

TTC-6P-3-HF-F-M-EX-12DC-UT-I - Surge protection device



2906826

<https://www.phoenixcontact.com/us/products/2906826>

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Surge protection, consisting of protective plug and base element, with integrated status indicator and knife disconnection for a 3-wire Ex i signal circuit with common reference potential. For HF applications. Indirect grounding via gas-filled surge arrester, HART-compatible.

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

Commercial data

Item number	2906826
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2163
Catalog page	Page 181 (C-4-2019)
GTIN	4055626135885
Weight per piece (including packing)	64.2 g
Weight per piece (excluding packing)	42.16 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	DIN rail module, two-section, divisible
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	12 V DC
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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

Ex data

Maximum inner capacitance C_i	negligible
Max. internal inductance L_i	negligible
Max. input current I_i	400 mA (T4 / -40 °C ... +50 °C)
	250 mA (T4 / -40 °C ... +70 °C)
	350 mA (T6 / -40 °C ... +35 °C)
	100 mA (T6 / -40 °C ... +70 °C)
Max. input voltage U_i	15 V DC
Insulation voltage to ground	> 180 V DC
Ambient temperature (operation)	-40 °C ... 70 °C (with current derating)

Dimensions

Dimensional drawing	
Width	6.2 mm +0.1 mm

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Height	105.8 mm
Depth	100 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
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Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Maximum continuous voltage U_C	15 V DC
Rated current	600 mA (40 °C)
Operating effective current I_C at U_C	$\leq 100 \mu\text{A}$
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-line)	0.5 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)	$\leq 145 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 260 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 30 \text{ V}$ (C3 - 100 A)
Voltage protection level U_p (line-earth)	$\leq 1.1 \text{ kV}$ (C1 - 1 kV / 500 A)
	$\leq 750 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 1.2 \text{ kV}$ (C3 - 100 A)
Voltage protection level U_p (line-signalground)	$\leq 95 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 95 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 30 \text{ V}$ (C3 - 100 A)
Voltage protection level U_p static (line-line)	$\leq 35 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 95 \text{ V}$ (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)	$\leq 35 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 95 \text{ V}$ (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)	$\leq 1 \text{ ns}$

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Input attenuation aE, sym.	typ. 0.3 dB (\leq 8.7 MHz / 150 Ω)
Input attenuation aE, asym.	typ. 0.3 dB (\leq 10.5 MHz / 150 Ω)
Cut-off frequency fg (3 dB), sym. in 150 Ω system	typ. 60 MHz
Cut-off frequency fg (3 dB), asym. (signal ground) in 150 Ω system	typ. 60 MHz
Capacity (Core-Core)	typ. 32 pF
Capacity (line-signalground)	typ. 32 pF
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 30 ms
Pulse reset time (line-earth)	\leq 30 ms
Pulse reset time (line-signalground)	\leq 30 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 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %

Approvals

Conformity/Approvals

UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4A
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Standards and regulations

Standards/specifications	EN 60079-0
Note	2018
Standards/specifications	EN 60079-11
Note	2012

EN 61643-21

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Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013
Standards/specifications	IEC 60079-0
Note	2017
Standards/specifications	IEC 60079-11
Note	2008
Standards/specifications	IEC 61643-21
Note	2000 + corrigendum 2001 + A1:2008, modified + A2:2012

Mounting

Mounting type	DIN rail: TH 35 - 7.5 mm
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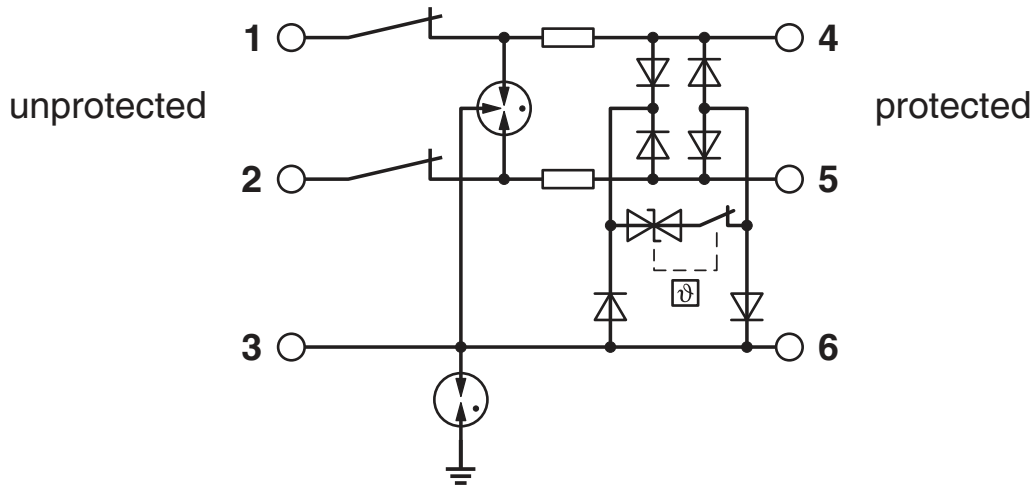


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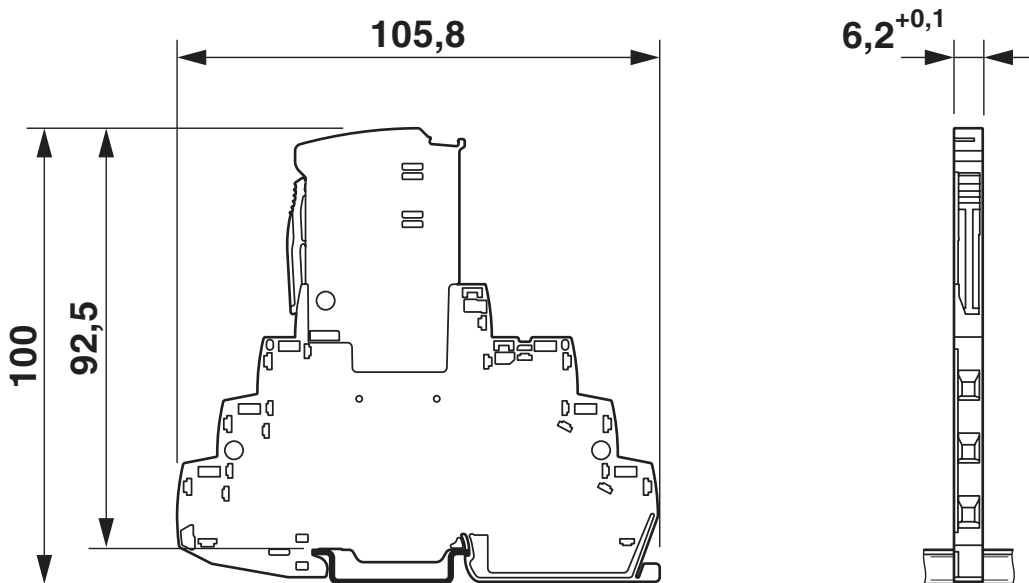
<https://www.phoenixcontact.com/us/products/2906826>

Drawings

Circuit diagram



Dimensional drawing



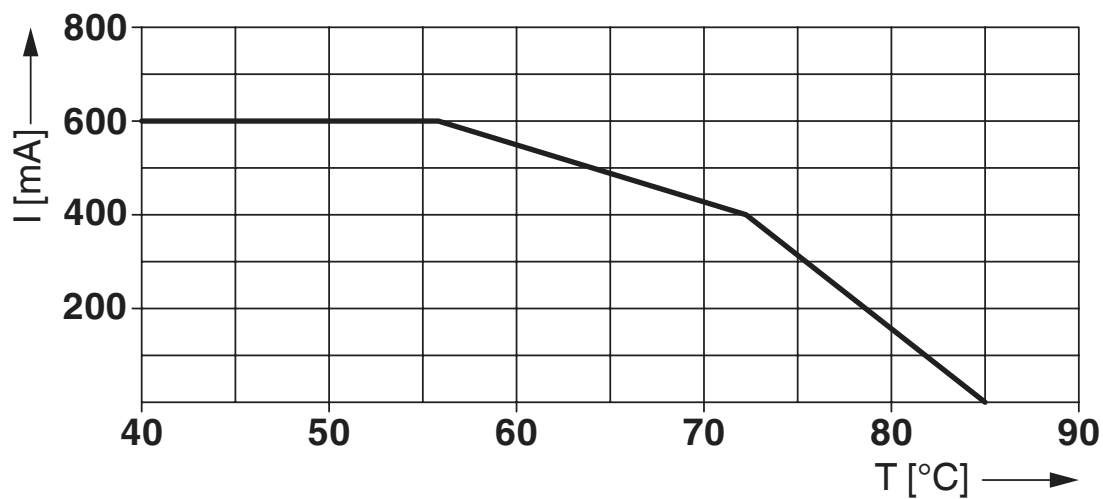
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Diagram



Derating for non-Ex applications

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2906826>



CSA

Approval ID: 70136717



DNV GL

Approval ID: TAE000027G



UL Listed

Approval ID: FILE E 138168



CSAus

Approval ID: 70136717

UAE-RoHS

Approval ID: 22-06-16783



IECEX

Approval ID: IECEX BVS 16.0090X



CCC

Approval ID: 2020322316000780



cUL Listed

Approval ID: FILE E 333250



UL Listed

Approval ID: FILE E 333250



ATEX

Approval ID: BVS 16 ATEX E 125 X

INMETRO

Approval ID: DNV 19.0077 X

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NEPSI-EX

Approval ID: GYJ20.1114X

cCSAus

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171502

ETIM

ETIM 8.0	EC000943
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UNSPSC

UNSPSC 21.0	39121600
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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"

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Accessories

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

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

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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

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

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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-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.

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TTC-EX-PP - Separating plate

1011977

<https://www.phoenixcontact.com/us/products/1011977>

Partition plate for NS-35/7,5 DIN rails to ensure a clearance of 50 mm between the remote signaling module and surge protection in TTC-EX systems.



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 mm², color: black



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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 mm², color: black

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

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TTC-6P-3-HF-EX-12DC-I-P - Surge protection plug

2907833

<https://www.phoenixcontact.com/us/products/2907833>



Surge protection plug with integrated status indicator for a 3-wire Ex i signal circuit with common reference potential. For HF applications. Nominal voltage: 12 V DC

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