

## Type 2 surge protection device - VAL-MS 230/FM - 2839130

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

### Why buy this product

- Single-channel, DIN-rail mountable protective devices
- Base element with/without floating remote indication contact
- Mechanical keying of all slots
- Optical, mechanical status indication for the individual arresters
- Consists of base element and plug
- Disconnect device on each individual plug



### Key commercial data

Packing unit	1
Minimum order quantity	1
Catalog page	Page 38 (TT-2011)
GTIN	 4 017918 182595
Custom tariff number	85363030
Country of origin	GERMANY

### Technical data

#### Standards

Housing material	PA
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	DIN VDE 0110-1
Standards for air and creepage distances	IEC 664-1
Degree of protection	IP20
Mounting type	DIN rail: 35 mm
Design	DIN rail module, two-section, divisible
Number of positions	1
Ambient temperature (operation)	-40 °C ... 80 °C

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### Technical data

#### Standards

Message: Surge protection fault	Optical, remote indicator contact
Direction of action	1L-N/PE
Width	17.7 mm
Height	96.8 mm
Depth	65.5 mm
Pitch unit	1 Div.

#### Protective circuit

IEC category	II
IEC category	T2
EN type	T2
Nominal voltage UN	230 V AC
Arrester rated voltage UC	275 V AC
Arrester rated voltage UC (L-N)	275 V AC
Arrester rated voltage UC (L-PEN)	275 V AC
Nominal frequency fN	50 Hz (60 Hz)
Ground conductor current IPE	≤ 300 µA (at UN)
Operating effective current IC at UN	≤ 300 µA
Max. discharge surge current I <sub>max</sub> (8/20) µs	40 kA
Max. discharge surge current I <sub>max</sub> (8/20) µs maximum (L-N)	40 kA
Max. discharge surge current I <sub>max</sub> (8/20) µs maximum (L-PEN)	40 kA
Nominal discharge surge current I <sub>n</sub> (8/20) µs	20 kA
Nominal discharge surge current I <sub>n</sub> (8/20) µs (L-N)	20 kA
Nominal discharge surge current I <sub>n</sub> (8/20) µs (L-PEN)	20 kA
Lightning test current (10/350) µs, peak value limp	3 kA
Max. energy absorption (2 ms)	550 J
Protection level Up	≤ 1.35 kV
Protection level UP (L-N)	≤ 1.35 kV
Protection level UP (L-PEN)	≤ 1.35 kV
Residual voltage	≤ 1 kV (at 5 kA)
Residual voltage (L-N)	≤ 1 kV (at 5 kA)
Residual voltage (L-PEN)	≤ 1 kV (at 5 kA)
Response time	≤ 25 ns
Response time (L-N)	≤ 25 ns
Response time (L-N)	≤ 25 ns
Max. required backup fuse with branch wiring	125 A (gL)
Short-circuit resistance IP with max. backup fuse (effective)	25 kA

#### Connection, protective circuit

Connection method	Screw connection
Connection type IN	Biconnect screw terminal block
Connection type OUT	Biconnect screw terminal block
Screw thread	M5
Tightening torque	4.5 Nm

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#### Connection, protective circuit

Tightening torque	30 lb in (UL)
Stripping length	14.5 mm
Conductor cross section stranded min.	0.5 mm <sup>2</sup>
Conductor cross section stranded max.	25 mm <sup>2</sup>
Conductor cross section solid min.	0.5 mm <sup>2</sup>
Conductor cross section solid max.	35 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	20
Conductor cross section AWG/kcmil max	2
AWG conductor cross section	10 ... 2 (UL)

#### Remote indicator contact

Connection name	Remote fault indicator contact
Switching function	PDT contact
Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Tightening torque	4 lb in (UL)
Stripping length	7 mm
Conductor cross section stranded min.	0.14 mm <sup>2</sup>
Conductor cross section stranded max.	1.5 mm <sup>2</sup>
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	28
Conductor cross section AWG/kcmil max	16
AWG conductor cross section	30 ... 14 (UL)
Maximum operating voltage U <sub>max</sub> AC	250 V AC
Maximum operating voltage U <sub>max</sub> DC	125 V DC
Max. operating current I <sub>max</sub>	1 A AC (inductive)
Max. operating current I <sub>max</sub>	1 A AC (ohmic)
Max. operating current I <sub>max</sub>	30 mA DC (inductive)
Max. operating current I <sub>max</sub>	200 mA DC (ohmic)
Min. permissible switching capacity	0.12 VA (12 V, 10 mA)

#### Standards

Standards/regulations	IEC 61643-1 2005
Standards/regulations	EN 61643-11/A11 2007
Standards/regulations	NF C61-740 1995
Standards/regulations	UL 1449

### Classifications

#### eClass

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801

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## Classifications

### eclass

eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130805
eCl@ss 7.0	27130805

### etim

ETIM 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000941

### unspsc

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## Approvals

### Approvals

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#### Approvals

IECEE CB Scheme / UL Recognized / KEMA-KEUR / ÖVE / cUL Recognized / GOST / GL / CCA / cULus Recognized

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#### Ex Approvals

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#### Approvals submitted

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### Approval details

IECEE CB Scheme

UL Recognized

KEMA-KEUR

## Type 2 surge protection device - VAL-MS 230/FM - 2839130

### Approvals

ÖVE

cUL Recognized

GOST

GL

CCA

cULus Recognized

### Accessories

#### Accessories

#### Bridges

Wiring bridge - MPB 18/1- 2 - 2809209



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

Wiring bridge - MPB 18/1- 3 - 2809212



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

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### Accessories

Wiring bridge - MPB 18/1- 4 - 2809225



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

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Wiring bridge - MPB 18/1- 6 - 2748564



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

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Wiring bridge - MPB 18/1- 7 BU - 2856278



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

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Wiring bridge - MPB 18/1- 8 BU - 2858470



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

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Wiring bridge - MPB 18/1- 8 - 2748577



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

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Wiring bridge - MPB 18/1- 9 - 2748580



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

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Wiring bridge - MPB 18/1-12 - 2748593



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

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Wiring bridge - MPB 18/1-57 - 2809238



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

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Wiring bridge - MPB 18/3- 6 - 2809241



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

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Wiring bridge - MPB 18/3- 9 - 2809254



Wiring bridge for modules with connecting pitch 17.5 mm, 3-phase, 9-pos.

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Wiring bridge - MPB 18/4- 8 - 2809283



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

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## Type 2 surge protection device - VAL-MS 230/FM - 2839130

### Accessories

Wiring bridge - MPB 18/4-12 - 2809296



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.

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Wiring bridge - MPB F200X16/ 1GS - 2818339



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 200 mm

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Wiring bridge - MPB F400X16/ 1GS - 2818342



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 400 mm

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Wiring bridge - MPB F600X16/ 1GS - 2818355



Wiring bridge flexible, diameter: 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 600 mm

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Wiring bridge - MPB F600X16/ 1GS - 2818355



Wiring bridge flexible, diameter: 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 600 mm

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Wiring bridge - MPB F400X16/ 1GS - 2818342



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 400 mm



## Type 2 surge protection device - VAL-MS 230/FM - 2839130

### Accessories

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Wiring bridge - MPB F200X16/ 1GS - 2818339



Wiring bridge flexible, diameter 16 mm<sup>2</sup>, with a fork-type cable lug on one side, length: 200 mm

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Wiring bridge - MPB 18/1-20/1.2.5 - 2830168



Wiring bridge for modules with connecting pitch 17.5 mm, 1-phase, 20 pitches with contact sequence 1-2-0-0-5

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Wiring bridge - MPB 18/4-12 - 2809296



Wiring bridge for modules with connecting pitch 17.5 mm, 4-phase, 12-pos.

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Wiring bridge - MPB 18/4- 8 - 2809283



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

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Wiring bridge - MPB 18/3- 6 - 2809241



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

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## Type 2 surge protection device - VAL-MS 230/FM - 2839130

### Accessories

Wiring bridge - MPB 18/1-57 - 2809238



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

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Wiring bridge - MPB 18/1-12 - 2748593



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

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Wiring bridge - MPB 18/1- 9 - 2748580



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

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Wiring bridge - MPB 18/1- 8 - 2748577



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

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Wiring bridge - MPB 18/1- 6 - 2748564



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

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Wiring bridge - MPB 18/1- 4 - 2809225



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

## Type 2 surge protection device - VAL-MS 230/FM - 2839130

### Accessories

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Wiring bridge - MPB 18/1- 3 - 2809212



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

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Wiring bridge - MPB 18/1- 2 - 2809209



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

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### Marking

Zack marker strip - ZBN 18,LGS:ERDE - 2749589



Zack marker strip, Strip, white, Labeled, Horizontal: Grounding symbol, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

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Zack marker strip - ZBN 18,LGS:L1-N,ERDE - 2749576



Zack marker strip, Strip, white, Labeled, Horizontal: L1, L2, L3, N, GND, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

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Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

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## Accessories

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Feed-through terminal block - DK-BIC-35 - 2749880



Feed-through terminal block for VAL and FLT applications

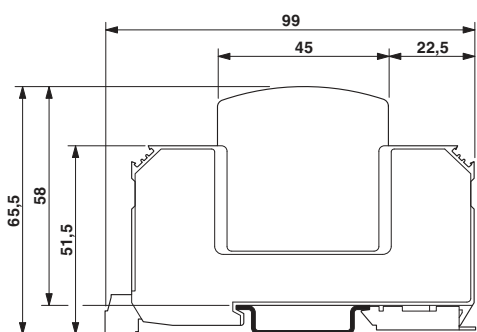
Wiring bridge - MPB 18/1-10/1.0.0 - 2830443



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

## Drawings

Dimensioned drawing



Circuit diagram

