the corresponding complete item.

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