

# Type 2 surge protection plug - F-MS 80 ST



2921307

<https://www.phoenixcontact.com/us/products/2921307>

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Type 2 surge protection plug with N-PE total current spark gap.



## Commercial Data

Item number	2921307
Packing unit	1 pc
Minimum order quantity	10 pc
Note	Made to Order (non-returnable)
Sales Key	C06
Product Key	CL1322
Catalog Page	Page 49 (C-6-2015)
GTIN	4046356290838
Weight per Piece (including packing)	77.75 g
Weight per Piece (excluding packing)	77.75 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	TT
	TN-S
Type	Male
Product type	Replacement plug
Surge protection fault message	optical

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

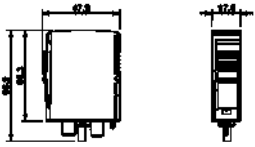
### Electrical properties

Nominal frequency $f_N$	50 Hz (60 Hz)
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### Connection data

Connection method	pluggable
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### Dimensions

Dimensional drawing	
Width	17.7 mm
Height	47 mm
Depth	67.3 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/PBT
Material group	I
Housing material	PA 6.6
	PBT

### Protective circuit

Mode of protection	N-PE
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Direction of action	N-PE
Nominal voltage $U_N$	240/415 V AC (TN-S)
	240/415 V AC (TT)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous voltage $U_C$	264 V AC
Residual current $I_{PE}$	$\leq 5 \mu\text{A}$
Standby power consumption $P_C$	$\leq 1.3 \text{ mVA}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	40 kA
Maximum discharge current $I_{\text{max}}$ (8/20) $\mu\text{s}$	80 kA
Impulse discharge current (10/350) $\mu\text{s}$ , charge	5 As
Impulse discharge current (10/350) $\mu\text{s}$ , specific energy	25 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{\text{imp}}$	10 kA
Follow current interrupt rating $I_{fi}$	100 A (264 V AC)
Voltage protection level $U_p$	$\leq 1.7 \text{ kV}$
Residual voltage $U_{\text{res}}$	$\leq 0.6 \text{ kV}$ (at $I_n$ )
	$\leq 0.5 \text{ kV}$ (at 10 kA)
	$\leq 0.5 \text{ kV}$ (at 5 kA)
	$\leq 0.4 \text{ kV}$ (at 3 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) $\mu\text{s}$	$\leq 1.7 \text{ kV}$
TOV behavior at $U_T$	1200 V AC (200 ms / withstand mode)
Response time $t_A$	$\leq 100 \text{ ns}$

## 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)	30g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approval data

### UL specifications

Maximum continuous operating voltage MCOV (N-G)	264 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)	2600 V
SPD Type	4CA

## Standards and regulations

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

## Mounting

Mounting type	on base element
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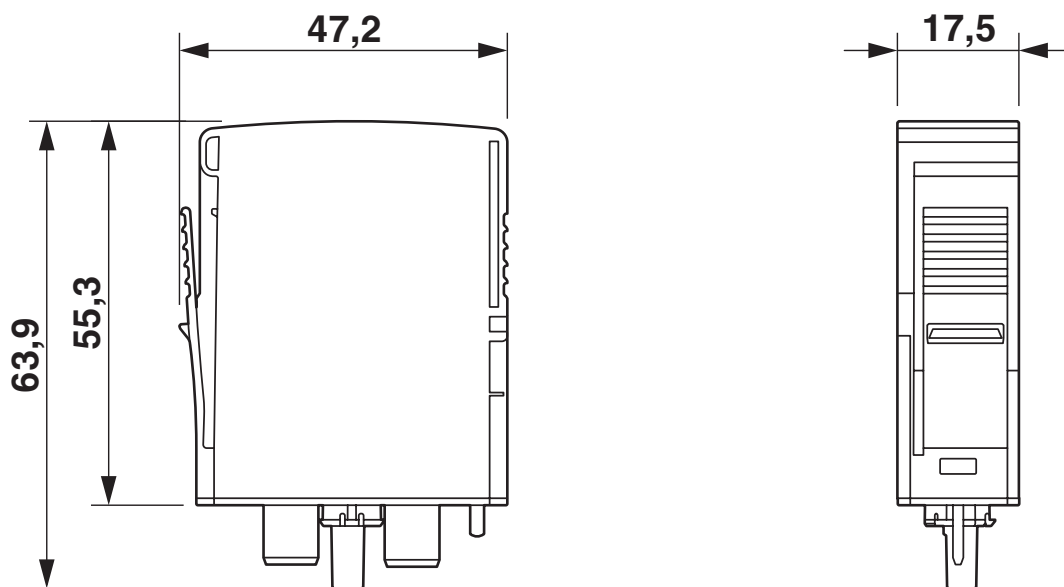


## Drawings

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 3003



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

### CCA

Approval ID: NTR-AT 1955

Nominal Voltage  $U_N$

Nominal Current  $I_N$

Cross Section AWG

Cross Section  $\text{mm}^2$

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**KEMA-KEUR**  
Approval ID: 2171147.01



**DNV GL**  
Approval ID: TAE00001N9

Nominal Voltage  $U_N$

Nominal Current  $I_N$

Cross Section AWG

Cross Section  $\text{mm}^2$

-

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**cULus Recognized**

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## Classifications

### ECLASS

ECLASS-9.0	27130890
ECLASS-10.0.1	27130890
ECLASS-11.0	27130890

### ETIM

ETIM 8.0	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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## Accessories

### Marker for terminal blocks

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

<https://www.phoenixcontact.com/us/products/2749589>



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

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### Marker for terminal blocks

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

<https://www.phoenixcontact.com/us/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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## Zack marker strip

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

<https://www.phoenixcontact.com/us/products/2809128>



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

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## Marker pen

Marker pen - B-STIFT - 1051993

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



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

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