

# TTC-6P-3-HF-F-M-24DC-PT-I - Surge protection device



2906797

<https://www.phoenixcontact.com/us/products/2906797>

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Surge protection, consisting of protective plug and base element, with integrated status indicator and knife disconnection for three signal wires with common reference potential. For HF applications and telecommunications interfaces without supply voltage. Indirect grounding via gas discharge tube, Ex e approval for zone 2.

## 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	2906797
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2162
Catalog page	Page 171 (C-4-2019)
GTIN	4055626135526
Weight per piece (including packing)	52.8 g
Weight per piece (excluding packing)	42.5 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 $U_N$	24 V DC
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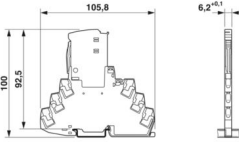
### Connection data

Connection method	Push-in connection
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

### Ex data

Maximum input current	600 mA (T4 / ≤ 30 °C)
	500 mA (T4 / > 30 °C ... ≤ 50 °C)
	400 mA (T4 / > 50 °C ... ≤ 70 °C)
Maximum input voltage	30 V DC
Altitude	≤ 2000 m (amsl)
Ambient temperature (operation)	-40 °C ... 70 °C (T4)

### Dimensions

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

### Material specifications

Color (Base element)	gray (RAL 7042)
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Color (Male connector)	light grey (RAL 7035)
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 $U_C$	30 V DC
	21 V AC
Rated current	600 mA (56 °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)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	5 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-signal ground)	5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-line)	0.5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	0.5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-signalground)	0.5 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	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)	$\leq 100 \text{ ns}$

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Response time $t_A$ (line-signalground)	$\leq 1$ ns
Input attenuation aE, sym.	typ. 0.3 dB ( $\leq 8.7$ MHz / 150 $\Omega$ )
Input attenuation aE, asym.	typ. 0.3 dB ( $\leq 10.5$ MHz / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system	typ. 60 MHz
Cut-off frequency $f_g$ (3 dB), asym. (signal ground) in 150 $\Omega$ system	typ. 60 MHz
Capacity (Core-Core)	typ. 32 pF
Capacity (line-signalground)	typ. 32 pF
Resistance per path	1.65 $\Omega \pm 20$ %
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) $\mu$ s	20 kA (1x - non Ex)
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## 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
Standards/specifications	IEC 60079-0

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Note	2017
Standards/specifications	IEC 60079-7
Note	2017
Standards/specifications	EN IEC 60079-0
Note	2018
Standards/specifications	EN IEC 60079-7
Note	2015 + A1:2018

## Mounting

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

### ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171503

### ETIM

ETIM 9.0	EC001466
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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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