

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



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

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 and disconnect knife for a 2-wire floating signal circuit, e.g., 0(4) ... 20 mA current loop, Ex e approval for zone 2, 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

Commercial Data

Item number	2906750
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CL2162
Product Key	CL2162
Catalog Page	Page 116 (C-4-2019)
GTIN	4055626134819
Weight per Piece (including packing)	51.7 g
Weight per Piece (excluding packing)	41.7 g
Customs tariff number	85363010
Country of origin	DE

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



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

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

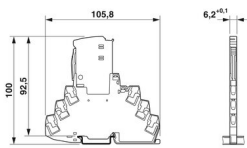
Connection data

Connection method	Push-in connection
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

Ex data

Maximum input current	600 mA (T4 / ≤ 30 °C)
	500 mA (T4 / > 30 °C ... ≤ 50 °C)
	400 mA (T4 / > 50 °C ... ≤ 70 °C)
Maximum input voltage	30 V DC
Altitude	≤ 2000 m (amsl (above mean sea level))
Ambient temperature (operation)	-40 °C ... 70 °C (T4)

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

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



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

Housing material	PBT
------------------	-----

Mechanical properties

Mechanical data

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

Protective circuit

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) μs (line-line)	5 kA
Nominal discharge surge current I_n (8/20) μs (Core-Earth)	5 kA
Pulse discharge current I_{imp} (10/350) μs (line-line)	0.5 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	0.5 kA
Total discharge current I_{total} (8/20) μs	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 Ω)
Cut-off frequency f_g (3 dB), sym. in 150 Ω 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

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



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

	C3 - 100 A
	D1 - 500 A
Pulse reset time (line-line)	≤ 700 ms
Pulse reset time (line-earth)	≤ 1500 ms

Additional technical data

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

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
Standards/specifications	IEC 60079-0
Standards/specifications	IEC 60079-7
Standards/specifications	EN IEC 60079-0
Standards/specifications	EN IEC 60079-7

Mounting

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

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

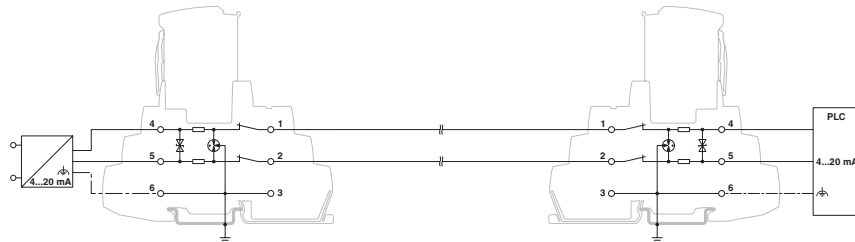


2906750

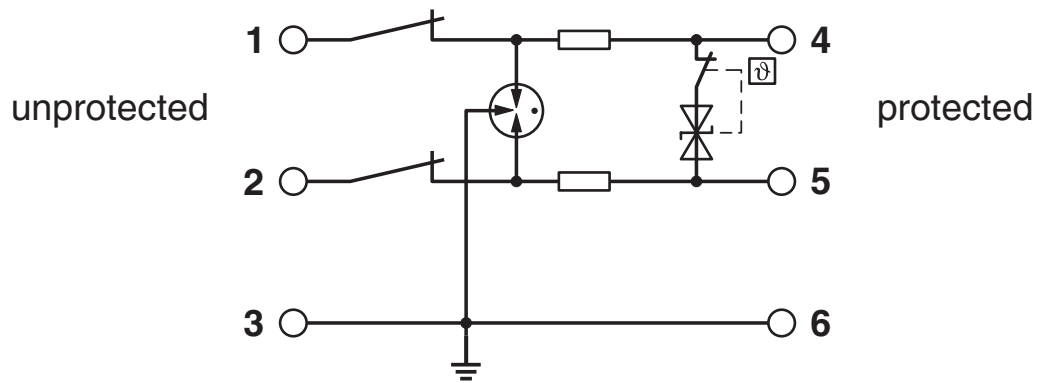
<https://www.phoenixcontact.com/gb/products/2906750>

Drawings

Application drawing



Circuit diagram

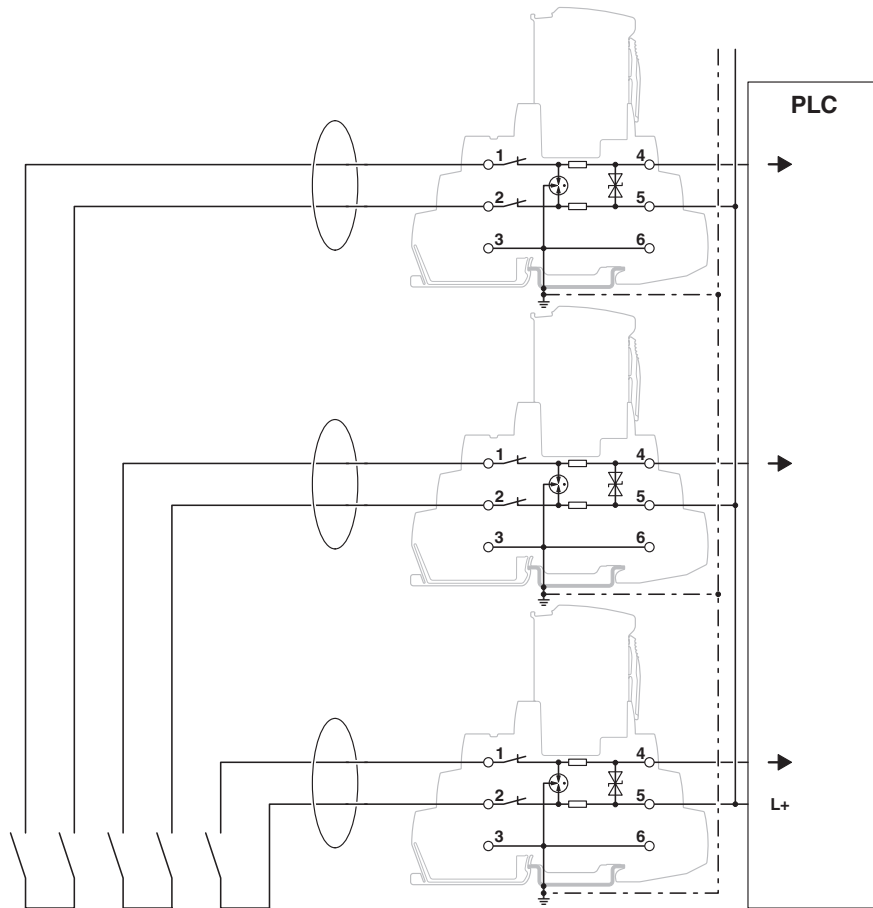


Surge protection device - TTC-6P-1X2-M-24DC-PT-I

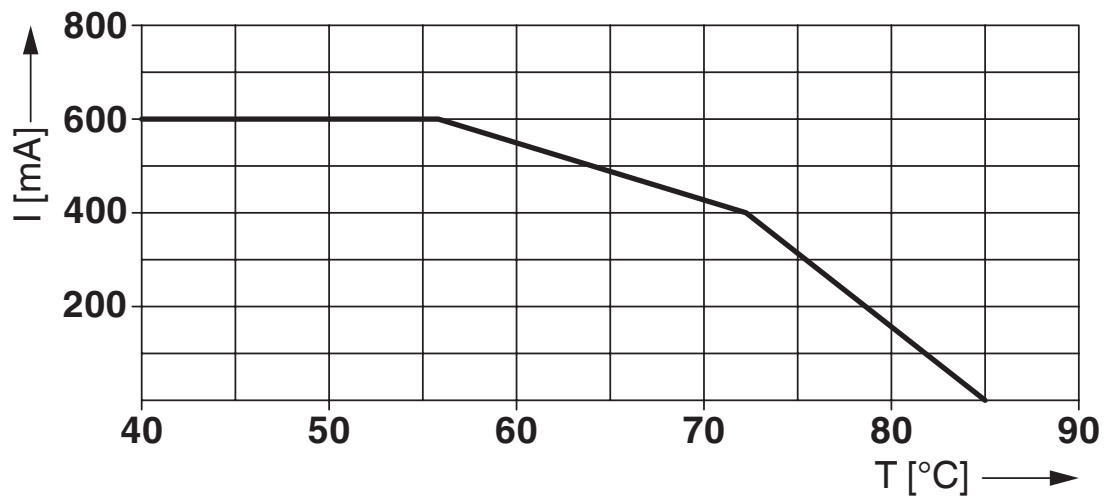
2906750

<https://www.phoenixcontact.com/gb/products/2906750>

Application drawing



Diagram

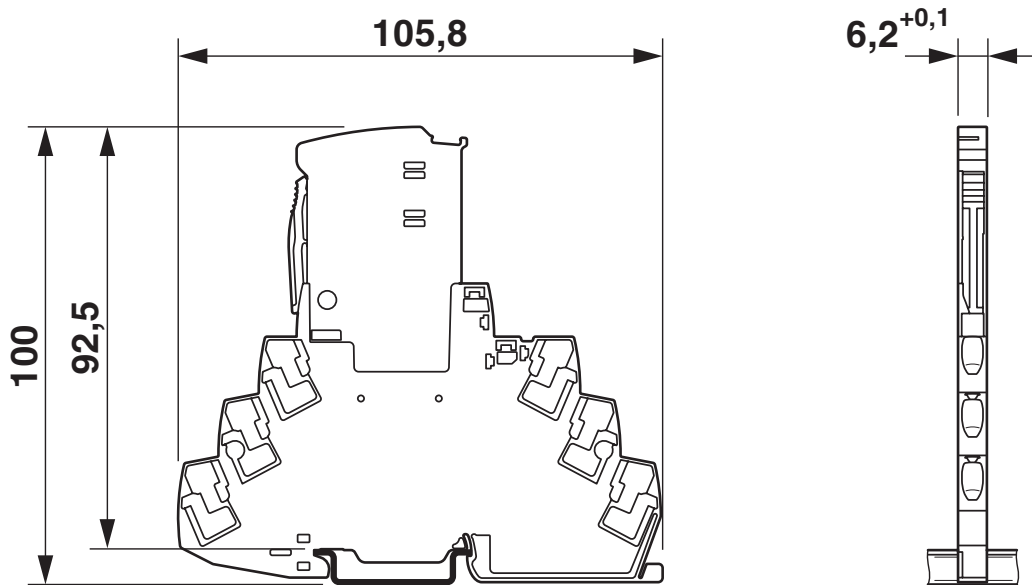


Diagram

Derating for Ex-areas (Zone 2, EX ec)

ϑ [°C]	I [mA]
$\leq 30^{\circ}\text{C}$	600 mA
$> 30^{\circ}\text{C} \dots \leq 50^{\circ}\text{C}$	500 mA
$> 50^{\circ}\text{C} \dots \leq 70^{\circ}\text{C}$	400 mA

Dimensional drawing



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



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

Approvals



CSA

Approval ID: 70136717



DNV GL

Approval ID: TAE000027G

Nominal Voltage U_N

Nominal Current I_N

Cross Section AWG

Cross Section mm^2

-

-



UL Listed

Approval ID: FILE E 138168



CSAus

Approval ID: 70136717



IECEx

Approval ID: IECEx BVS 21.0057X



ATEX

Approval ID: BVS 21 ATEX E 052 X

cCSAus

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



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

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-M-24DC-PT-I



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

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-M-24DC-PT-I



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

Accessories

Marker pen

Marker pen - X-PEN 0,35 - 0811228

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



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

Zack Marker strip, flat

Zack Marker strip, flat - ZBF 6 CUS - 0825027

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

2906750

<https://www.phoenixcontact.com/gb/products/2906750>

Zack Marker strip, flat

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

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

Zack Marker strip, flat

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

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

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

2906750

<https://www.phoenixcontact.com/gb/products/2906750>

End clamp

End clamp - CLIPFIX 35-5 - 3022276

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

Remote signaling set

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

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

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

2906750

<https://www.phoenixcontact.com/gb/products/2906750>

Shield connection

Shield connection - SSA 3-6 - 2839295

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

Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black



Shield connection

Shield connection - SSA 5-10 - 2839512

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

Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black



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



2906750

<https://www.phoenixcontact.com/gb/products/2906750>

Surge protection plug

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

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



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

Phoenix Contact 2022 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT Ltd

Halesfield 13, Telford

Shropshire, TF7 4PG

01952 681700

info@phoenixcontact.co.uk