

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

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



## Key commercial data

package_quantity	10
GTIN	4017918163648

## Technical data

### Dimensions

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

### Ambient conditions

Degree of protection	IP20
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)	25 g
Vibration (operation)	5 g

### General

Standards/specifications	IEC 61643-11 2011
Standards/specifications	EN 61643-11 2012
IEC test classification	II
IEC test classification	T2
EN type	T2
SPD design	Voltage-switching type
Mode of protection	N-PE
Mounting type	On base element

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## Technical data

### General

<b>Color</b>	black
<b>Housing material</b>	PA 6.6
<b>Pollution degree</b>	2
<b>Inflammability class according to UL 94</b>	V-0
<b>Type</b>	DIN rail module, two-section, divisible
<b>Number of positions</b>	1
<b>Arrester can be tested with CHECKMASTER from software version:</b>	From SW rev. 1.10
<b>Surge protection fault message</b>	Optical

### Protective circuit

<b>Nominal voltage <math>U_N</math></b>	240/415 V AC (TN - only N-PE)
<b>Nominal voltage <math>U_N</math></b>	240/415 V AC (TT - only N-PE)
<b>Nominal frequency <math>f_N</math></b>	50 Hz (60 Hz)
<b>Nominal DC sparkover voltage <math>U_{agn}</math></b>	500 V $\pm$ 20 %
<b>Maximum continuous operating voltage <math>U_C</math></b>	260 V AC
<b>Residual current <math>I_{PE}</math></b>	$\leq$ 5 $\mu$ A
<b>Standby power consumption <math>P_C</math></b>	$\leq$ 1.5 mVA
<b>Nominal discharge current <math>I_n</math> (8/20) <math>\mu</math>s</b>	20 kA
<b>Maximum discharge current <math>I_{max}</math> (8/20) <math>\mu</math>s</b>	40 kA
<b>Follow current interrupt rating <math>I_{fi}</math></b>	100 A (260 V)
<b>Voltage protection level <math>U_p</math></b>	$\leq$ 1.5 kV
<b>Residual voltage <math>U_{res}</math></b>	$\leq$ 0.4 kV (at $I_n$ )
<b>Residual voltage <math>U_{res}</math></b>	$\leq$ 0.25 kV (at 10 kA)
<b>Residual voltage <math>U_{res}</math></b>	$\leq$ 0.15 kV (at 5 kA)
<b>Residual voltage <math>U_{res}</math></b>	$\leq$ 0.1 kV (at 3 kA)
<b>Front of wave sparkover voltage at 6 kV (1.2/50) <math>\mu</math>s</b>	$\leq$ 1.5 kV
<b>TOV behavior at <math>U_T</math></b>	1200 V AC (200 ms / withstand mode)
<b>Response time <math>t_A</math></b>	$\leq$ 100 ns

### Connection data

<b>Connection method</b>	VALVETRAB plug-in system
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### NEMA/UL protective circuit

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

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## 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
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

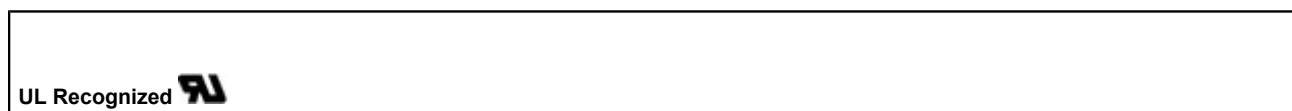
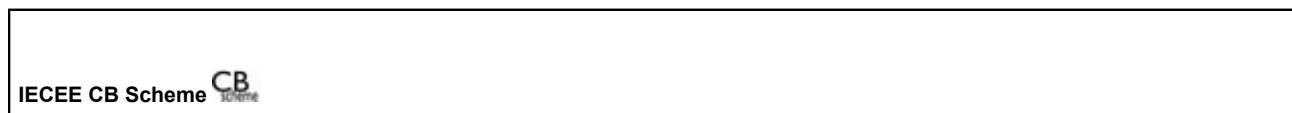
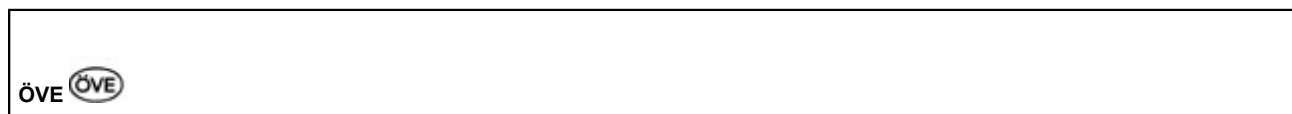
### UNSPSC

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

## approvals

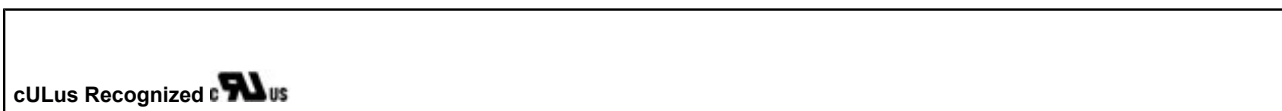
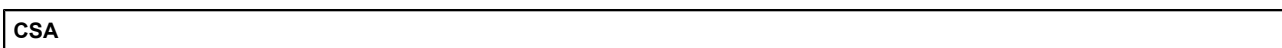
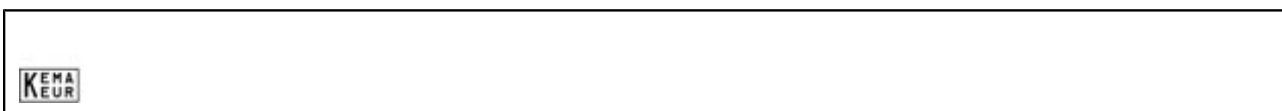
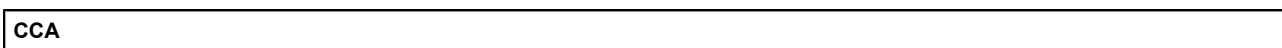
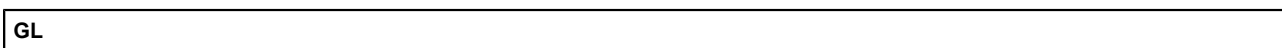
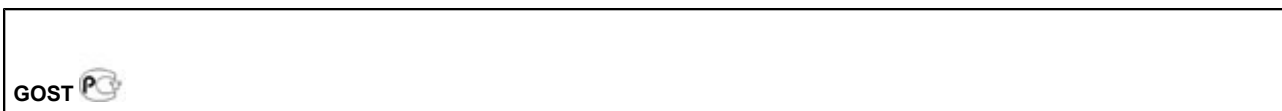
ÖVE / IECB Scheme / UL Recognized / KEMA-KEUR / cUL Recognized / GOST / GL / CCA / ÖVE / KEMA-KEUR / CSA / cULus Recognized /

### Approval details



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approvals



accessories

**Labeled device marker**

ZBN 18,LGS:ERDE - 2749589



ZBN 18,LGS:L1-N,ERDE - 2749576



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accessories

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## Device marking

ZBN 18:UNBEDRUCKT - 2809128



## Marker pen

B-STIFT - 1051993



accessories

ZBN 18:SO/CMS - 0800763



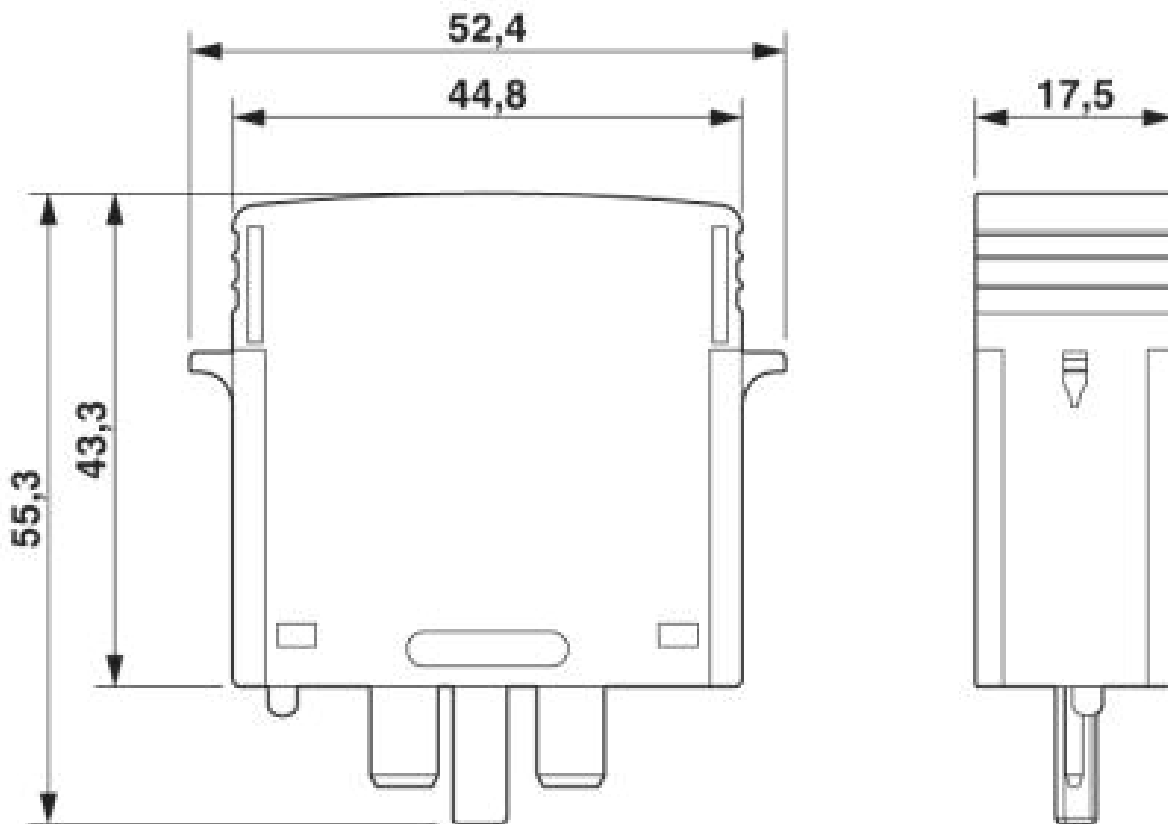
ZBN 18,LGS:L1-N,ERDE - 2830469



Drawings

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

Dimensioned drawing



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Circuit diagram

