

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

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 two signal wires with common reference potential, e.g., Digital IN/OUT. Indirect grounding via gas-filled surge arrester.

## 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

## Commercial data

Item number	1065320
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2162
GTIN	4055626727066
Weight per piece (including packing)	42.9 g
Weight per piece (excluding packing)	37.4 g
Customs tariff number	85363010
Country of origin	DE

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

## 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
Product family	TERMITRAB complete

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

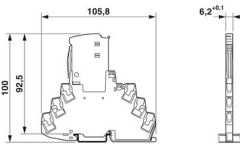
### Electrical properties

Nominal voltage $U_N$	24 V DC
-----------------------	---------

### 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 rigid	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

Flammability rating according to UL 94	V-0
Insulating material	PBT
Housing material	PBT

### Mechanical properties

#### Mechanical data

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

### Protective circuit

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

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 $U_C$	$\leq 5 \mu A$
Residual current $I_{PE}$	$\leq 1 \mu A$
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-ground)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-signal ground)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu s$ (line-earth)	0.5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu s$ (line-signalground)	0.5 kA
Total discharge current $I_{total}$ (8/20) $\mu s$	10 kA
Voltage protection level $U_p$ (line-earth)	$\leq 750 V$ (C1 - 1 kV / 500 A)
	$\leq 800 V$ (C2 - 10 kV / 5 kA)
	$\leq 1.1 kV$ (C3 - 25 A)
	$\leq 1.15 kV$ (C3 - 100 A)
Voltage protection level $U_p$ (line-signalground)	$\leq 140 V$ (C1 - 1 kV / 500 A)
	$\leq 190 V$ (C2 - 10 kV / 5 kA)
	$\leq 45 V$ (C3 - 25 A)
	$\leq 50 V$ (C3 - 100 A)
Voltage protection level $U_p$ static (line-earth)	$\leq 750 V$ (C1 - 1 kV / 500 A)
	$\leq 800 V$ (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ static (line-signalground)	$\leq 55 V$ (C1 - 1 kV / 500 A)
	$\leq 120 V$ (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-earth)	$\leq 100 ns$
Response time $t_A$ (line-signalground)	$\leq 1 ns$
Input attenuation aE, asym.	typ. 0.3 dB ( $\leq 270 kHz/150 \Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (signal ground) in 150 $\Omega$ system	typ. 960 kHz
Capacity (line-signalground)	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-earth)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Impulse durability (line-signalground)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Pulse reset time (line-earth)	$\leq 30 ms$
Pulse reset time (line-signalground)	$\leq 300 ms$

Additional technical data

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

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

## 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)
Permissible humidity (operation)	5 % ... 95 %

## Standards and regulations

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

### EN 61643-21

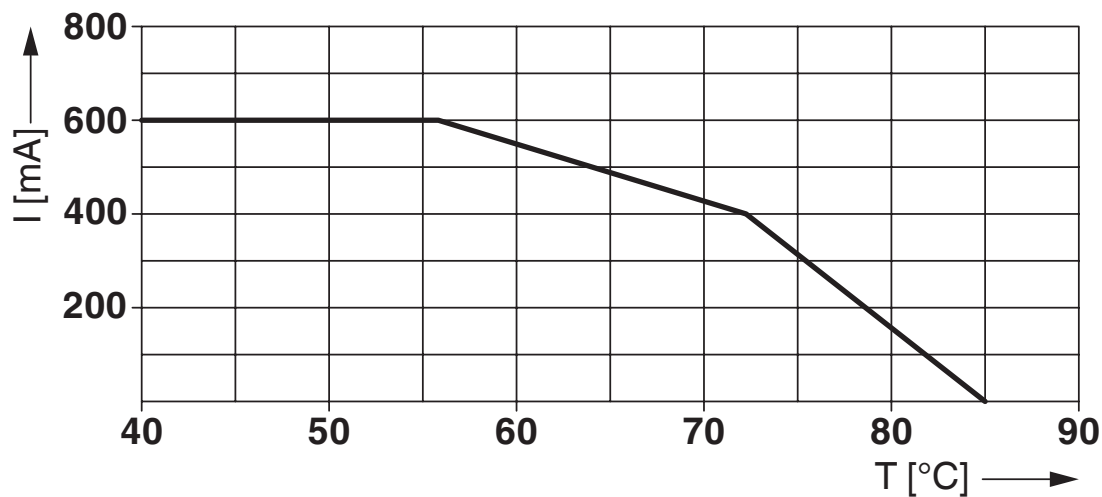
Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013

## Mounting

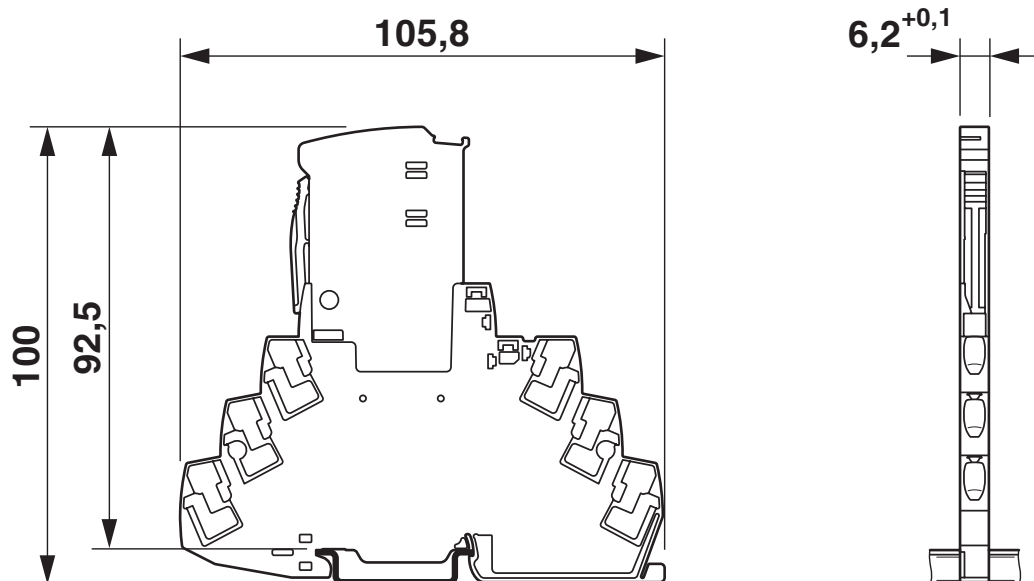
Mounting type	DIN rail: TH 35 - 7.5 mm
---------------	--------------------------

## Drawings

Diagram



Dimensional drawing



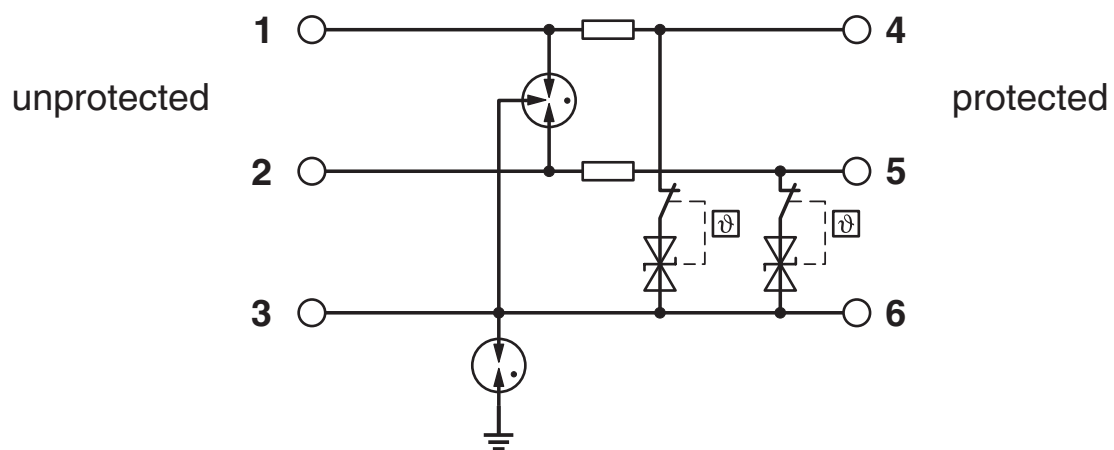
# TTC-6P-2X1-F-24DC-PT-I - Surge protection device

1065320

<https://www.phoenixcontact.com/us/products/1065320>



Circuit diagram



# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1065320>



**DNV GL**

Approval ID: TAE000027G



**UL Listed**

Approval ID: FILE E 138168

**UAE-RoHS**

Approval ID: 22-06-16781



**cUL Listed**

Approval ID: FILE E 333250



**UL Listed**

Approval ID: FILE E 333250

**cULus Listed**

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

## Classifications

### ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

### ETIM

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

### UNSPSC

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



# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

## 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"

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

## Accessories

### ZBF 6 CUS - Zack Marker strip, flat

0825027

<https://www.phoenixcontact.com/us/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

---

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

0808710

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



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

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

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

0808736

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



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

---

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

0808765

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



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

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

## CLIPFIX 35-5 - End clamp

3022276

<https://www.phoenixcontact.com/us/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

---

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

2907811

<https://www.phoenixcontact.com/us/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.

# TTC-6P-2X1-F-24DC-PT-I - Surge protection device



1065320

<https://www.phoenixcontact.com/us/products/1065320>

## SSA 3-6 - Shield connection

2839295

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

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



---

## SSA 5-10 - Shield connection

2839512

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

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



# TTC-6P-2X1-F-24DC-PT-I - Surge protection device

1065320

<https://www.phoenixcontact.com/us/products/1065320>



## X-PEN 0,35 - Marker pen

0811228

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



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

---

## TTC-6P-2X1-24DC-I-P - Surge protection plug

2907843

<https://www.phoenixcontact.com/us/products/2907843>



Surge protection plug with integrated status indicator on the module for two signal wires with a common reference potential. Nominal voltage: 24 V DC

---

Phoenix Contact 2023 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)