

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

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 documentation. Our General Terms of Use for Downloads are valid.

---



Surge protection, consisting of protective plug and base element, with integrated status indicator for a 2-wire floating signal circuit, e.g., 0(4) ... 20 mA current loop, HART-compatible.

---

## Your advantages

- Space-saving and cost-saving with a narrow overall width of just 6 mm
- Continuous monitoring of protective devices, plus mechanical status indicator with optional remote signaling
- Finding the right product for all possible requirements in MCR applications is easy, thanks to the complete range of products with customized features
- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- The signal is not influenced during maintenance work, thanks to the impedance-neutral insertion and removal of protective plugs

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Commercial Data

Item number	2906815
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Product Key	CL2162
Catalog Page	Page 116 (C-4-2019)
GTIN	4055626135786
Weight per Piece (including packing)	40.51 g
Weight per Piece (excluding packing)	34.59 g
Customs tariff number	85363010
Country of origin	DE

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Technical Data

### Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	DIN rail module, two-section, divisible
Product type	Surge protection for MCR technology
Wire pairs per module	1

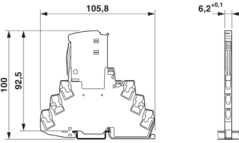
### Insulation characteristics

Overvoltage category	III
Pollution degree	2

### Connection data

Connection method	Push-in connection
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

### Dimensions

Dimensional drawing	
Width	6.2 mm +0.1 mm
Height	105.8 mm
Depth	100 mm (incl. DIN rail 7.5 mm)

### Material specifications

Color	traffic grey A RAL 7042
	light grey RAL 7035
Flammability rating according to UL 94	V-0
Insulating material	PBT
Housing material	PBT

### Mechanical properties

#### Mechanical data

Open side panel	No
-----------------	----

### Protective circuit

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Maximum continuous voltage $U_C$	30 V DC
	21 V AC
Rated current	600 mA (56 °C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$
Residual current $I_{PE}$	$\leq 1 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-line)	5 kA
Nominal discharge surge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-line)	0.5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	0.5 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	10 kA
Voltage protection level $U_p$ (line-line)	$\leq 200 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 320 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 50 \text{ V}$ (C3 - 25 A)
	$\leq 55 \text{ V}$ (C3 - 100 A)
Voltage protection level $U_p$ (line-earth)	$\leq 750 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 750 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 700 \text{ V}$ (C3 - 25 A)
	$\leq 750 \text{ V}$ (C3 - 100 A)
Voltage protection level $U_p$ static (line-line)	$\leq 50 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 120 \text{ V}$ (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ static (line-earth)	$\leq 750 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 750 \text{ V}$ (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-line)	$\leq 1 \text{ ns}$
Response time $t_A$ (line-earth)	$\leq 100 \text{ ns}$
Input attenuation aE, sym.	typ. 0.3 dB ( $\leq 250 \text{ kHz}$ / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system	typ. 940 kHz
Capacity (Core-Core)	typ. 2.2 nF
Resistance per path	1.65 $\Omega \pm 20 \%$
Surge protection fault message	optical
Max. required back-up fuse	630 mA (FF)
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Pulse reset time (line-line)	$\leq 700 \text{ ms}$
Pulse reset time (line-earth)	$\leq 1500 \text{ ms}$

## Additional technical data

Max. total discharge current $I_{total \max}$ (8/20) $\mu\text{s}$	20 kA (1x)
--	------------

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 4000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %

## Standards and regulations

Standards/specifications	IEC 61643-21
Standards/specifications	EN 61643-21

## Mounting

Mounting type	DIN rail: TH 35 - 7.5 mm
---------------	--------------------------

# Surge protection device - TTC-6P-1X2-24DC-PT-I

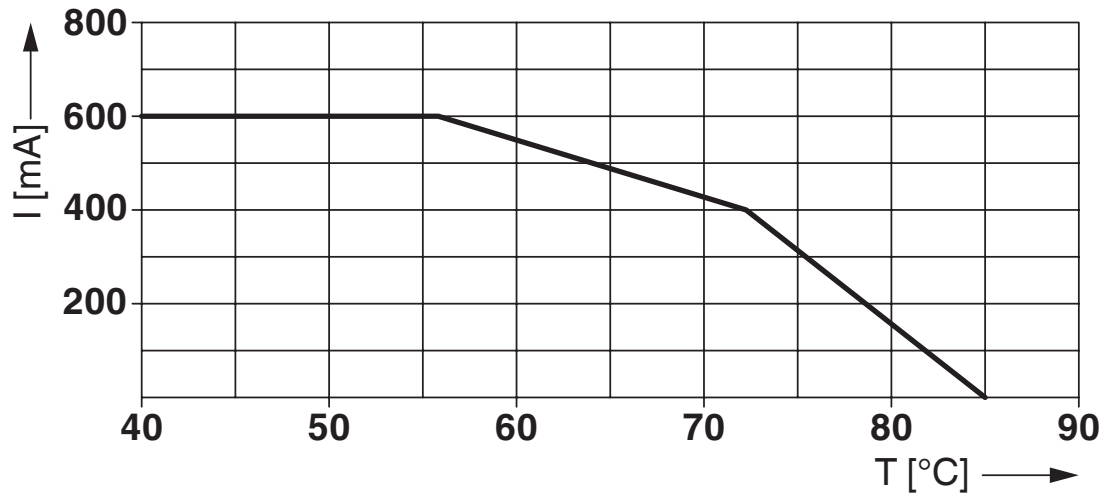


2906815

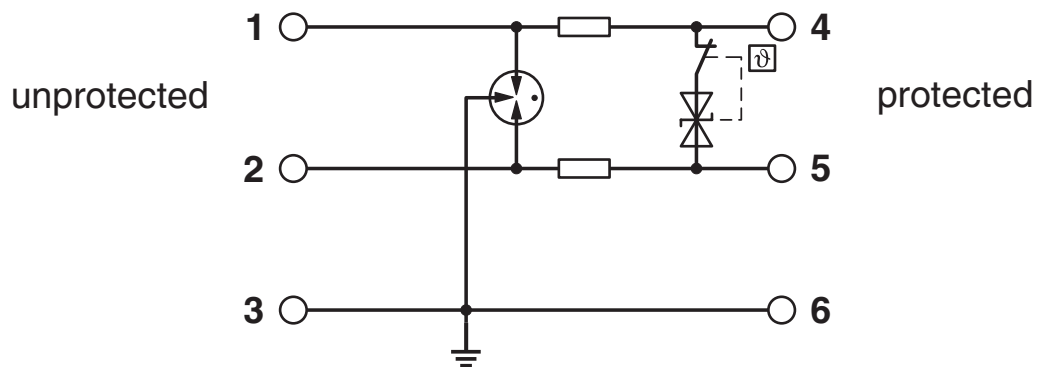
<https://www.phoenixcontact.com/pc/products/2906815>

## Drawings

Diagram



Circuit diagram



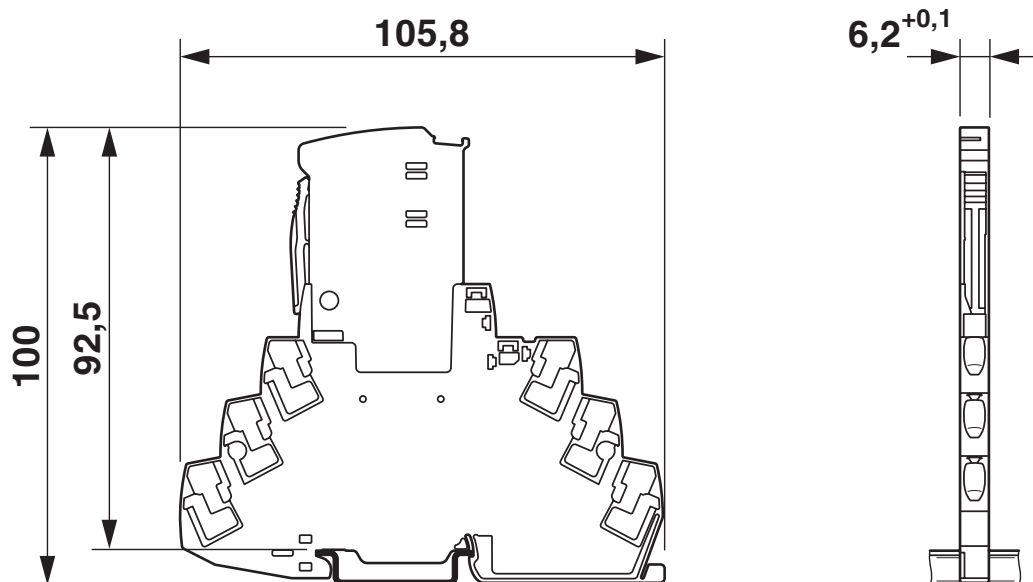
# Surge protection device - TTC-6P-1X2-24DC-PT-I

2906815

<https://www.phoenixcontact.com/pc/products/2906815>



Dimensional drawing



# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Approvals



**CSA**

Approval ID: 70136717



**DNV GL**

Approval ID: TAE000027G

Nominal Voltage  $U_N$

Nominal Current  $I_N$

Cross Section AWG

Cross Section  $\text{mm}^2$

-

-



**UL Listed**

Approval ID: FILE E 138168



**CSAus**

Approval ID: 70136717

**cCSAus**



# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Classifications

### ECLASS

ECLASS-9.0	27130807
ECLASS-10.0.1	27130807
ECLASS-11.0	27130807

### ETIM

ETIM 8.0	EC000943
----------	----------

### UNSPSC

UNSPSC 21.0	39121600
-------------	----------

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Accessories

### Surge protection plug

Surge protection plug - TTC-6P-1X2-24DC-I-P - 2907840

<https://www.phoenixcontact.com/pc/products/2907840>



Surge protection plug with integrated status indicator on the module for a 2-wire floating signal circuit. Nominal voltage: 24 V DC

---

### Zack Marker strip, flat

Zack Marker strip, flat - ZBF 6 CUS - 0825027

<https://www.phoenixcontact.com/pc/products/0825027>



Zack Marker strip, flat, Strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Zack Marker strip, flat

Zack Marker strip, flat - ZBF 6:UNBEDRUCKT - 0808710

<https://www.phoenixcontact.com/pc/products/0808710>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap in, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

---

## Zack Marker strip, flat

Zack Marker strip, flat - ZBF 6/WH-100:UNBEDRUCKT - 0808736

<https://www.phoenixcontact.com/pc/products/0808736>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap in, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 1000

# Surge protection device - TTC-6P-1X2-24DC-PT-I

2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Zack Marker strip, flat

Zack Marker strip, flat - ZBF 6,QR:FORTL.ZAHLEN - 0808765

<https://www.phoenixcontact.com/pc/products/0808765>



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snap into flat marker groove, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

---

## End clamp

End clamp - CLIPFIX 35-5 - 3022276

<https://www.phoenixcontact.com/pc/products/3022276>



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, with parking option for FBS...5, FBS...6, KSS 5, KSS 6, width: 5.15 mm, color: gray

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Marker pen

Marker pen - X-PEN 0,35 - 0811228

<https://www.phoenixcontact.com/pc/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

---

## Shield connection

Shield connection - SSA 3-6 - 2839295

<https://www.phoenixcontact.com/pc/products/2839295>



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

# Surge protection device - TTC-6P-1X2-24DC-PT-I



2906815

<https://www.phoenixcontact.com/pc/products/2906815>

## Shield connection

Shield connection - SSA 5-10 - 2839512

<https://www.phoenixcontact.com/pc/products/2839512>



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

---

## Remote signaling set

Remote signaling set - TTC-6-FMRS-PT - 2907811

<https://www.phoenixcontact.com/pc/products/2907811>



Module set for the optical monitoring and floating remote signaling of adjacent surge protective devices in the TERMITRAB complete or CLIXTRAB product family. Suitable for directly grounded DIN rails.

---

Phoenix Contact 2022 © - all rights reserved  
<https://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstraße 8  
D-32825 Blomberg  
+49 (0) 5235-3 00  
[info@phoenixcontact.com](mailto:info@phoenixcontact.com)