

2807609

<https://www.phoenixcontact.com/us/products/2807609>

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Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 500 V AC

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
- Wide range of applications due to various nominal voltages
- High degree of modularity provides individual solutions for every application

Commercial data

Item number	2807609
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	CL18
Product key	CL1321
Catalog page	Page 69 (C-4-2019)
GTIN	4017918075293
Weight per piece (including packing)	61.63 g
Weight per piece (excluding packing)	60.34 g
Customs tariff number	85363010
Country of origin	DE

# VAL-MS 500 ST - Type 2 surge protection plug

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## Technical data

### Notes

Order information:	Use in DC applications on request
General	
Note	Usable in all low-voltage systems between L-N or L-PEN. 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	Replacement plug
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	5 mm
Number of positions	1
Surge protection fault message	optical
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.10
Insulation characteristics	
Overvoltage category	III
Pollution degree	2

### Electrical properties

Nominal frequency $f_N$	50 Hz (60 Hz)
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### Connection data

Connection method	pluggable
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### Dimensions

Dimensional drawing	
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Width	17.5 mm
Height	52.4 mm
Depth	55.3 mm
Horizontal pitch	1 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
Material group	I
Housing material	PA 6.6

## Protective circuit

Mode of protection	L-PE
	L-PEN
Direction of action	1L-N/PE
Nominal voltage $U_N$	400/690 V AC (TN)
	500 V AC (IT)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous voltage $U_C$	600 V AC
Residual current $I_{PE}$	$\leq 0.45$ mA
Standby power consumption $P_C$	$\leq 250.00$ mVA
Nominal discharge current $I_n$ (8/20) $\mu$ s	15 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s	30 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$	$\leq 2.7$ kV
Residual voltage $U_{res}$	$\leq 2.7$ kV (at $I_n$ )
	$\leq 2.5$ kV (at 10 kA)
	$\leq 2.3$ kV (at 5 kA)
	$\leq 2.2$ kV (at 3 kA)
TOV behavior at $U_T$	690 V AC (5 s / withstand mode)
	762 V AC (120 min / withstand mode)
Response time $t_A$	$\leq 25$ ns
Max. backup fuse with branch wiring	125 A (gG)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	$\leq 2000$ m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm$ X, $\pm$ Y, $\pm$ Z)

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Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)
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## Approvals

### UL specifications

Maximum continuous operating voltage MCOV (L-N)	600 V AC
Nominal discharge current $I_n$ (L-N)	10 kA
Mode of protection	L-N
Nominal voltage	500 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	2370 V
SPD Type	4CA

## Standards and regulations

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

## Mounting

Mounting type	on base element
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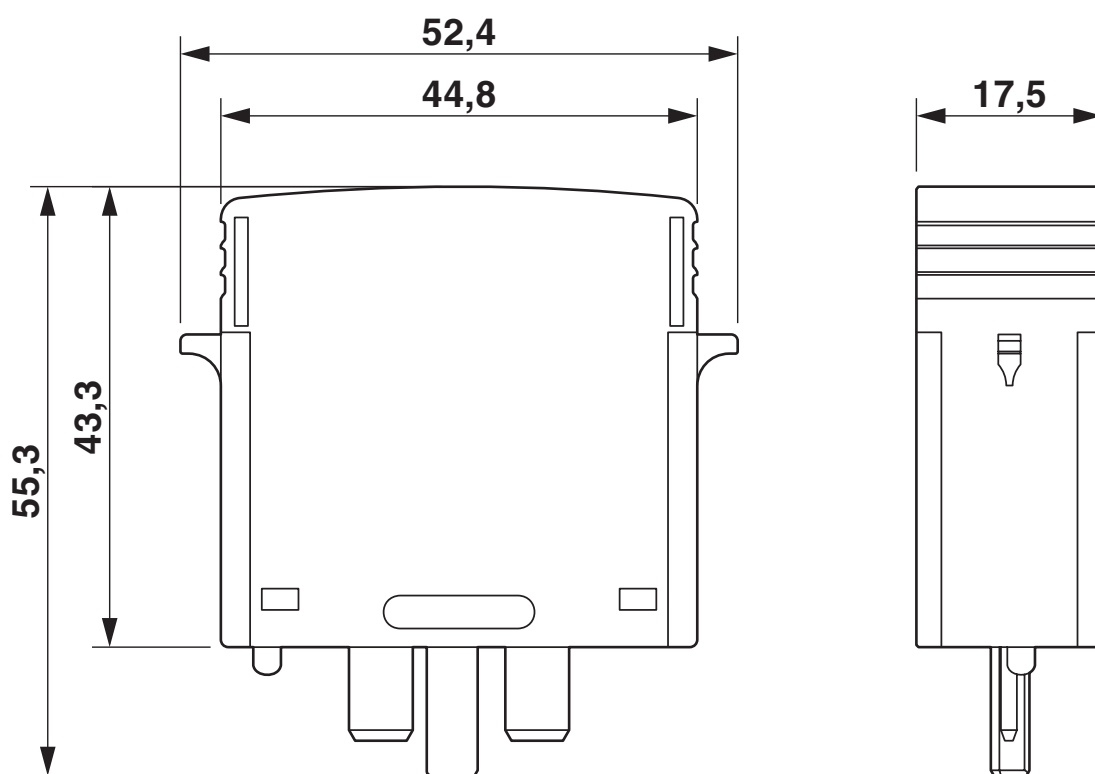


## Drawings

Circuit diagram



Dimensional drawing



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2807609>



**cUL Recognized**  
Approval ID: FILE E 330181



**UL Recognized**  
Approval ID: FILE E 330181



**IECEE CB Scheme**  
Approval ID: AT 2905/M1



**EAC**  
Approval ID: EAC-Zulassung

**CCA**

Approval ID: NTR-AT 1947-A



**KEMA-KEUR**  
Approval ID: 71-113273 REV.1



**DNV GL**  
Approval ID: TAE000041M



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



**CSA**  
Approval ID: 13631



**ÖVE**  
Approval ID: 18583-001-17

**UAE-RoHS**

Approval ID: 22-09-51251

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cULus Recognized

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## Classifications

### ECLASS

ECLASS-11.0	27130890
ECLASS-13.0	27171292

### ETIM

ETIM 9.0	EC002496
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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 18/1-10/1.0.0 - Wiring bridge

2830443

<https://www.phoenixcontact.com/us/products/2830443>



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 10 pitches with contact sequence 1-0-0

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### MPB 18/4- 8 - Wiring bridge

2809283

<https://www.phoenixcontact.com/us/products/2809283>



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

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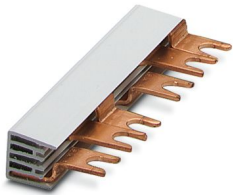


## MPB 18/3- 6 - Wiring bridge

2809241

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

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



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## 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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## 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.

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## 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.

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## 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.

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## 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.

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## 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.



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## 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.



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## 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.



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## 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



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## 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



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## 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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## VAL-MS BE - Type 2 surge protection base element

2817741

<https://www.phoenixcontact.com/us/products/2817741>



Base element for type 2 arresters of the VALVETRAB MS series of products.  
Design: 1-channel

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## VAL-MS BE/FM - Type 2 surge protection base element

2817738

<https://www.phoenixcontact.com/us/products/2817738>

Base element for type 2 arresters of the VALVETRAB MS series of products, with remote indication contact. Design: 1-channel



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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



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