

## Surge protection plug - PT 4-24AC-ST - 2800078

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Protective connector PT with protective circuit for a 4-wire floating signal circuit. Nominal voltage: 24 V AC

### Your advantages

- ✓ 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
- ✓ Consistent plug-in signal circuit protection
- ✓ Impedance-neutral disconnection of plug for test and maintenance purposes



### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356462211

### 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

Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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## Technical data

### Ambient conditions

Altitude	≤ 2000 m (amsl (above mean sea level))
Degree of protection	IP20

### General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	jet black RAL 9005
Mounting type	on base element
Type	Male
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground

### Additional descriptions

Note	If the maximum permissible short-circuit current at the installation location exceeds the specified values, a fuse should be selected which ensures a shutdown time of < 5 s.
	Technical data is valid in association with the following specified base elements:
	with PT 4+F-BE
	with PT 4-BE

### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V AC
Maximum continuous voltage $U_C$	40 V DC
	28 V AC
Rated current	2 A AC (80 °C)
	500 mA DC (80 °C)
Operating effective current $I_C$ at $U_C$	≤ 5 μA
Residual current $I_{PE}$	≤ 4 μA (with PT 4-BE)
	≤ 1 μA (with PT 4+F-BE)
Nominal discharge current $I_n$ (8/20) μs (line-line)	187 A
Nominal discharge current $I_n$ (8/20) μs (line-earth)	10 kA
Pulse discharge current $I_{imp}$ (10/350) μs	2.5 kA
Total discharge current $I_{total}$ (8/20) μs	20 kA
Max. discharge current $I_{max}$ (8/20) μs maximum (line-line)	187 A
Max. discharge current $I_{max}$ (8/20) μs maximum (line-earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) μs (line-line)	36 A
Output voltage limitation at 1 kV/μs (line-line) spike	≤ 75 V
Output voltage limitation at 1 kV/μs (line-earth) spike	≤ 450 V (with PT 4-BE)

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## Technical data

### Protective circuit

	≤ 1 kV (with PT 4+F-BE)
Output voltage limitation at 1 kV/μs (line-line) static	≤ 75 V
Output voltage limitation at 1 kV/μs (line-earth) static	≤ 25 kV (with PT 4-BE)
	≤ 50 V (with PT 4+F-BE)
Residual voltage at I <sub>n</sub> (line-line)	≤ 105 V
Residual voltage with I <sub>an</sub> (10/1000) μs (line-line)	≤ 80 V
Voltage protection level U <sub>p</sub> (line-line)	≤ 85 V (C1 - 500 V / 250 A)
	≤ 70 V (C3 - 10 A)
	≤ 75 V (C3 - 25 A)
Voltage protection level U <sub>p</sub> (line-earth)	≤ 450 V (C2 - 10 kV / 5 kA with PT 4-BE)
	≤ 1 kV (C2 - 10 kV / 5 kA with PT 4+F-BE)
Voltage protection level U <sub>p</sub> static (line-earth)	≤ 50 V (C2 - 10 kV / 5 kA with PT 4-BE)
	≤ 100 V (C2 - 10 kV / 5 kA with PT 4+F-BE)
Response time t <sub>A</sub> (line-line)	≤ 1 ns
Response time t <sub>A</sub> (line-earth)	≤ 100 ns
Input attenuation aE, sym.	0.1 dB (≤ 2 MHz / 50 Ω)
	0.1 dB (≤ 600 kHz / 150 Ω)
Cut-off frequency f <sub>g</sub> (3 dB), sym. in 50 Ohm system	typ. 10 MHz
Cut-off frequency f <sub>g</sub> (3 dB), sym. in 150 Ohm system	typ. 3 MHz
Capacity (line-line)	typ. 0.7 nF
Capacity (line-earth)	typ. 40 pF (with PT 4-BE)
	typ. 20 pF (with PT 4+F-BE)
Resistance in series	0 Ω
Surge protection fault message	none
Impulse durability (line-line)	C1 - 500 V / 250 A
	C3 - 10 A
	C3 - 25 A
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	D1 - 2.5 kA

### Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.5 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section solid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12

### Standards and Regulations

Standards/specifications	IEC 61643-21 2000 + corrigendum 2001 + A1:2008, modified + A2:2012
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## Technical data

### Standards and Regulations

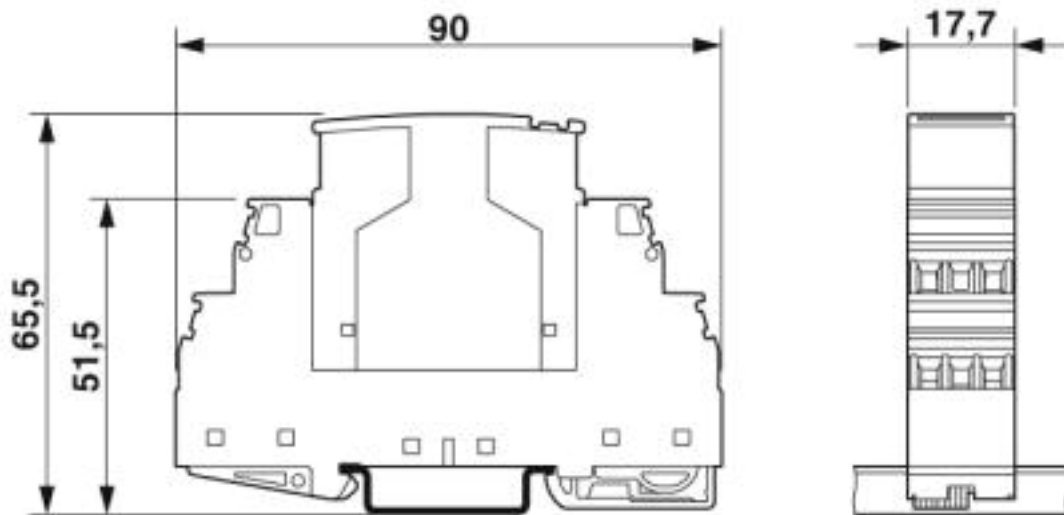
	EN 61643-21 2001 + A1:2009 + A2:2013
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### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

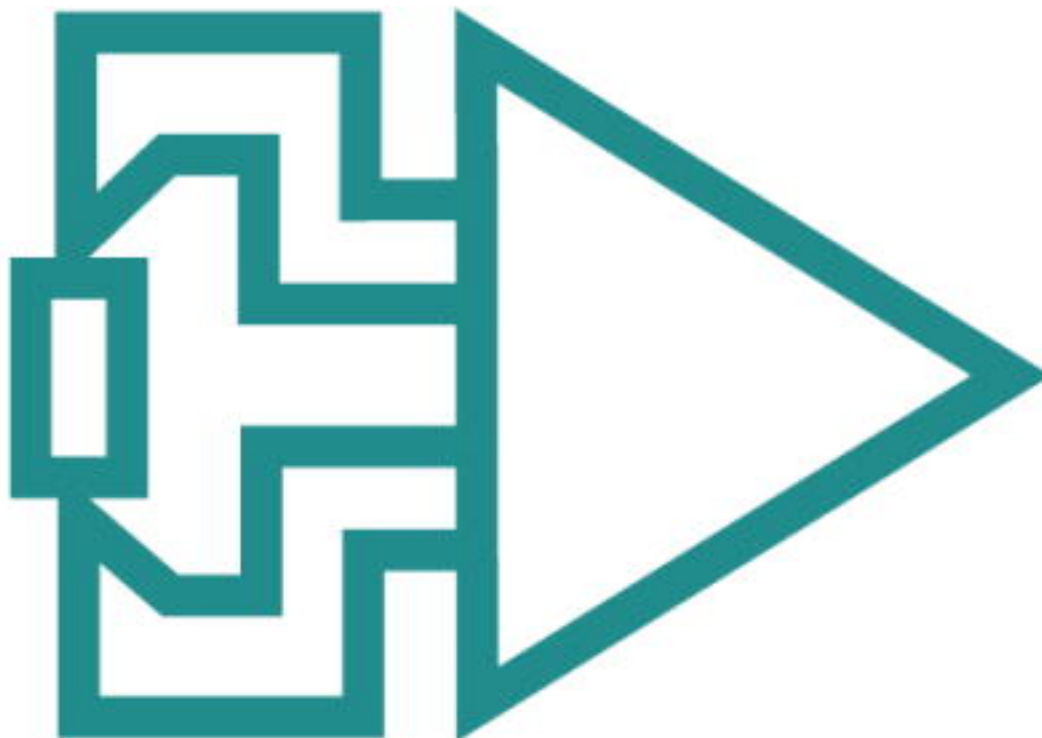
Dimensional drawing



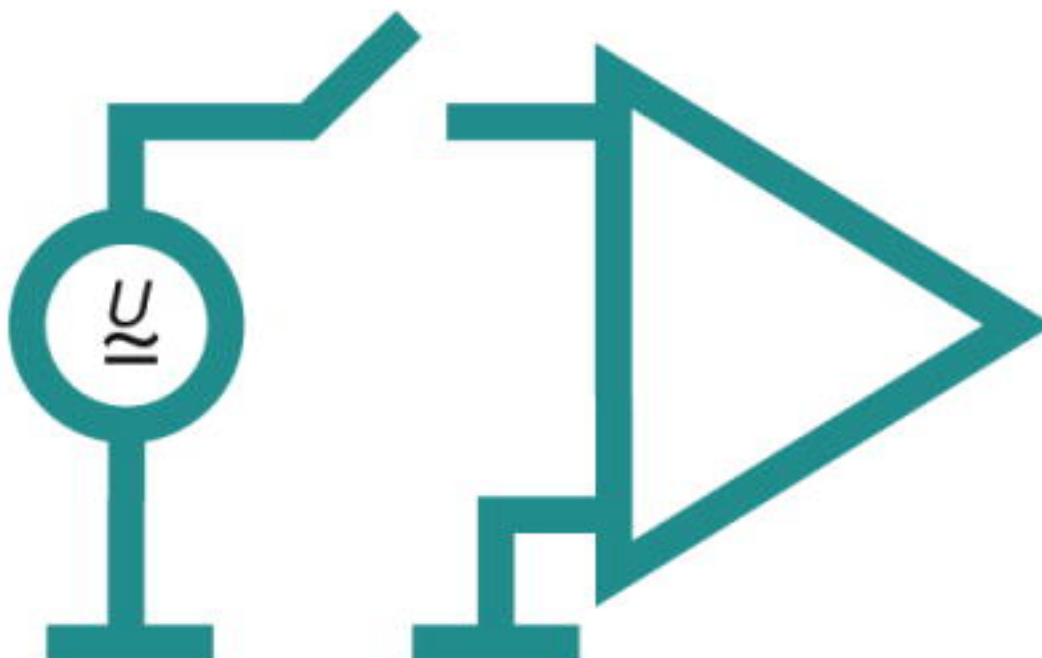
The figure shows the complete module consisting of a base element and connector

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Pictogram

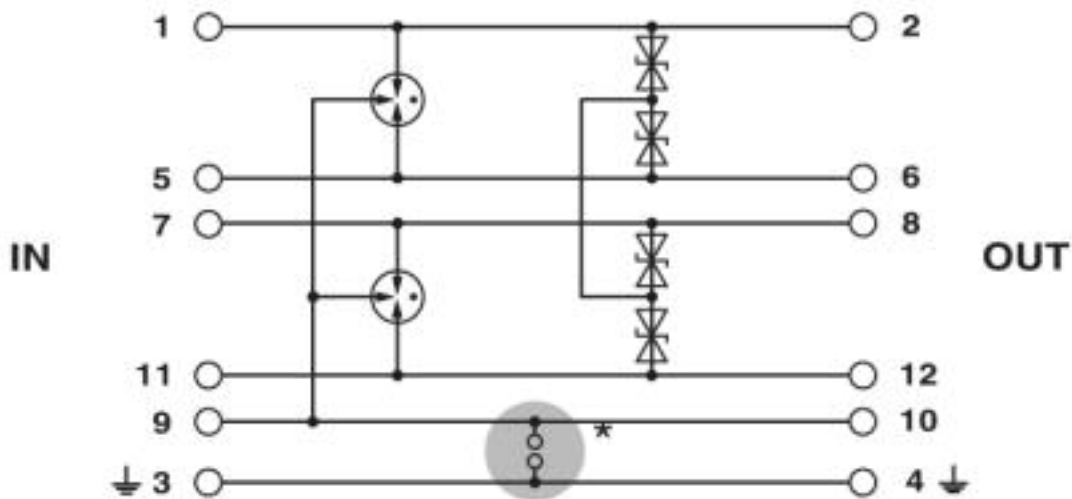


Pictogram



# Surge protection plug - PT 4-24AC-ST - 2800078

Circuit diagram



## Approvals

Approvals

Approvals

EAC

Ex Approvals

## Approval details

EAC		RU C- DE.A*30.B01561
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