

TTC-6-3-HF-F-M-24DC-UT-I - Surge protection device



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

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 and knife disconnection for three signal wires with common reference potential. For HF applications and telecommunications interfaces without supply voltage (up to 90 Mbps). 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
- Signal circuits easily interrupted for maintenance work, thanks to vertical knife disconnection

Commercial data

Item number	2906770
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL2261
Catalog page	Page 171 (C-4-2019)
GTIN	4055626135199
Weight per piece (including packing)	43.8 g
Weight per piece (excluding packing)	36.57 g
Customs tariff number	85363010
Country of origin	DE

2906770

<https://www.phoenixcontact.com/pc/products/2906770>

Technical data

Product properties

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

Insulation characteristics

Overvoltage category	III
Pollution degree	2

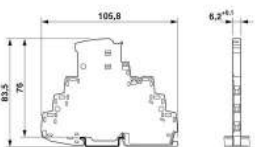
Electrical properties

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 ² ... 2.5 mm ²
Conductor cross section rigid	0.2 mm ² ... 4 mm ²
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

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 (40 °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 current I_n (8/20) μs (line-ground)	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-line)	$\leq 150 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 275 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 45 \text{ V}$ (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)
	$\leq 1.1 \text{ kV}$ (C3 - 25 A)
	$\leq 1.2 \text{ kV}$ (C3 - 100 A)
Voltage protection level U_p (line-signalground)	$\leq 80 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 125 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 45 \text{ V}$ (C3 - 25 A)
	$\leq 55 \text{ V}$ (C3 - 100 A)
Voltage protection level U_p static (line-line)	$\leq 75 \text{ V}$ (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)
Voltage protection level U_p static (line-signalground)	$\leq 75 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 120 \text{ V}$ (C2 - 10 kV / 5 kA)
Response time t_A (line-line)	$\leq 1 \text{ ns}$
Response time t_A (line-earth)	$\leq 100 \text{ ns}$
Response time t_A (line-signalground)	$\leq 1 \text{ ns}$
Input attenuation aE, sym.	typ. 0.3 dB ($\leq 8.7 \text{ MHz} / 150 \Omega$)
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 10.5 \text{ MHz} / 150 \Omega$)
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 60 MHz
Cut-off frequency f_g (3 dB), asym. (signal ground) in 150 Ω system	typ. 60 MHz
Capacity (Core-Core)	typ. 32 pF
Capacity (line-signalground)	typ. 32 pF

TTC-6-3-HF-F-M-24DC-UT-I - Surge protection device



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

Resistance per path	1.65 Ω \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
	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-line)	\leq 600 ms
Pulse reset time (line-earth)	\leq 30 ms
Pulse reset time (line-signalground)	\leq 600 ms

Additional technical data

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

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 m (amsl)
Permissible humidity (operation)	5 % ... 95 %

Standards and regulations

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

EN 61643-21

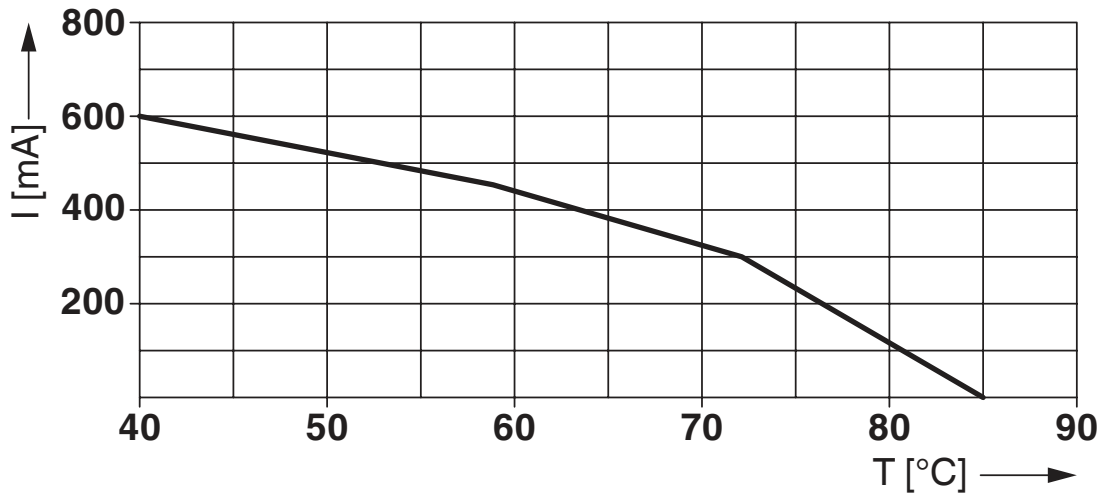
Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013

Mounting

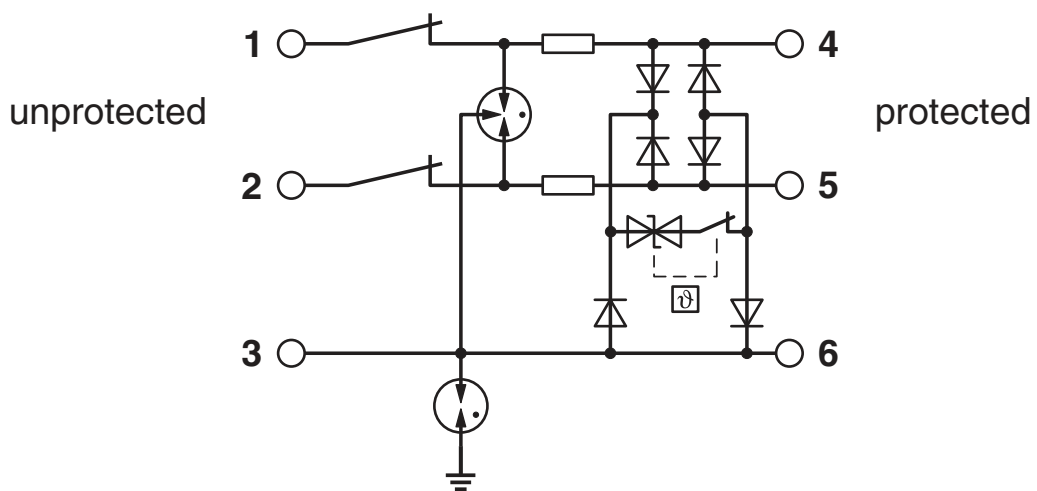
Mounting type	DIN rail: TH 35 - 7.5 mm
---------------	--------------------------

Drawings

Diagram



Circuit diagram



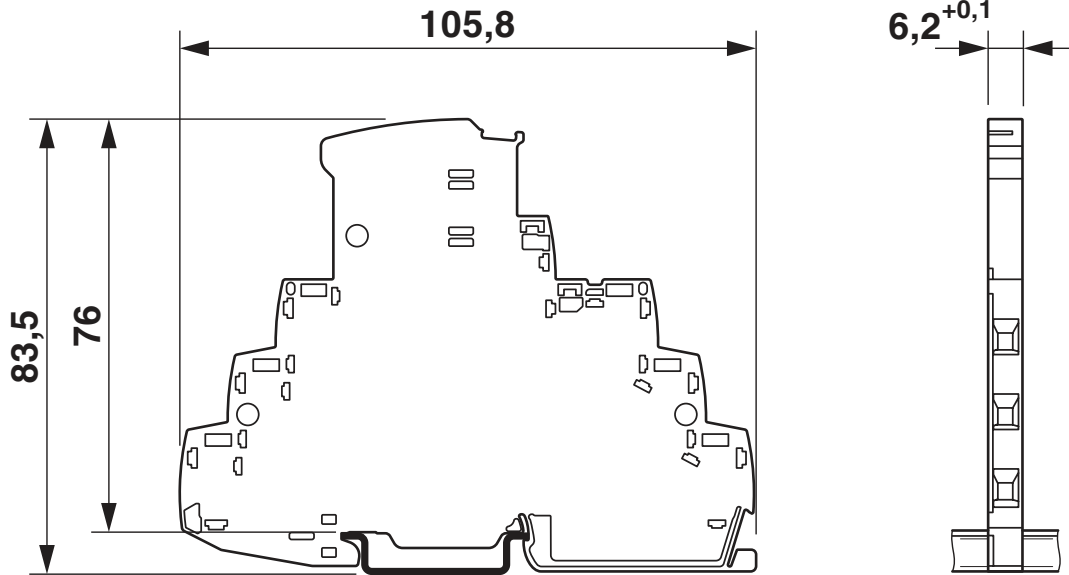
TTC-6-3-HF-F-M-24DC-UT-I - Surge protection device



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

Dimensional drawing



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/2906770>



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-6-3-HF-F-M-24DC-UT-I - Surge protection device



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171503

ETIM

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

UNSPSC

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

TTC-6-3-HF-F-M-24DC-UT-I - Surge protection device



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

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"

2906770

<https://www.phoenixcontact.com/pc/products/2906770>

Accessories

ZBF 6 CUS - Zack Marker strip, flat

0825027

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

ZBF 6:UNBEDRUCKT - Zack Marker strip, flat

0808710

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

2906770

<https://www.phoenixcontact.com/pc/products/2906770>

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

0808736

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

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

0808765

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

TTC-6-3-HF-F-M-24DC-UT-I - Surge protection device



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

CLIPFIX 35-5 - End clamp

3022276

<https://www.phoenixcontact.com/pc/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-FMRS-UT - Remote signaling set

2907810

<https://www.phoenixcontact.com/pc/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-6-3-HF-F-M-24DC-UT-I - Surge protection device



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

TTC-6-FC-UT - Fuse holder

1054762

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

SSA 3-6 - Shield connection

2839295

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



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

TTC-6-3-HF-F-M-24DC-UT-I - Surge protection device



2906770

<https://www.phoenixcontact.com/pc/products/2906770>

SSA 5-10 - Shield connection

2839512

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



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

X-PEN 0,35 - Marker pen

0811228

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



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

Phoenix Contact 2023 © - all rights reserved
<https://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
D-32825 Blomberg
+49 (0) 5235-3 00
info@phoenixcontact.com