

F-MS 12 ST - Type 2 surge protection plug



2817990
<https://www.phoenixcontact.com/it/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	DE

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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

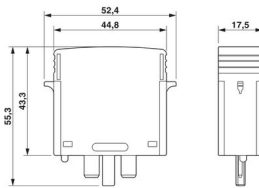
Electrical properties

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	black (RAL 9005)
	Copper
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6

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Material group	I
Housing material	PA 6.6

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}	$\leq 5 \mu A$
Standby power consumption P_C	$\leq 1.50 \text{ mVA}$
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)
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

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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

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	on base element
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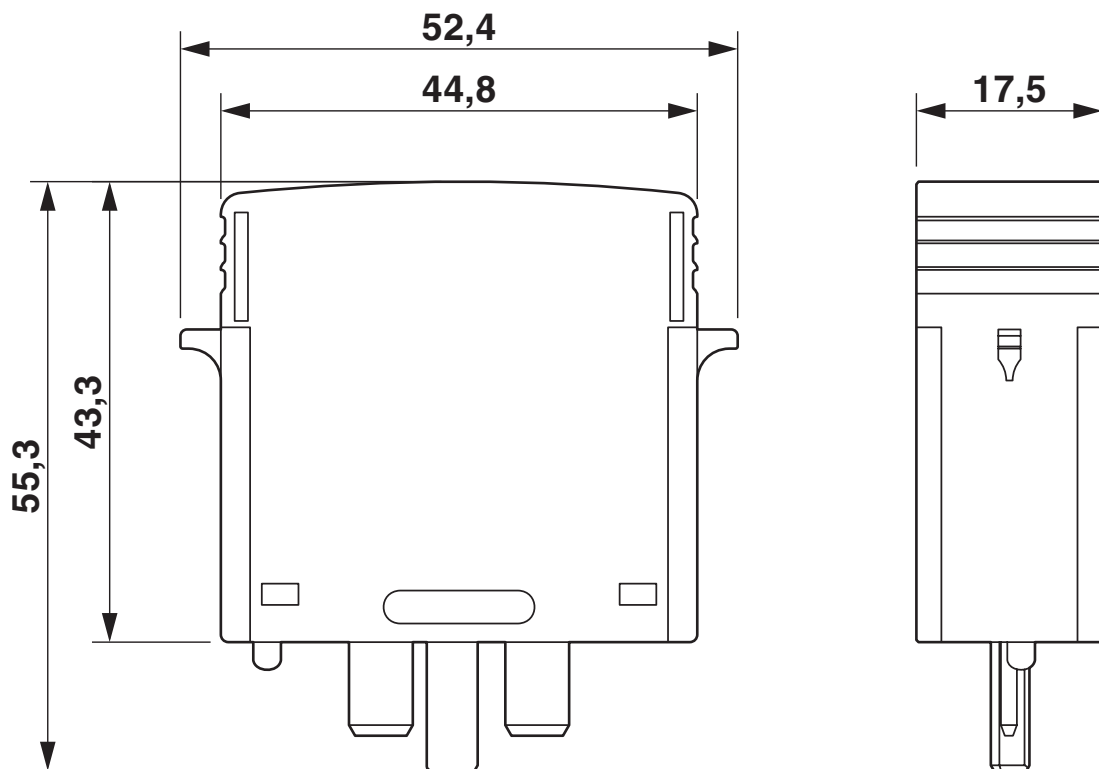


Drawings

Circuit diagram



Dimensional drawing



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Approvals

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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

CCA

Approval ID: NTR-AT 1947-A



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: 18583-001-17

cULus Recognized

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Classifications

ECLASS

ECLASS-11.0	27130890
ECLASS-13.0	27171292

ETIM

ETIM 9.0	EC002496
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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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