

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

2881803

<https://www.phoenixcontact.com/us/products/2881803>

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Base element for type 2 arresters of the VALVETRAB MS product range, with remote indication contact. Version for 3-phase power supplies 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	2881803
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
GTIN	4046356091442
Weight per piece (including packing)	233 g
Weight per piece (excluding packing)	204 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

Product type	Base element
Product family	VALVETRAB MS
IEC test classification	II T2
EN type	T2
Type	Base element, DIN rail mounting
Number of positions	3
Surge protection fault message	Remote indication 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 <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>

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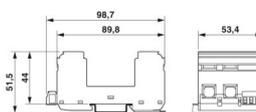
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## Remote fault indicator contact

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 <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	28 ... 16

## Dimensions

Dimensional drawing	
Width	53.4 mm
Height	98.7 mm
Depth	51.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	3 Div.

## Material specifications

Color	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 operating 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

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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 indicator/remote signaling

Operating voltage	125 V AC
AC operating current	1 A AC

### UL connection data

Tightening torque	30 lb <sub>f</sub> -in.
Conductor cross-section AWG	14 ... 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
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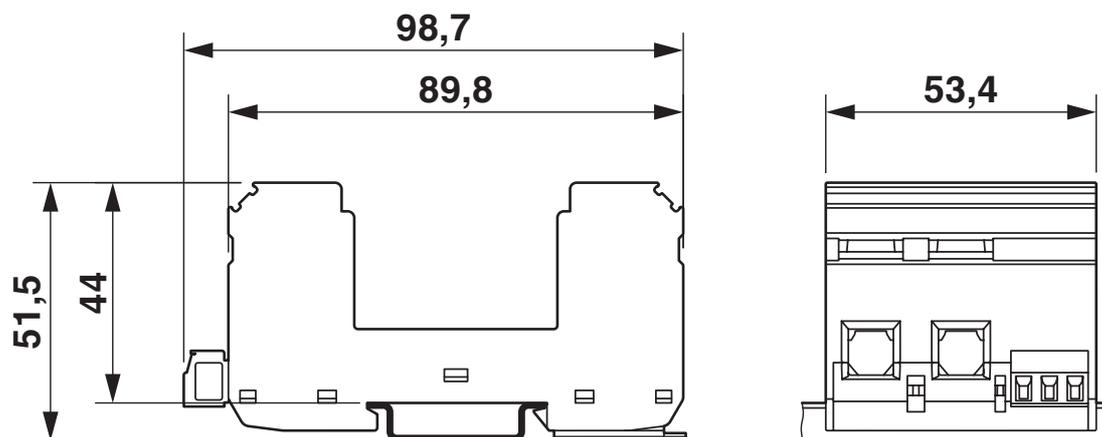
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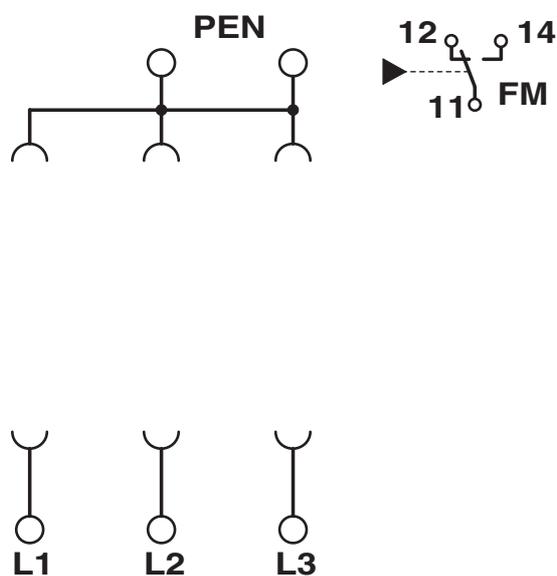
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2881803>



**cUL Recognized**

Approval ID: FILE E 330181



**UL Recognized**

Approval ID: FILE E 330181



**IECEE CB Scheme**

Approval ID: AT 2905/M1

**CCA**

Approval ID: NTR-AT 1947-A



**KEMA-KEUR**

Approval ID: 71-148002



**DNV GL**

Approval ID: TAE000041M



**CSA**

Approval ID: 13631



**ÖVE**

Approval ID: 18583-001-17

**UAE-RoHS**

Approval ID: 22-09-51251

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## Classifications

### ECLASS

ECLASS-13.0	27171292
ECLASS-15.0	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
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### 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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### EF3.0 Climate Change

CO2e kg	0.946 kg CO2e
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