

# Surge protection device - TTC-6P-1X2-F-24DC-PT-I - 1065318

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Surge protection, consisting of protective plug and base element, with integrated status indicator for a 2-wire floating signal circuit. Indirect grounding via gas discharge tube, HART-compatible.



## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4055626727059

## Technical data

### Dimensions

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

### Ambient conditions

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

### General

Housing material	PBT
Flammability rating according to UL 94	V-0
Color	traffic grey A RAL 7042 light grey RAL 7035
Mounting type	DIN rail: TH 35 - 7.5 mm
Type	DIN rail module, two-section, divisible

# Surge protection device - TTC-6P-1X2-F-24DC-PT-I - 1065318

## Technical data

### General

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
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### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
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-line)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-earth)	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-line)	0.5 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-line)	$\leq 200 V$ (C1 - 1 kV/500 A)
	$\leq 320 V$ (C2 - 10 kV / 5 kA)
	$\leq 50 V$ (C3 - 25 A)
	$\leq 55 V$ (C3 - 100 A)
Voltage protection level $U_p$ (line-earth)	$\leq 900 V$ (C1 - 1 kV/500 A)
	$\leq 1.05 kV$ (C2 - 10 kV / 5 kA)
	$\leq 1.3 kV$ (C3 - 25 A)
	$\leq 1.4 kV$ (C3 - 100 A)
Voltage protection level $U_p$ (line-signalground)	$\leq 750 V$ (C1 - 1 kV/500 A)
	$\leq 750 V$ (C2 - 10 kV / 5 kA)
	$\leq 700 V$ (C3 - 25 A)
	$\leq 750 V$ (C3 - 100 A)
Voltage protection level $U_p$ static (line-line)	$\leq 50 V$ (C1 - 1 kV/500 A)
	$\leq 120 V$ (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ static (line-earth)	$\leq 900 V$ (C1 - 1 kV/500 A)
	$\leq 1.05 kV$ (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ static (line-signalground)	$\leq 750 V$ (C1 - 1 kV/500 A)
	$\leq 750 V$ (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-line)	$\leq 1 ns$
Response time $t_A$ (line-signalground)	$\leq 100 ns$

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## Technical data

### Protective circuit

Response time $t_A$ (line-earth)	$\leq 100$ ns
Input attenuation aE, sym.	typ. 0.3 dB ( $\leq 250$ kHz / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 940 kHz
Capacity (line-line)	typ. 2.2 nF
Resistance per path	1.65 $\Omega \pm 20$ %
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
Impulse durability (line-signalground)	D1 - 500 A
	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Pulse reset time (line-line)	$\leq 700$ ms
Pulse reset time (line-earth)	$\leq 30$ ms
Pulse reset time (line-signalground)	$\leq 1500$ ms

### Additional technical data

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

Connection method	Push-in connection
Stripping length	8 mm
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

### Standards and Regulations

Standards/specifications	IEC 61643-21 2000 + corrigendum 2001 + A1:2008, modified + A2:2012
	EN 61643-21 2001 + A1:2009 + A2:2013

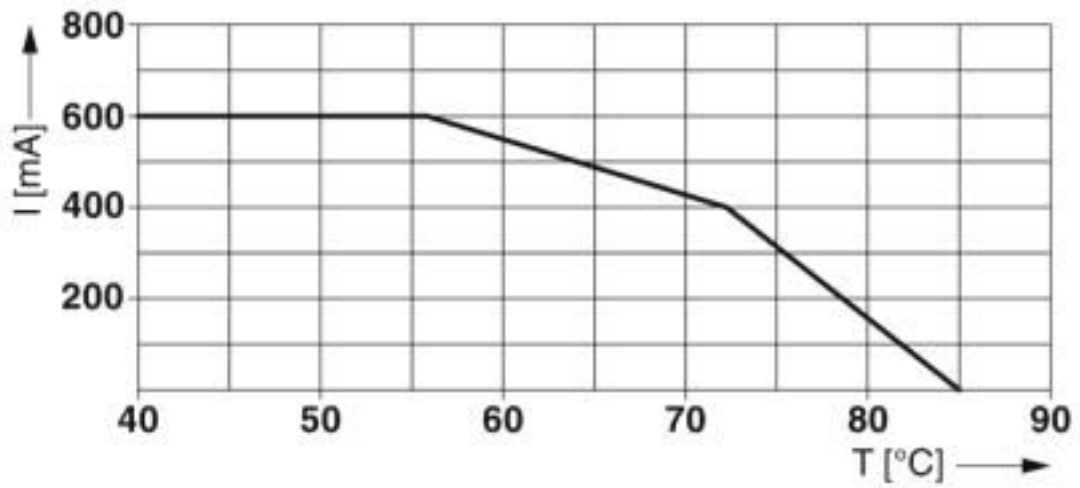
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

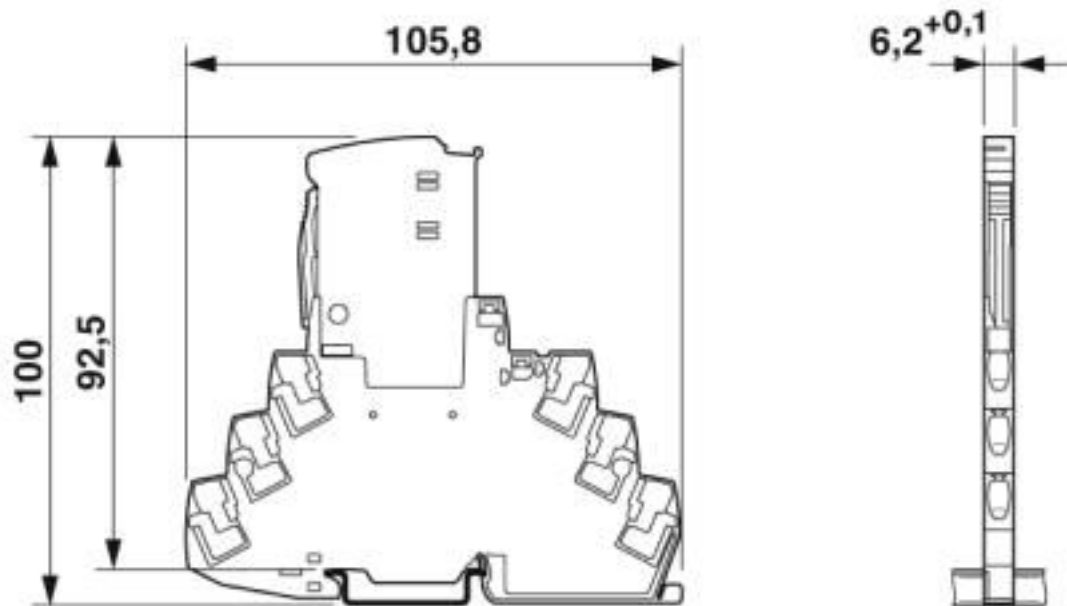
## Drawings

# Surge protection device - TTC-6P-1X2-F-24DC-PT-I - 1065318

Diagram

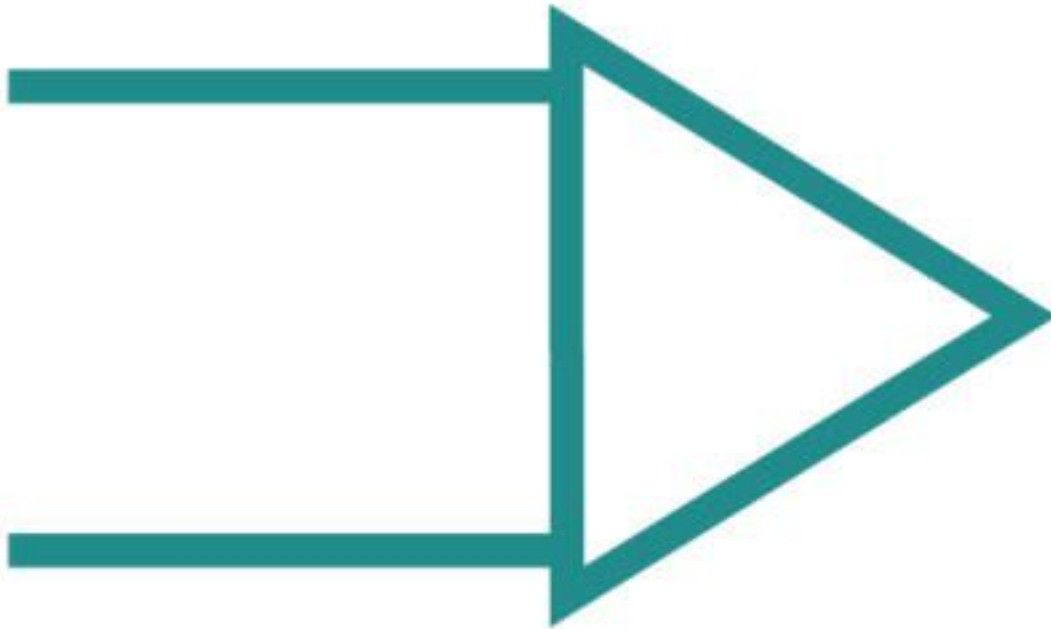


Dimensional drawing

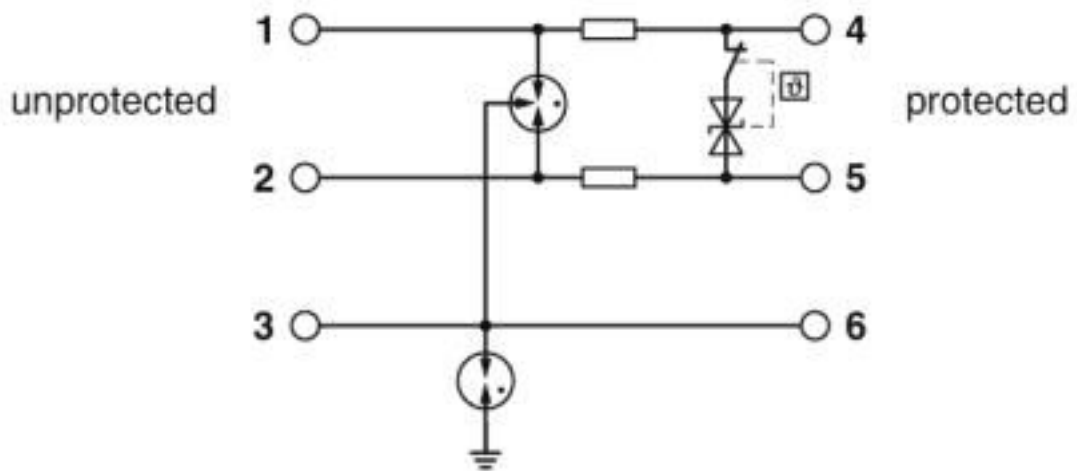


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Pictogram



Circuit diagram



## Classifications

eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 6.0	27130800
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

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## Classifications

### ETIM

ETIM 5.0	EC000943
ETIM 6.0	EC000943
ETIM 7.0	EC000943

## Approvals

### Approvals

Approvals

UL Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 138168
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## Accessories

### Accessories

#### End block

End clamp - CLIPFIX 35-5 - 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

#### Labeled terminal marker

Zack Marker strip, flat - ZBF 6 CUS - 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

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### Accessories

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

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### Marker pen

Marker pen - X-PEN 0,35 - 0811228



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

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### Terminal marking

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, 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

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, 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

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### Additional products

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



Module set for the optical monitoring and floating remote signaling of neighboring surge protective devices of the TERMITRAB complete product range.

## Surge protection device - TTC-6P-1X2-F-24DC-PT-I - 1065318

### Accessories

Shield connection - SSA 3-6 - 2839295



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

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Shield connection - SSA 5-10 - 2839512



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

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### Spare parts

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



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

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