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VAL-MS 230/10 - Type 2 surge arrester

2859013

https://www.phoenixcontact.com/gb/products/2859013

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Surge voltage arrester consisting of base element and ground connector with high-capacity varistor, for mounting on NS 35/7.5, nominal voltage: 230 V AC, 1-channel.

Commercial data

Item number	2859013
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	CL1321
Product key	CL1321
GTIN	4017918902667
Weight per piece (including packing)	111.12 g
Weight per piece (excluding packing)	109.25 g
Customs tariff number	85363030
Country of origin	DE

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Technical data

Product properties

IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN
	TT
Type	DIN rail module, two-section, divisible
Product type	Surge arrester
Product family	VALVETRAB MS
Number of positions	1
Surge protection fault message	optical

Insulation characteristics

Overvoltage category	III
Pollution degree	2

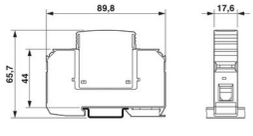
Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm (1.5 mm² ... 16 mm²)
	4.5 Nm (25 mm² ... 35 mm²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm² ... 25 mm²
Conductor cross section rigid	1.5 mm² ... 35 mm²
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm² ... 16 mm²

Dimensions

Dimensional drawing	
Width	17.6 mm
Height	89.8 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 Div.

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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-N
	L-PEN
Direction of action	1L-N/PE
Nominal voltage U_N	240/415 V AC (TN)
	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	275 V AC
Rated load current I_L	80 A
Residual current I_{PE}	≤ 0.45 mA
Standby power consumption P_C	≤ 120.00 mVA
Nominal discharge current I_n (8/20) µs	20 kA
Maximum discharge current I_{max} (8/20) µs	40 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 1.35 kV
Residual voltage U_{res}	≤ 1.35 kV (at I_n)
	≤ 1.1 kV (at 10 kA)
	≤ 1 kV (at 5 kA)
	≤ 0.9 kV (at 3 kA)
TOV behavior at U_T	335 V AC (5 s / withstand mode)
	440 V AC (120 min / safe failure mode)
Response time t_A	≤ 25 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

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)

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Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-N)	275 V AC
Nominal discharge current I_n (L-N)	20 kA
Mode of protection	L-N
Nominal voltage	230 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	1900 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

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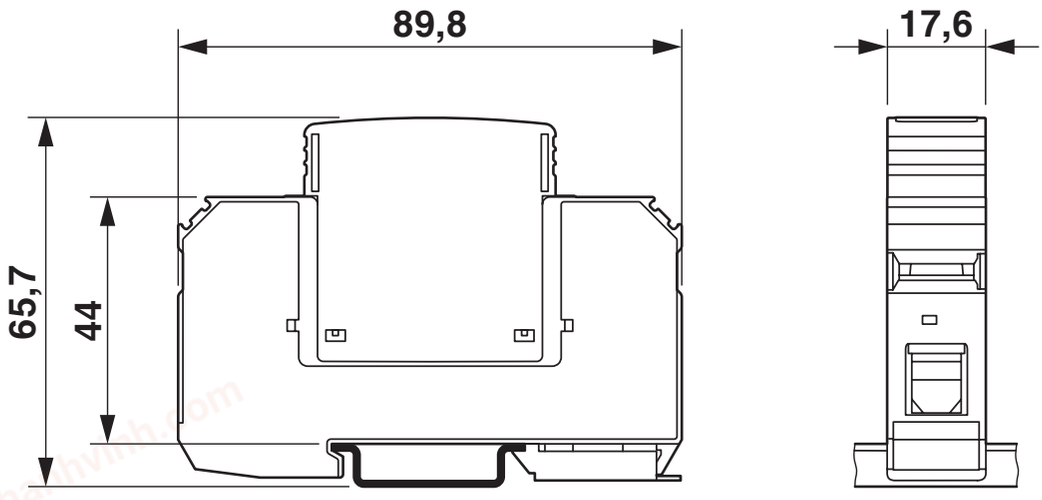
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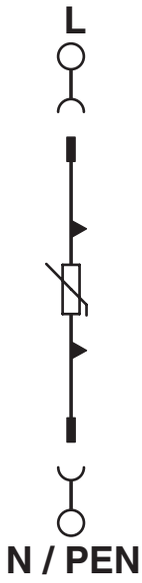
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Drawings

Dimensional drawing



Circuit diagram



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Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/2859013

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

UAE-RoHS
Approval ID: 22-09-51250

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Classifications

ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171202

ETIM

ETIM 9.0	EC000941

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 18/1-10/1.0.0 - Wiring bridge

2830443

https://www.phoenixcontact.com/gb/products/2830443

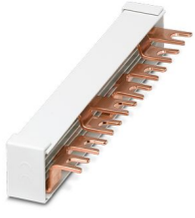


Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 10 pitches with contact sequence 1-0-0

MPB 18/4- 8 - Wiring bridge

2809283

https://www.phoenixcontact.com/gb/products/2809283



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

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VAL-MS 230/10 - Type 2 surge arrester

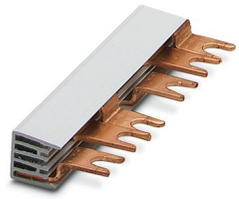
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MPB 18/3- 6 - Wiring bridge

2809241

https://www.phoenixcontact.com/gb/products/2809241



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

MPB 18/1-57 - Wiring bridge

2809238

https://www.phoenixcontact.com/gb/products/2809238



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

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VAL-MS 230/10 - Type 2 surge arrester

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MPB 18/1-12 - Wiring bridge

2748593

https://www.phoenixcontact.com/gb/products/2748593



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

MPB 18/1- 9 - Wiring bridge

2748580

https://www.phoenixcontact.com/gb/products/2748580



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

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VAL-MS 230/10 - Type 2 surge arrester

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MPB 18/1- 8 - Wiring bridge

2748577

https://www.phoenixcontact.com/gb/products/2748577



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

MPB 18/1- 6 - Wiring bridge

2748564

https://www.phoenixcontact.com/gb/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/gb/products/2809225



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

MPB 18/1- 3 - Wiring bridge

2809212

https://www.phoenixcontact.com/gb/products/2809212



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

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VAL-MS 230/10 - Type 2 surge arrester

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MPB 18/1- 2 - Wiring bridge

2809209

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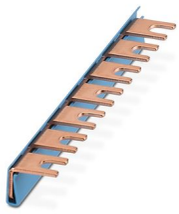


Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 2-pos.

MPB 18/1- 7 BU - Wiring bridge

2856278

https://www.phoenixcontact.com/gb/products/2856278



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

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VAL-MS 230/10 - Type 2 surge arrester

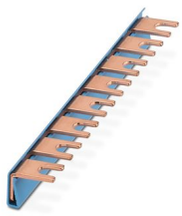
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https://www.phoenixcontact.com/gb/products/2859013

MPB 18/1- 8 BU - Wiring bridge

2858470

https://www.phoenixcontact.com/gb/products/2858470



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

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

https://www.phoenixcontact.com/gb/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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VAL-MS 230/10 - Type 2 surge arrester

2859013

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

2749576

https://www.phoenixcontact.com/gb/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

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

https://www.phoenixcontact.com/gb/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/gb/products/2749880



Feed-through terminal block for VAL and FLT applications

ZBN 18 CUS - Zack marker strip

0825059

https://www.phoenixcontact.com/gb/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 230/10 - Type 2 surge arrester

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B-STIFT - Marker pen

1051993

https://www.phoenixcontact.com/gb/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/gb/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 230 ST - Type 2 surge protection plug

2798844

https://www.phoenixcontact.com/gb/products/2798844



Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 230 V AC

VAL-MS BE - Type 2 surge protection base element

2817741

https://www.phoenixcontact.com/gb/products/2817741



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

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