

# TTC-6P-2X2-24-PT-I - Surge protection device



1334595

<https://www.phoenixcontact.com/us/products/1334595>

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

## Your advantages

- Efficient use of space: the narrowest pluggable surge protection solution for 4-conductor applications
- Easy function monitoring: on-site or optionally via remote signaling, with optical monitoring, without additional effort
- Servicing without affecting the signal: replace the surge protection module without affecting the measuring signal
- Flexible choice: Push-in Technology or screw connection

## Commercial data

Item number	1334595
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2162
GTIN	4063151633554
Weight per piece (including packing)	50.3 g
Weight per piece (excluding packing)	32.62 g
Customs tariff number	85363010
Country of origin	DE

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## Technical data

### Product properties

Product type	Surge protection for MCR technology
Product family	TERMITRAB complete
IEC test classification	C1
	C2
	C3
	D1
Type	DIN rail module, two-section, divisible

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

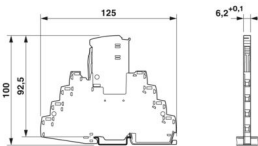
### Electrical properties

Nominal voltage $U_N$	24 V DC
	24 V AC

### 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	125 mm
Depth	100 mm (incl. DIN rail 7.5 mm)

### Material specifications

Color (Base element)	gray (RAL 7042)
Color (Male connector)	light gray (RAL 7035)
Flammability rating according to UL 94	V-0
Insulating material	PBT
Housing material	PBT

### Mechanical properties

#### Mechanical data

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Open side panel	No
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## Protective circuit

Direction of action	Line-Line & Line-Earth Ground
Nominal voltage $U_N$	24 V DC
	24 V AC
Maximum continuous operating voltage $U_C$	36 V DC
	26 V AC
Rated current	300 mA (40 °C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$
Protective conductor current $I_{PE}$	$\leq 5 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	8 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	1 kA
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	15 kA
Output voltage limitation at 1 kV/ $\mu\text{s}$ (wire-wire)	$\leq 50 \text{ V}$
Voltage protection level $U_p$ (line-line)	$\leq 80 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 160 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 55 \text{ V}$ (C3 - 25 A)
Voltage protection level $U_p$ (line-earth)	$\leq 950 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 850 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 700 \text{ V}$ (C3 - 25 A)
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 ( $\leq 200 \text{ kHz} / 150 \Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system	> 900 kHz
Capacity (Core-Core)	typ. 2 nF
Resistance per path	3.3 $\Omega \pm 20 \%$
Surge protection fault message	optical
Max. required back-up fuse	315 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 - 1 kA
Pulse reset time (line-earth)	$\leq 25 \text{ ms}$

## Additional technical data

Max. total discharge current $I_{total \max}$ (8/20) $\mu\text{s}$	20 kA
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
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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
Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013

## Mounting

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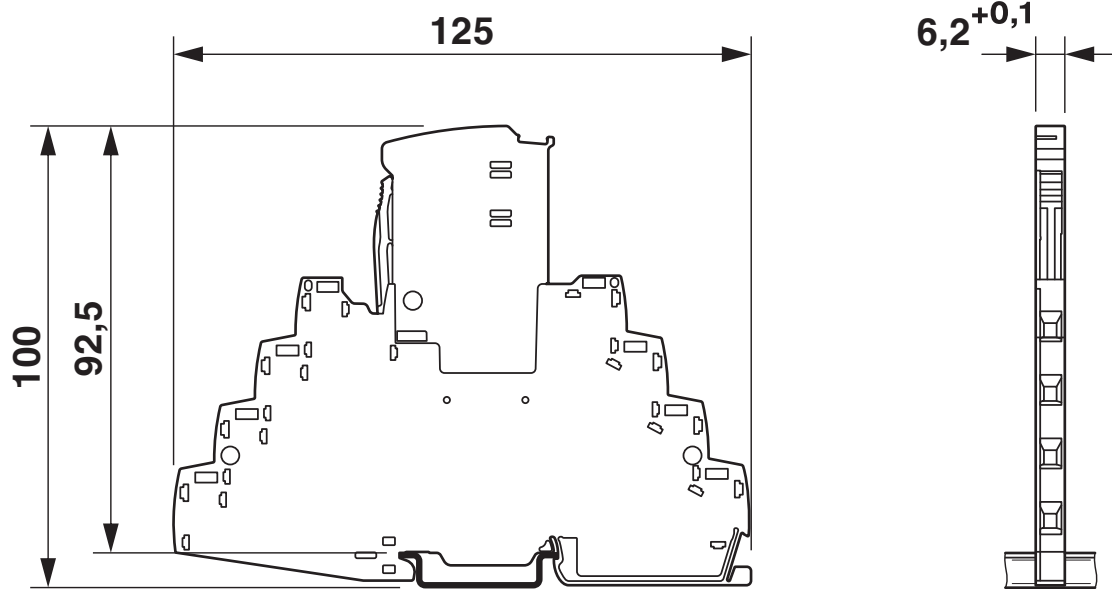
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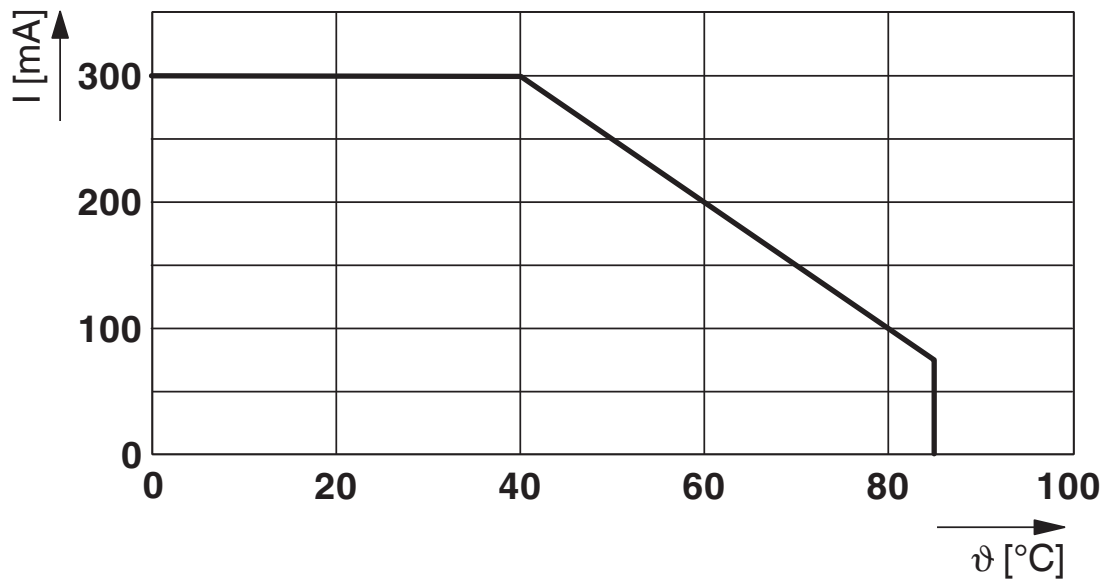
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## Drawings

Dimensional drawing



Diagram



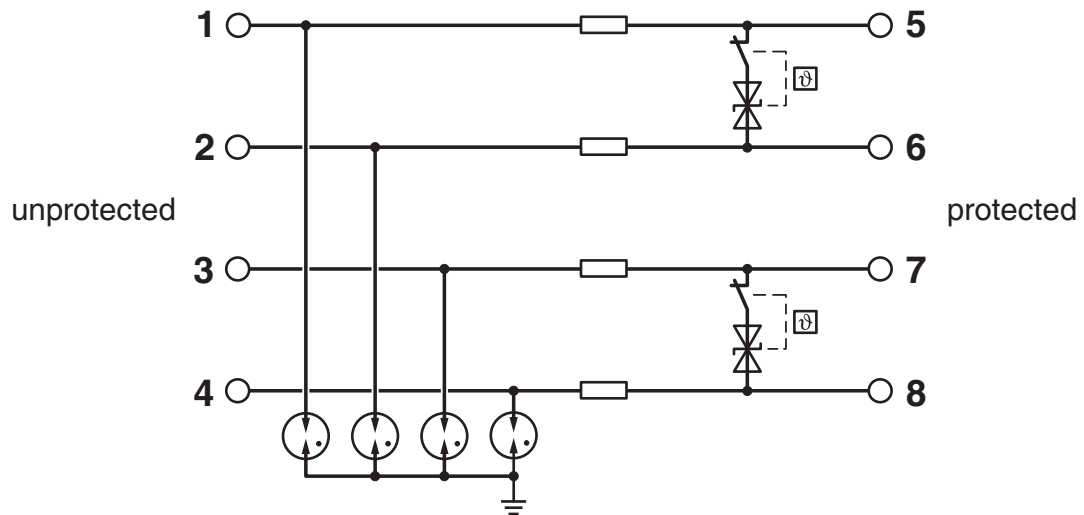
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Circuit diagram



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## Approvals

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**DNV GL**

Approval ID: TAE000027G



**UL Listed**

Approval ID: FILE E 138168



**cULus Listed**

Approval ID: File E 333250

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## Classifications

### ECLASS

ECLASS-13.0	27171501
ECLASS-15.0	27171501

### ETIM

ETIM 10.0	EC001466
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### UNSPSC

UNSPSC 21.0	39121600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	61079a7b-9210-4fc9-8a0e-831a4b6cc6b3

### EF3.1 Climate Change

CO2e kg	8.16 kg CO2e
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