

# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

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 with integrated status indicator for a 2-wire floating signal circuit with high nominal current.

## 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

## Commercial data

Item number	2908438
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2261
Catalog page	Page 137 (C-4-2019)
GTIN	4055626300429
Weight per piece (including packing)	39.9 g
Weight per piece (excluding packing)	33.71 g
Customs tariff number	85363010
Country of origin	DE

# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## Technical data

### Product properties

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

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

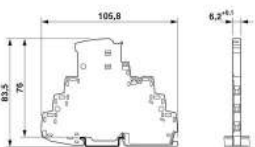
### Electrical properties

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

### Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
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	83.5 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

# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

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	6 A (55 °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) $\mu\text{s}$ (line-line)	0.5 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	0.5 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	5 kA
Voltage protection level $U_p$ (line-line)	$\leq 50 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 45 \text{ V}$ (C3 - 25 A)
	$\leq 50 \text{ V}$ (C3 - 100 A)
Voltage protection level $U_p$ (line-earth)	$\leq 1.35 \text{ kV}$ (C1 - 1 kV / 500 A)
	$\leq 1.45 \text{ kV}$ (C2 - 10 kV / 5 kA)
	$\leq 850 \text{ V}$ (C3 - 25 A)
	$\leq 1.1 \text{ kV}$ (C3 - 100 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 ( $\leq 300 \text{ kHz} / 150 \Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system	typ. 1 MHz
Capacity (Core-Earth)	typ. 2.2 nF
Resistance per path	$\leq 100 \text{ m}\Omega$
Surge protection fault message	optical
Max. required back-up fuse	6.3 A (FF)
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C3 - 100 A
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 500 A
Pulse reset time (line-earth)	$\leq 40 \text{ ms}$

## 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	$\leq 4000 \text{ m}$ (amsl)
Permissible humidity (operation)	5 % ... 95 %

# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## 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
---------------	--------------------------

# TTC-6-2-HC-24DC-UT-I - Surge protection device

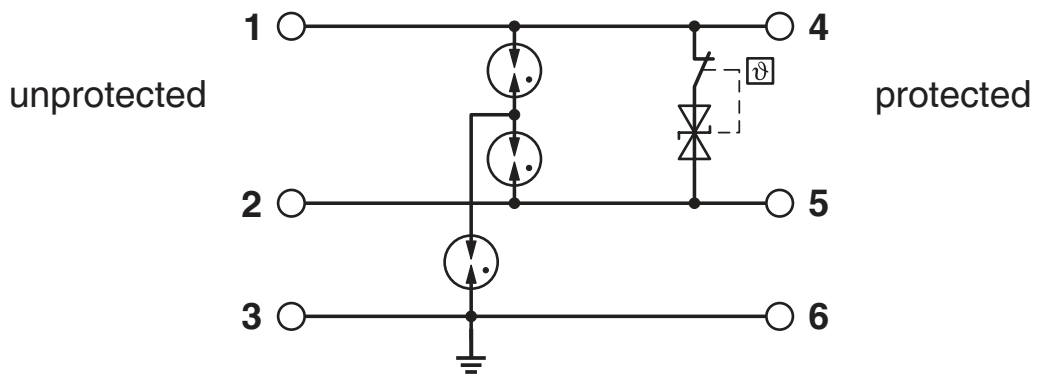


2908438

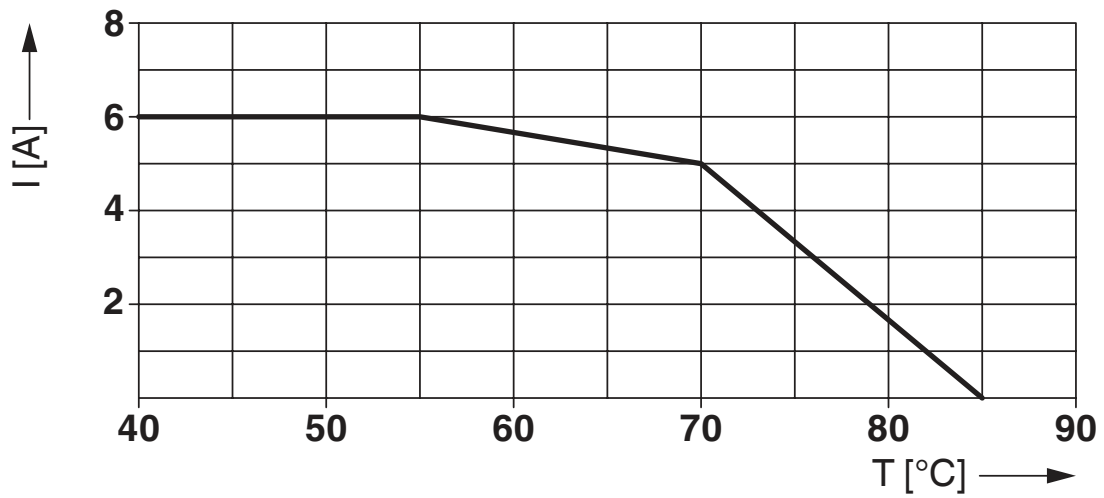
<https://www.phoenixcontact.com/us/products/2908438>

## Drawings

Circuit diagram



Diagram



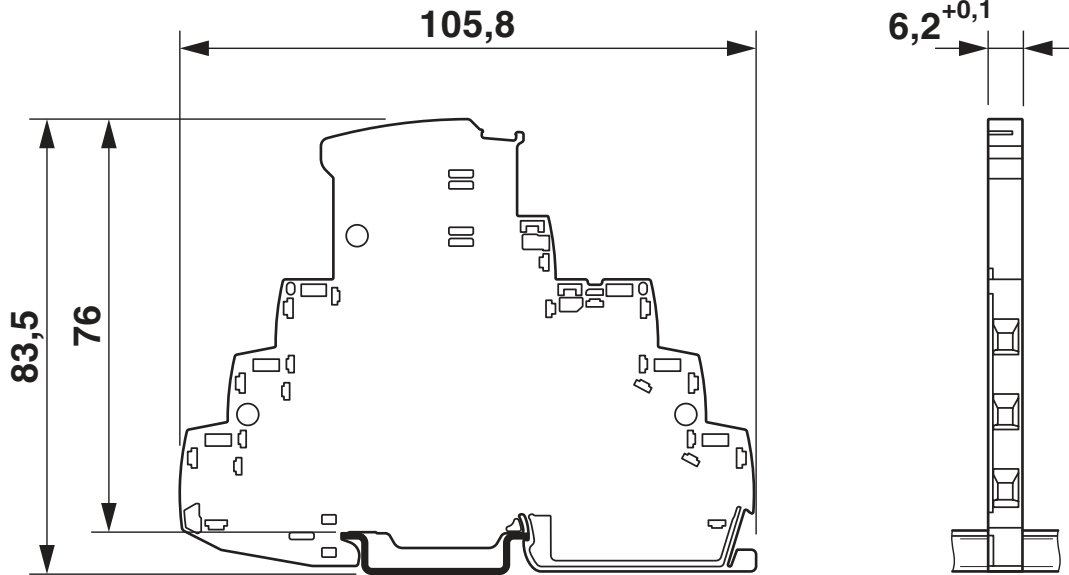
# TTC-6-2-HC-24DC-UT-I - Surge protection device

2908438

<https://www.phoenixcontact.com/us/products/2908438>



Dimensional drawing



# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2908438>

 **CSA**  
Approval ID: 70136717

 **DNV GL**  
Approval ID: TAE000027G

 **UL Listed**  
Approval ID: FILE E 138168

 **CSAus**  
Approval ID: 70136717

**UAE-RoHS**  
Approval ID: 22-06-16191

**cCSAus**

# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## Classifications

### ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

### ETIM

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

### UNSPSC

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



# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## 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-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## Accessories

### 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

---

### 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

# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## 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

---

## 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

# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## 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

---

## 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-6-2-HC-24DC-UT-I - Surge protection device

2908438

<https://www.phoenixcontact.com/us/products/2908438>



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

2907810

<https://www.phoenixcontact.com/us/products/2907810>



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-6-FC-UT - Fuse holder

1054762

<https://www.phoenixcontact.com/us/products/1054762>



Fuse carrier for surge protective devices of the TERMITRAB complete product range with screw connection technology. Multi-level connection on TTC-6 housings possible. For conventional 5x20 mm miniature fuses.

# TTC-6-2-HC-24DC-UT-I - Surge protection device



2908438

<https://www.phoenixcontact.com/us/products/2908438>

## 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



---

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)