

## Surge protection plug - PT 4-EX(I)-24DC-ST - 2839253

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



PT protective connector with protective circuit for a 4-wire floating Ex-i signal circuit. Nominal voltage: 24 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
- Tailored to the special requirements of intrinsically safe circuits
- Consistent plug-in signal circuit protection
- Impedance-neutral disconnection of plug for test and maintenance purposes



### Key Commercial Data

Packing unit	10 STK
GTIN	 4 017918 182878

### 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
Degree of protection	IP20

## Surge protection plug - PT 4-EX(I)-24DC-ST - 2839253

### Technical data

#### General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	blue
Standards for clearances and creepage distances	VDE 0110-1
	IEC 60664-1
	EN 60079-11
Mounting type	On base element
Type	DIN rail module, two-section, divisible
Number of positions	4
Direction of action	Line-Line & Line-Signal Ground/Shield & Signal Ground/Shield-Earth Ground
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00

#### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
VDE requirement class	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
Maximum continuous voltage $U_C$	30 V DC
	21 V AC
Maximum continuous voltage $U_C$ (wire-wire)	30 V DC
	21 V AC
Nominal current $I_N$	500 mA (40°C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$
Residual current $I_{PE}$	$\leq 4 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Core)	308 A
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)	10 kA
Total surge current (8/20) $\mu\text{s}$	20 kA
Total surge current (10/350) $\mu\text{s}$	2 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (Core-Core)	308 A
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (Core-Earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Core)	59 A
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	1 kA
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) spike	$\leq 1 \text{ kV}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Core) static	$\leq 45 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) static	$\leq 1 \text{ kV}$

# Surge protection plug - PT 4-EX(I)-24DC-ST - 2839253

## Technical data

### Protective circuit

Residual voltage at $I_n$ (conductor-conductor)	$\leq 70$ V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (conductor-conductor)	$\leq 65$ V
Voltage protection level $U_p$ (core-core)	$\leq 60$ V (C1 - 500 V / 250 A)
	$\leq 50$ V (C3 - 25 A)
Voltage protection level $U_p$ (core-ground)	$\leq 1$ kV (C2 - 10 kV / 5 kA)
	$\leq 1$ kV (C1 - 1 kV/500 A)
	$\leq 1$ kV (D1 - 1 kA)
Response time $t_A$ (Core-Core)	$\leq 1$ ns
Response time $t_A$ (Core-Earth)	$\leq 100$ ns
Input attenuation $a_E$ , sym.	typ. 0.1 dB (1 MHz / 50 $\Omega$ )
	typ. 0.1 dB (500 kHz / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 50 Ohm system	typ. 7 MHz
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 2.5 MHz
Surge protection fault message	None
Max. required back-up fuse	500 mA (e.g. T in acc. with IEC 127-2/III)
Impulse durability (conductor-conductor)	C1 - 500 V / 250 A
Impulse durability (conductor-ground)	C2 - 10 kV/5 kA
	D1 - 1 kA
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
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	EN 61643-21
	EN 60079-0
	EN 60079-11
	EN 60079-26
	EN 61241-0
	EN 61241-11

### General

Maximum inner capacitance $C_i$	1.1 nF
Maximum inner inductance $L_i$	1 $\mu$ H

# Surge protection plug - PT 4-EX(I)-24DC-ST - 2839253

## Technical data

### General

Maximum inner time factor (R <sub>i</sub> /L <sub>i</sub> )	≤ 10 μs
Max. input current I <sub>i</sub>	500 mA (T4 / ≤ 80°C)
	500 mA (T5/≤ 55°C)
	500 mA (T6 / ≤ 40 °C)
Max. input voltage U <sub>i</sub>	30 V DC
Maximum input power P <sub>i</sub>	850 mW (T4 / ≤ 80°C)
	700 mW (T5/≤ 55°C)
	700 mW (T6 / ≤ 40 °C)
Insulation voltage to ground	500 V AC
Ambient temperature (operation)	-40 °C ... 80 °C (T4)
	-40 °C ... 55 °C (T5)
	-40 °C ... 40 °C (T6)

### Conformity / approvals

ATEX	# II 1G Ex ia IIC T4...T6 Ga
	# II 1D Ex ia IIIC T135°C...T85°C Da
IECEX	Ex ia IIC T4...T6 Ga
	Ex ia IIIC T135 °C...T85 °C Da

## 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	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

# Surge protection plug - PT 4-EX(I)-24DC-ST - 2839253

## Classifications

### UNSPSC

UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## Approvals

### Approvals

#### Approvals

GL / EAC / EAC

#### Ex Approvals

IECEX / ATEX / INMETRO

#### Approvals submitted

### Approval details

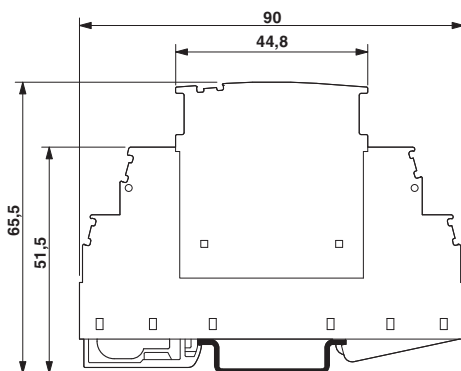
GL

EAC

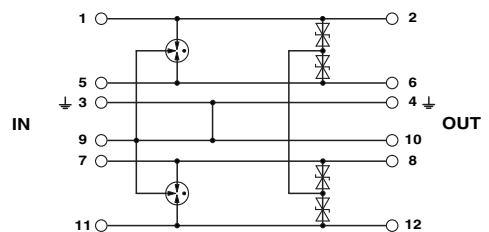
EAC

## Drawings

Dimensional drawing



Circuit diagram



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

Phoenix Contact 2016 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>