

## Type 2 surge protection device - F-MS 12 - 2817987

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Surge arrester type 2, consisting of base element and protective plug with N-PE total current spark gap for mounting on NS 35/7.5, housing width: 17.5 mm (1 Div.)

### Product Features

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



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	124.3 GRM
Custom tariff number	85363030
Country of origin	Germany

### Technical data

#### Dimensions

Height	90 mm
Width	17.6 mm
Depth	58 mm
Horizontal pitch	1 Div.

#### Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
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## Technical data

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g
Vibration (operation)	5g

### General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
Number of ports	One
SPD design	Voltage-switching type
Mode of protection	N-PE
Mounting type	DIN rail: 35 mm
Color	black
Housing material	PA 6.6
	PBT
Pollution degree	2
Inflammability class according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	1
Surge protection fault message	Optical

### Protective circuit

Nominal voltage $U_N$	240/415 V AC (TN - only N-PE)
	240/415 V AC (TT - only N-PE)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$	260 V AC
Rated load current $I_L$	80 A
Residual current $I_{PE}$	≤ 5 $\mu$ A
Standby power consumption $P_C$	≤ 1.5 mVA
Nominal discharge current $I_n$ (8/20) $\mu$ s	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s	40 kA
Follow current interrupt rating $I_{fi}$	100 A (260 V)
Voltage protection level $U_p$	≤ 1.5 kV

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### Technical data

#### Protective circuit

Residual voltage $U_{res}$	$\leq 0.4$ kV (at $I_n$ )
	$\leq 0.25$ kV (at 10 kA)
	$\leq 0.15$ kV (at 5 kA)
	$\leq 0.1$ kV (at 3 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) $\mu$ s	$\leq 1.5$ kV
TOV behavior at $U_T$	1200 V AC (200 ms / withstand mode)
Response time $t_A$	$\leq 100$ ns
Max. backup fuse with V-type through wiring	80 A AC (gG)

#### Connection data

Connection method	Screw connection
Conductor cross section stranded min.	1.5 mm <sup>2</sup>
Conductor cross section stranded max.	25 mm <sup>2</sup>
Conductor cross section solid min.	1.5 mm <sup>2</sup>
Conductor cross section solid max.	35 mm <sup>2</sup>
AWG conductor cross section	15 ... 2
	10 ... 2 (UL)
Screw thread	M5
Tightening torque	4.5 Nm
	30 lb <sub>f</sub> -in. (UL)
Stripping length	16 mm

#### UL specifications

UL class	Type 4 SPD for Type 2 applications
Maximum continuous operating voltage MCOV (N-G)	260 V AC
Mode of protection	N-G
Power distribution system	1
Voltage protection rating VPR (N-G)	1 kV
Nominal discharge current $I_n$ (N-G)	20 kA

### Classifications

#### eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130805

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### Classifications

#### eCl@ss

eCl@ss 7.0	27130805
eCl@ss 8.0	27130805

#### ETIM

ETIM 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	EC000941
ETIM 5.0	EC000941

#### UNSPSC

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

### Approvals

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

#### Ex Approvals

#### Approvals submitted

#### Approval details

IECEE CB Scheme 
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UL Recognized 
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## Type 2 surge protection device - F-MS 12 - 2817987

### Approvals

KEMA-KEUR 

ÖVE 


cUL Recognized 

GOST 

GL

CCA

CSA

cULus Recognized 

### Accessories

#### Accessories

#### Bridge

Wiring bridge end cover - MPB 18/3- D - 2809322

End cover for lateral connection of wiring bridges, 3-phase

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### Accessories

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

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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 18/1-10/1.0.0 - 2830443



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

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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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## Type 2 surge protection device - F-MS 12 - 2817987

### Accessories

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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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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## Type 2 surge protection device - F-MS 12 - 2817987

### Accessories

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.

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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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### Device marking



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### Accessories

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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### Feed-through terminal block

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



Feed-through terminal block for VAL and FLT applications

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### Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, 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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Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, 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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### Marker pen

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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

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Cable-cutting tool - CUTFOX EB - 1204753



Power front cutters, for removing individual contacts from insertion bridges.

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Cable-cutting tool - CUTFOX 50 - 1206641



One-hand cable cutter to cut MPB wiring bridges to length

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### Spare parts

Type 2 surge protection plug - F-MS 12 ST - 2817990



Surge protection plug type 2, with N-PE total current spark gap for base element.

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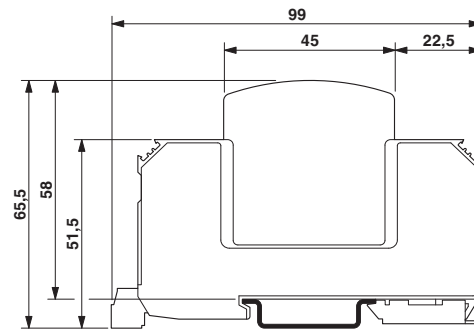
### Drawings

## Type 2 surge protection device - F-MS 12 - 2817987

Circuit diagram



Dimensioned drawing



The illustration shows the dimensional drawing for a version with remote indicator contact