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## Surge protection plug - PT 2X1-5DC/FM-ST - 2920104

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Surge protection plug with integrated diagnostic and status indicator on the module and remote indication contact for two signal wires with common reference potential. Nominal voltage: 5 V DC

### Why buy this product

- Plugs can be checked with CHECKMASTER
- Maximum ease of maintenance thanks to the two-piece design
- Base element remains an integral part of the installation
- Permanent and independent monitoring by a diagnostics unit
- With floating remote indication contact
- Consistent plug-in signal circuit protection
- Optical status indication for the individual arresters
- Impedance-neutral disconnection of plug for test and maintenance purposes



### Key Commercial Data

Packing unit	10 STK
GTIN	 4 046356 154031

### Technical data

#### Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm
Horizontal pitch	1 Div.
Complete module height	90 mm
Complete module width	17.7 mm
Complete module depth	65.5 mm

#### Ambient conditions

# Surge protection plug - PT 2X1-5DC/FM-ST - 2920104

## Technical data

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Degree of protection	IP20

### General

Housing material	PA 6.6
Flammability rating according to UL 94	V0
Color	black
Standards for clearances and creepage distances	VDE 0110-1
	IEC 60664-1
Mounting type	On base element
Type	DIN rail module, two-section, divisible
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground

### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
VDE requirement class	C1
	C2
	C3
	D1
Nominal voltage $U_N$	5 V DC
Maximum continuous voltage $U_C$	6 V DC
	4 V AC
Maximum continuous voltage $U_C$ (wire-ground)	6 V DC
	4 V AC
Nominal current $I_N$	300 mA (45°C)
Operating effective current $I_C$ at $U_C$	$\leq 1$ mA
Residual current $I_{PE}$	$\leq 1$ $\mu$ A (BE: 2x1+F)
	$\leq 2$ mA (Directly grounded)
Nominal discharge current $I_n$ (8/20) $\mu$ s (Core-Earth)	10 kA
Total surge current (8/20) $\mu$ s	20 kA
Max. discharge current $I_{max}$ (8/20) $\mu$ s maximum (Core-Earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu$ s (Core-Earth)	145 A (25°C / 1x)
	50 A (25 °C)
Impulse discharge current (10/350) $\mu$ s, peak value $I_{imp}$	2.5 kA (per path)
Output voltage limitation at 1 kV/ $\mu$ s (Core-Earth) spike	$\leq 14$ V
	$\leq 600$ V (BE: 2x1+F)
Output voltage limitation at 1 kV/ $\mu$ s (Core-GND) spike	$\leq 14$ V
Output voltage limitation at 1 kV/ $\mu$ s (Core-Earth) static	$\leq 11$ V

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### Technical data

#### Protective circuit

Output voltage limitation at 1 kV/μs (Core-GND) static	≤ 11 V
Residual voltage at I <sub>n</sub> (conductor-ground)	≤ 10 V
Residual voltage with I <sub>an</sub> (10/1000)μs (conductor-ground)	≤ 12 V
Voltage protection level U <sub>p</sub> (core-ground)	≤ 11 V (C1 (500 V/250 A))
	≤ 10 V (C3 - 25 A)
Voltage protection level U <sub>p</sub> (core-GND)	≤ 11 V (C1 (500 V/250 A))
	≤ 10 V (C3 - 25 A)
Response time t <sub>A</sub> (Core-Earth)	≤ 1 ns
Input attenuation a <sub>E</sub> , asym.	typ. 0.5 dB (≤ 200 kHz / 50 Ω)
	typ. 0.2 dB (≤ 100 kHz / 150 Ω)
Cut-off frequency f <sub>g</sub> (3 dB), asym. (GND) in 50 Ohm system	typ. 1 MHz
Cut-off frequency f <sub>g</sub> (3 dB), asym. (GND) in 150 Ohm system	typ. 0.4 MHz
Resistance in series	4.7 Ω (7-8/11-12)
Max. required back-up fuse	315 mA (e.g. T ( IEC 127-2/III))
Impulse durability (conductor-ground)	C2 - 10 kV/5 kA
	D1 - 2,5 kA
	C3 (25 A)
Alternating current carrying capacity (conductor-ground)	5 A - 1 s

#### Connection data

Connection method	Screw connection (in connection with the base element)
Connection type IN	PLUGTRAB plug-in system
Connection type OUT	PLUGTRAB plug-in system
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 mm
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12

#### Standards and Regulations

Standards/regulations	IEC 61643-21
	DIN EN 61643-21

#### Classifications

eCl@ss

eCl@ss 4.0	27140201
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## Classifications

### eCl@ss

eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

### ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943

### UNSPSC

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

## Approvals

### Approvals

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#### Approvals

UL Listed / EAC

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#### Ex Approvals

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Approvals submitted

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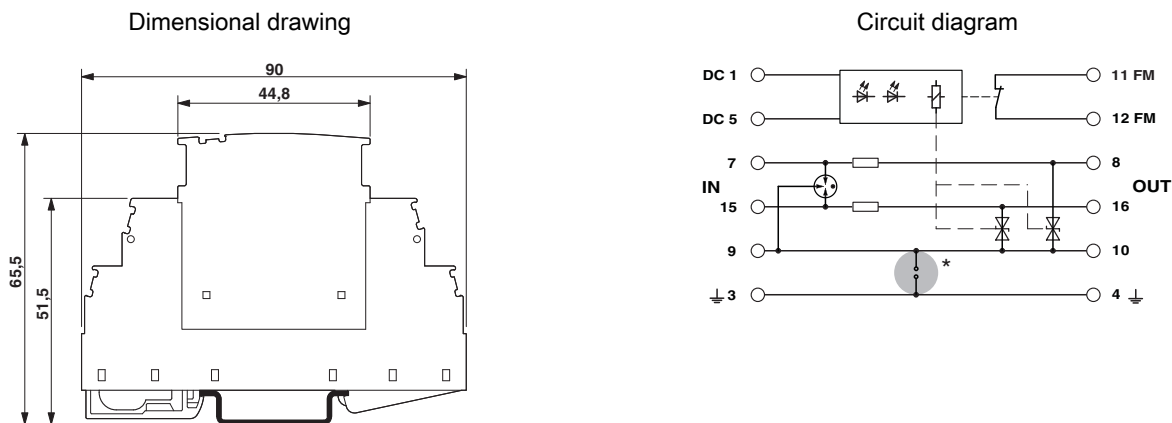
### Approval details

UL Listed
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EAC
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## Drawings



The figure shows the complete module consisting of a base element and connector

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Product	Code	Reference	Product link
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