

TTC-6P-2X1-48DC-UT-I - Surge protection device



2908203

<https://www.phoenixcontact.com/no/products/2908203>

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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.

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	2908203
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	31BCL
Product key	CL2161
Catalog page	Page 128 (C-4-2019)
GTIN	4055626282886
Weight per piece (including packing)	46.36 g
Weight per piece (excluding packing)	40.06 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 MCR technology
Product family	TERMITRAB complete

Insulation characteristics

Overvoltage category	III
Pollution degree	2

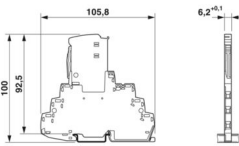
Electrical properties

Nominal voltage U_N	48 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

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)
Color (Male connector)	light grey (RAL 7035)
Flammability rating according to UL 94	V-0
Insulating material	PBT
Housing material	PBT

Mechanical properties

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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	53 V DC 30 V AC
Rated current	220 mA DC (75 °C) 600 mA AC (56 °C)
Operating effective current I_C at U_C	$\leq 5 \mu A$
Residual current I_{PE}	$\leq 10 \mu A$
Nominal discharge current I_n (8/20) μs (line-ground)	5 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	0.5 kA
Total discharge current I_{total} (8/20) μs	10 kA
Voltage protection level U_p (line-earth)	$\leq 110 V$ (C1 - 1 kV / 500 A) $\leq 150 V$ (C2 - 10 kV / 5 kA) $\leq 80 V$ (C3 - 25 A) $\leq 90 V$ (C3 - 50 A)
Voltage protection level U_p static (line-earth)	$\leq 105 V$ (C1 - 1 kV / 500 A) $\leq 150 V$ (C2 - 10 kV / 5 kA)
Response time t_A (line-earth)	$\leq 1 ns$
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 480 kHz / 150 \Omega$)
Cut-off frequency f_g (3 dB), asym. (PE) in 150 Ω system	typ. 1.7 MHz
Capacity (Core-Earth)	typ. 1.2 nF
Resistance per path	1.65 $\Omega \pm 20 \%$
Surge protection fault message	optical
Max. required back-up fuse	160 mA DC (FF) 630 mA AC (FF)
Impulse durability (line-earth)	C1 - 1 kV / 500 A C2 - 10 kV / 5 kA C3 - 57 A D1 - 500 A
Pulse reset time (line-earth)	$\leq 600 ms$

Additional technical data

Max. total discharge current $I_{total max}$ (8/20) μs	20 kA (1x)
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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)

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Permissible humidity (operation)	5 % ... 95 %
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Standards and regulations

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

EN 61643-21

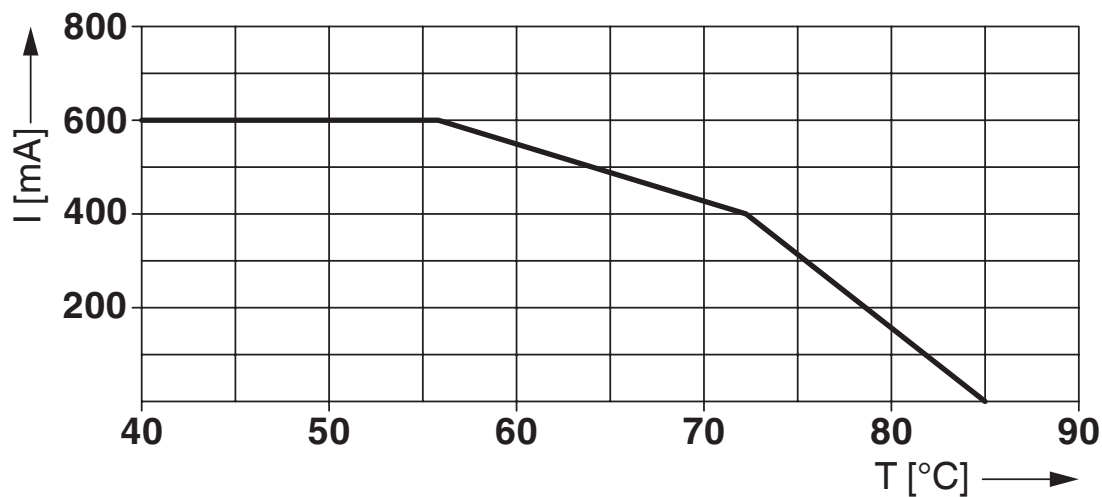
Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013

Mounting

Mounting type	DIN rail: TH 35 - 7.5 mm
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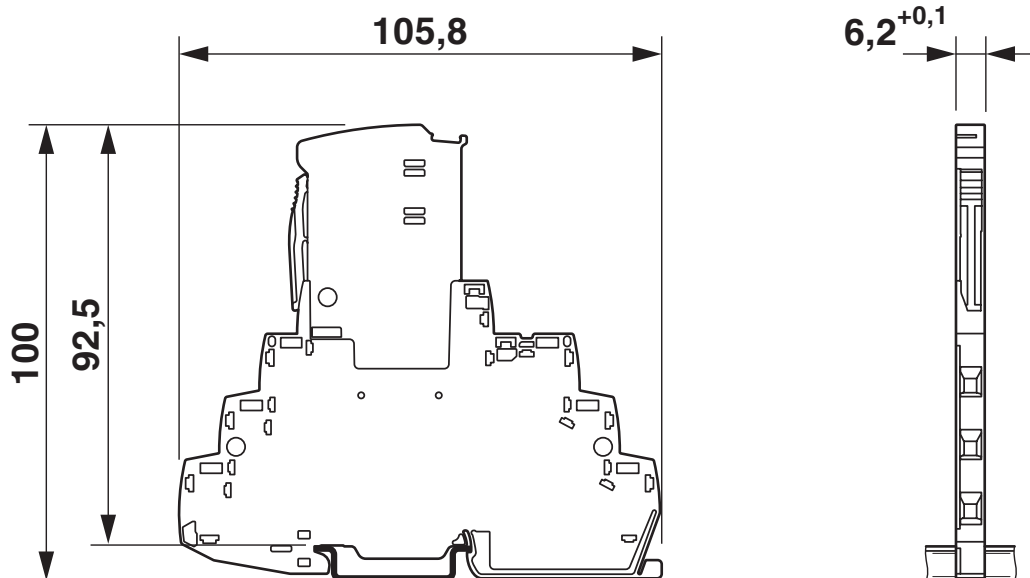
Drawings

Diagram

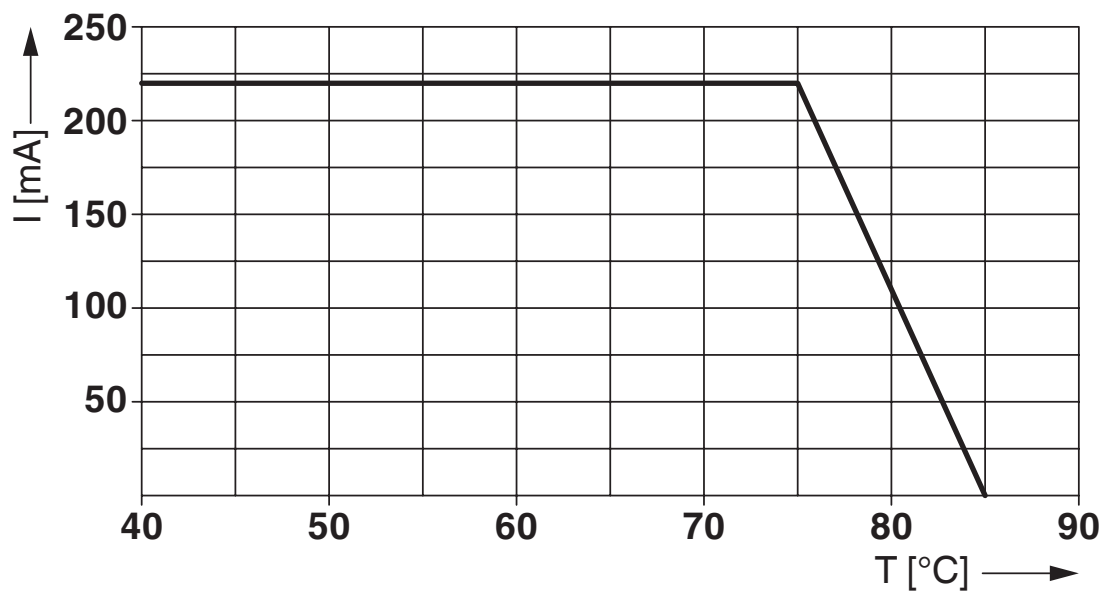


Derating curve at 30 V AC

Dimensional drawing

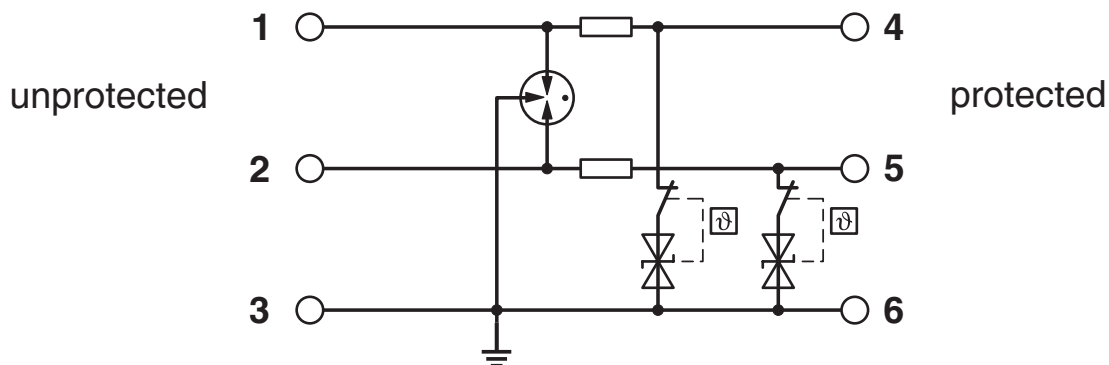


Diagram



Derating curve at 55.2 V DC

Circuit diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/no/products/2908203>



CSA

Approval ID: 70136717



DNV GL

Approval ID: TAE000027G



UL Listed

Approval ID: FILE E 138168



CSAus

Approval ID: 70136717

UAE-RoHS

Approval ID: 22-06-16781

Functional Safety

Approval ID: 16-06-072 R022 V4R2

cCSAus

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Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

ETIM

ETIM 9.0	EC001625
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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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