

TTC-6-TVSD-C-24DC-UT-I - Surge protection device



2906831

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Fine surge protection with integrated status indicator for one signal wire with grounded reference potential. Can be used in safety-related circuits up to SIL 3.

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	2906831
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL23
Product key	CL2264
Catalog page	Page 148 (C-4-2019)
GTIN	4055626127002
Weight per piece (including packing)	27.8 g
Weight per piece (excluding packing)	22.06 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Product properties

Product type	Surge protection for MCR technology
Product family	TERMITRAB complete
IEC test classification	C3
Type	DIN rail module, one-piece
Surge protection fault message	optical

Data management status

Article revision	08
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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	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
Height	92 mm
Depth	69.5 mm (incl. DIN rail 7.5 mm)

Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V-0
Insulating material	PBT

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Housing material	PBT
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Mechanical properties

Mechanical data

Open side panel	Yes
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Protective circuit

Direction of action	Line-Earth Ground
Maximum continuous voltage U_C	30 V DC
	21 V AC
Rated current	10 A (60 °C)
Operating effective current I_C at U_C	$\leq 5 \mu A$
Residual current I_{PE}	$\leq 5 \mu A$
Nominal discharge current I_n (8/20) μs (line-ground)	150 A
Voltage protection level U_p (line-earth)	$\leq 50 V$ (C3 - 25 A)
	$\leq 50 V$ (C3 - 30 A)
Response time t_A (line-earth)	$\leq 1 ns$
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 520 kHz/150 \Omega$)
Cut-off frequency f_g (3 dB), asym. (PE) in 150 Ω system	typ. 1.7 MHz
Capacity (Core-Earth)	1.5 nF
Resistance per path	$\leq 100 m\Omega$
Surge protection fault message	optical
Impulse durability (line-earth)	C3 - 30 A

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (with end cover)
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: 35 mm
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Drawings

Circuit diagram



Schematic diagram



Functional safety scenarios

Diagram



Dimensional drawing



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2906831>



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

Functional Safety

Approval ID: 16-06-072 R024 V2R0

cCSAus

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Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

ETIM

ETIM 9.0	EC000943
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I
China RoHS	
Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.
EU REACH SVHC	
REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	d2001e5e-422c-45db-a558-5b5d8f6242fa
EF3.0 Climate Change	
CO2e kg	0.144 kg CO2e