

## Surge protection device - TTC-6P-2X1-F-12DC-PT-I - 2908206

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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



### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4055626282909
Weight per Piece (excluding packing)	40.000 g
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

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

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## Technical data

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

### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage $U_N$	12 V DC
Maximum continuous voltage $U_C$	15 V DC 10 V AC
Rated current	600 mA (56 °C)
Operating effective current $I_C$ at $U_C$	≤ 100 μA
Residual current $I_{PE}$	≤ 1 μA
Nominal discharge current $I_n$ (8/20) μs (line-earth)	5 kA
Nominal discharge current $I_n$ (8/20) μs (line-signal ground)	5 kA
Pulse discharge current $I_{imp}$ (10/350) μs (line-earth)	0.5 kA
Pulse discharge current $I_{imp}$ (10/350) μs (line-signalground)	0.5 kA
Total discharge current $I_{total}$ (8/20) μs	10 kA
Voltage protection level $U_p$ (line-earth)	≤ 750 V (C1 - 1 kV / 500 A) ≤ 750 V (C2 - 10 kV / 5 kA) ≤ 1.2 kV (C3 - 25 A) ≤ 1.3 kV (C3 - 100 A)
Voltage protection level $U_p$ (line-signalground)	≤ 145 V (C1 - 1 kV / 500 A) ≤ 285 V (C2 - 10 kV / 5 kA)

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## Technical data

### Protective circuit

	≤ 25 V (C3 - 25 A)
	≤ 30 V (C3 - 100 A)
Voltage protection level $U_p$ static (line-earth)	≤ 750 V (C1 - 1 kV / 500 A)
	≤ 750 V (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ static (line-signalground)	≤ 35 V (C1 - 1 kV / 500 A)
	≤ 105 V (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-signalground)	≤ 1 ns
Response time $t_A$ (line-earth)	≤ 100 ns
Input attenuation aE, asym.	typ. 0.3 dB (≤ 140 kHz / 150 Ω)
Cut-off frequency $f_g$ (3 dB), asym. (signal ground) in 150 Ω system	typ. 440 kHz
Capacity (line-signalground)	typ. 5.2 nF
Resistance per path	1.65 Ω ±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)	≤ 30 ms
Pulse reset time (line-signalground)	≤ 30 ms

### Additional technical data

Max. total discharge current $I_{total\ max}$ (8/20) μs	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

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## Technical data

### Environmental Product Compliance

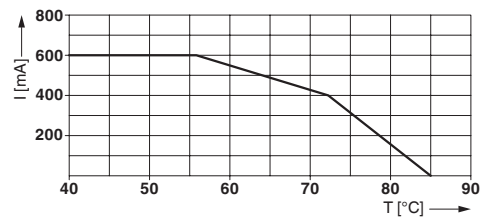
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

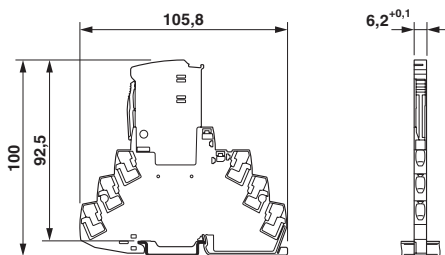
### Pictogram



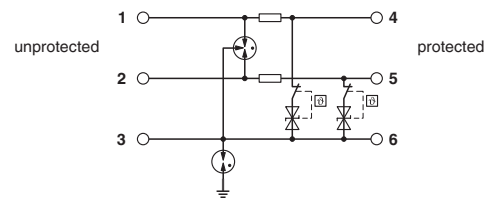
### Diagram



### Dimensional drawing



### Circuit diagram



## Classifications

### eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 11.0	27130807
eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130800
eCl@ss 7.0	27130807
eCl@ss 9.0	27130807

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## Classifications

### ETIM

ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 6.0	EC000943
ETIM 7.0	EC000943

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Approvals

### Approvals

#### Approvals

DNV GL / CSA / UL Listed / CSAus / cCSAus

#### Ex Approvals

### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAE000027G
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CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	70136717
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### Approvals

UL Listed		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 138168
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CSAus		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	70136717
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cCSAus			
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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

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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### Accessories

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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 in, 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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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 in, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 1000

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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 adjacent surge protective devices in the TERMITRAB complete or CLIXTRAB product family. Suitable for directly grounded DIN rails.

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## Surge protection device - TTC-6P-2X1-F-12DC-PT-I - 2908206

### 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-2X1-12DC-I-P - 2907842



Surge protection plug with integrated status indicator on the module for two signal wires with a common reference potential. Nominal voltage: 12 V DC