

# VAL-MS/3+0-BE - Type 2 surge protection base element



2881816

<https://www.phoenixcontact.com/us/products/2881816>

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Base element for type 2 arresters of the VALVETRAB MS product range. Version for 3-phase power supply with PEN conductor.

## 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	2881816
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
Catalog page	Page 67 (C-4-2019)
GTIN	4046356130417
Weight per piece (including packing)	224.7 g
Weight per piece (excluding packing)	203.2 g
Customs tariff number	85366990
Country of origin	DE

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## Technical data

### Notes

#### General

Note	For installation into a touch protected cabinet. For applications with $U_C > 500$ V distances at the side and distances at the connection area must be minimum of 5 mm between different active parts including earthed parts.
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### Product properties

IEC test classification	II
	T2
EN type	T2
Type	Base element, DIN rail mounting
Product type	Base element
Product family	VALVETRAB MS
Number of positions	3
Surge protection fault message	none

#### Insulation characteristics

Overvoltage category	III
Pollution degree	2

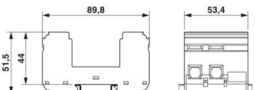
### Electrical properties

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

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm (1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> ) 4.5 Nm (25 mm <sup>2</sup> ... 35 mm <sup>2</sup> )
Stripping length	16 mm
Conductor cross section flexible	1.5 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Conductor cross section rigid	1.5 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>

### Dimensions

Dimensional drawing	
Width	53.4 mm

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Height	89.8 mm
Depth	51.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	3 Div.

## Material specifications

Color	black (RAL 9005) black (RAL 9005)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PBT
Material group	I
Housing material	PBT

## Mechanical properties

### Mechanical data

Open side panel	No
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## Protective circuit

Direction of action	3L-PEN
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous voltage $U_C$	800 V AC
Rated load current $I_L$	80 A
Short-circuit current rating $I_{SCCR}$	25 kA
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	200 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	≤ 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

Nominal voltage	690 V AC
SPD Type	4CA

### UL connection data

Tightening torque	30 lb <sub>F</sub> -in.
Conductor cross section AWG	14 ... 2

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## 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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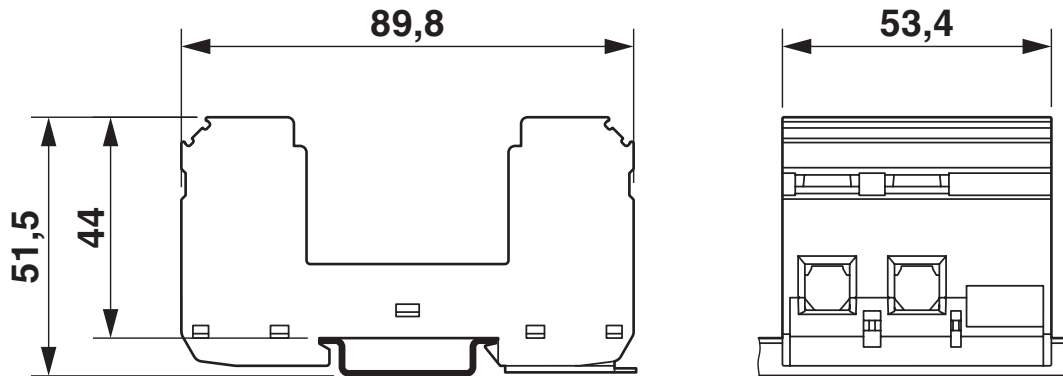
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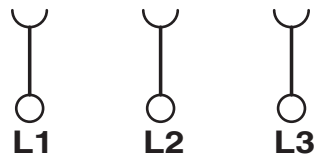
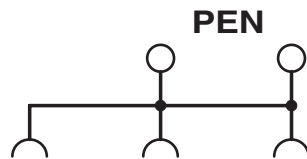
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2881816>



**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: 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



**CSA**

Approval ID: 13631



**ÖVE**

Approval ID: 18583-001-17

**UAE-RoHS**

Approval ID: 22-09-51251

**cULus Recognized**

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## Classifications

### ECLASS

ECLASS-11.0	27130803
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

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values



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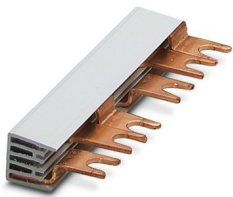
## Accessories

### 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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### 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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## 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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## 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

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## 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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