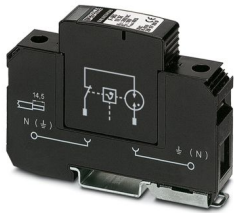


# F-MS 12 - Type 2 surge arrester

2817987

<https://www.phoenixcontact.com/us/products/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.)

## 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	2817987
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
Catalog page	Page 55 (C-4-2017)
GTIN	4017918163662
Weight per piece (including packing)	128.7 g
Weight per piece (excluding packing)	106.1 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

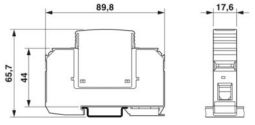
### Electrical properties

Nominal frequency $f_N$	50 Hz (60 Hz)
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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	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)
	Copper
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	N-PE
Direction of action	N-PE
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 voltage $U_C$	260 V AC
Rated load current $I_L$	80 A
Residual current $I_{PE}$	$\leq 5 \mu\text{A}$
Standby power consumption $P_C$	$\leq 1.50 \text{ mVA}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	20 kA
Maximum discharge current $I_{\text{max}}$ (8/20) $\mu\text{s}$	40 kA
Follow current interrupt rating $I_{fi}$	100 A
Voltage protection level $U_p$	$\leq 1.5 \text{ kV}$
Residual voltage $U_{\text{res}}$	$\leq 0.4 \text{ kV}$ (at $I_n$ )
	$\leq 0.25 \text{ kV}$ (at 10 kA)
	$\leq 0.15 \text{ kV}$ (at 5 kA)
	$\leq 0.1 \text{ kV}$ (at 3 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) $\mu\text{s}$	$\leq 1.5 \text{ kV}$
TOV behavior at $U_T$	1200 V AC (200 ms / withstand mode)
Response time $t_A$	$\leq 100 \text{ ns}$
Max. backup fuse with V-type through wiring	80 A (gG)

## Additional technical data

Maximum continuous voltage $U_C$	305 V AC
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## 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	$\leq 2000 \text{ m}$ (amsl)
Permissible humidity (operation)	5 % ... 95 %

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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

Maximum continuous operating voltage MCOV (N-G)	260 V AC
Nominal discharge current $I_n$ (N-G)	20 kA
Mode of protection	N-G
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (N-G)	1490 V
SPD Type	4CA

### 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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## Classifications

### ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171202

### ETIM

ETIM 9.0	EC000941
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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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