

F-MS 12 ST - Type 2 surge protection plug



2817990

<https://www.phoenixcontact.com/in/products/2817990>

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



Commercial Data

Item number	2817990
Packing unit	10 pc
Minimum order quantity	1 pc
Sales Key	CL1
Product Key	CL1321
Catalog Page	Page 71 (C-4-2019)
GTIN	4017918163648
Weight per Piece (including packing)	40.12 g
Weight per Piece (excluding packing)	35.56 g
Customs tariff number	85363010
Country of origin	IN

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Technical Data

Product properties

IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN
	TT
Type	Male
Product type	Replacement plug
Product family	VALVETRAB MS
Number of positions	1
Surge protection fault message	optical
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.10

Insulation characteristics

Overvoltage category	III
Pollution degree	2

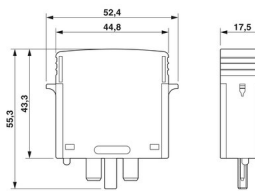
Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Connection data

Connection method	pluggable
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Dimensions

Dimensional drawing	
Width	17.5 mm
Height	52.4 mm
Depth	55.3 mm
Horizontal pitch	1 Div.

Material specifications

Color	jet black RAL 9005
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6
Material group	I

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Housing material	PA 6.6
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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
Residual current I_{PE}	$\leq 5 \mu\text{A}$
Standby power consumption P_C	$\leq 1.5 \text{ mVA}$
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Follow current interrupt rating I_{fi}	100 A (260 V)
Voltage protection level U_p	$\leq 1.5 \text{ kV}$
Residual voltage U_{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) μs	$\leq 1.5 \text{ kV}$
TOV behavior at U_T	1200 V AC (200 ms / withstand mode)
Response time t_A	$\leq 100 \text{ ns}$

Additional technical data

Maximum continuous voltage U_C	305 V AC
Impulse discharge current (10/350) μs , charge	1.25 As
Impulse discharge current (10/350) μs , specific energy	1.56 kJ/ Ω
Impulse discharge current (10/350) μs , peak value I_{imp}	2.5 kA (3 x)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	$\leq 2000 \text{ m}$ (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$, $\pm Y$, $\pm Z$)
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

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Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (N-G)	1490 V
SPD Type	4CA

Standards and regulations

Standards/specifications	IEC 61643-11
Standards/specifications	EN 61643-11

Mounting

Mounting type	on base element
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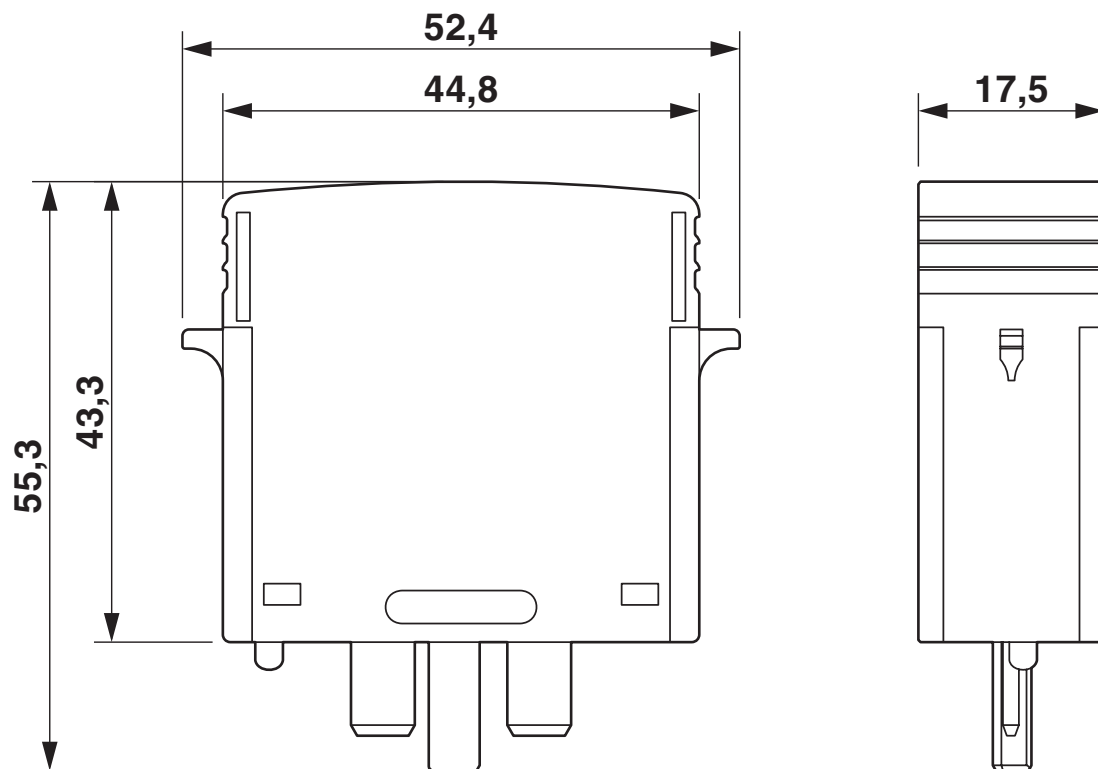


Drawings

Circuit diagram



Dimensional drawing



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Approvals



cUL Recognized

Approval ID: FILE E 330181



UL Recognized

Approval ID: FILE E 330181



IECEE CB Scheme

Approval ID: AT 2905/M1



EAC

Approval ID: EAC-Zulassung



KEMA-KEUR

Approval ID: 71-113273 REV.1



DNV GL

Approval ID: TAE000041M



EAC

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



CSA

Approval ID: 13631



ÖVE

Approval ID: 18583-001-16



ÖVE

Approval ID: 18583-001-17

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Classifications

ECLASS

ECLASS-11.0

27130890

ETIM

ETIM 8.0

EC002496

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

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

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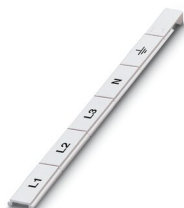


Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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

2749576

<https://www.phoenixcontact.com/in/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

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ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

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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

B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/in/products/1051993>



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

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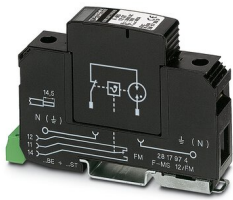
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F-MS 12/FM - Type 2 surge arrester

2817974

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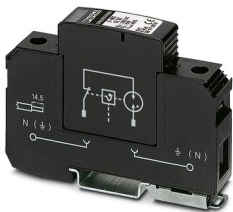


Surge arrester type 2, consisting of base element with remote indicator contact and protective plug with N-PE total current spark gap for mounting on NS 35/7.5, housing width: 17.5 mm (1 Div.)

F-MS 12 - Type 2 surge arrester

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.)

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VAL-MS BE/FM - Type 2 surge protection base element

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Base element for type 2 arresters of the VALVETRAB MS series of products, with remote indication contact. Design: 1-channel



VAL-MS BE - Type 2 surge protection base element

2817741

<https://www.phoenixcontact.com/in/products/2817741>

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



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PHOENIX CONTACT (I) Pvt. Ltd.
A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420
info@phoenixcontact.co.in