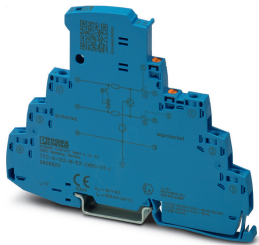


Surge protection device - TTC-6-1X2-M-EX-24DC-UT-I - 2906820

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Surge protection with integrated status indicator and disconnect knife for a 2-wire floating Ex i signal circuit, e.g., 0(4) ... 20 mA current loop, 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
- ✓ Signal circuits easily interrupted for maintenance work, thanks to vertical knife disconnection



Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4055626135830

Technical data

Dimensions

Height	105.8 mm
Width	6.2 mm +0.1 mm
Depth	83.5 mm (incl. DIN rail 7.5 mm)

Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 %
Altitude	≤ 2000 m (amsl (above mean sea level))
Degree of protection	IP20

General

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Technical data

General

Housing material	PBT
Flammability rating according to UL 94	V-0
Color	sky blue RAL 5015
Mounting type	DIN rail: TH 35 - 7.5 mm
Type	DIN rail module, one-piece
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage U_N	24 V DC
Maximum continuous voltage U_C	30 V DC
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-earth)	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
Total discharge current I_{total} (8/20) μs	10 kA
Voltage protection level U_p (line-line)	$\leq 55 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 65 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 55 \text{ V}$ (C3 - 100 A)
Voltage protection level U_p (line-earth)	$\leq 900 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 1.05 \text{ kV}$ (C2 - 10 kV / 5 kA)
	$\leq 1.4 \text{ kV}$ (C3 - 100 A)
Voltage protection level U_p static (line-line)	$\leq 50 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 65 \text{ V}$ (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (line-earth)	$\leq 900 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 1.05 \text{ kV}$ (C2 - 10 kV / 5 kA)
Response time t_A (line-line)	$\leq 1 \text{ ns}$
Response time t_A (line-earth)	$\leq 100 \text{ ns}$
Input attenuation aE, sym.	typ. 0.3 dB ($\leq 250 \text{ kHz}$ / 150 Ω)
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 940 kHz
Capacity (line-line)	typ. 2 nF
Resistance per path	1.65 $\Omega \pm 20 \%$
Surge protection fault message	optical
Max. required back-up fuse	630 mA (FF)

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Technical data

Protective circuit

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
Pulse reset time (line-line)	≤ 700 ms
Pulse reset time (line-earth)	≤ 30 ms

Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

Standards and Regulations

Standards/specifications	EN 60079-0 2018
	EN 60079-11 2012
	EN 61643-21 2001 + A1:2009 + A2:2013
	IEC 60079-0 2017
	IEC 60079-11 2008
	IEC 61643-21 2000 + corrigendum 2001 + A1:2008, modified + A2:2012

General

Maximum inner capacitance C _i	negligible
Max. internal inductance L _i	negligible
Max. input current I _i	400 mA (T4 / ≤ 50 °C)
	350 mA (T6 / ≤ 35 °C)
Max. input voltage U _i	30 V DC
Insulation voltage to ground	> 180 V DC
Ambient temperature (operation)	-40 °C ... 35 °C (T6 / 85 °C)
	-40 °C ... 50 °C (T4 / 135 °C)

Conformity / approvals

UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D T4
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years

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Environmental Product Compliance

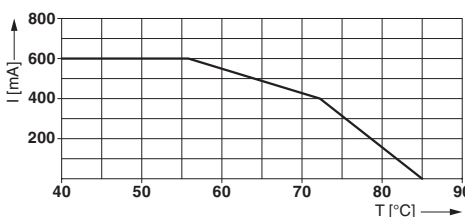
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"
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Drawings

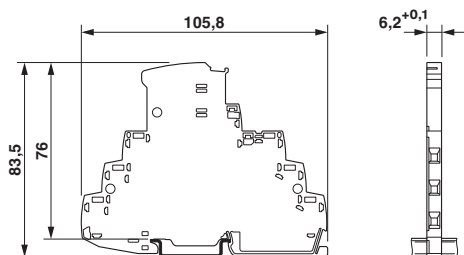
Pictogram



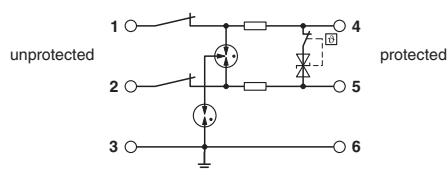
Diagram



Dimensional drawing



Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 11.0	27130807
eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130800
eCl@ss 7.0	27130807
eCl@ss 9.0	27130807

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 6.0	EC000943
ETIM 7.0	EC000943

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Classifications

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

Approvals

Approvals

Approvals

DNV GL / CSA / UL Listed / CSAus / cCSAus


Ex Approvals

IECEX / UL Listed / cUL Listed / ATEX / INMETRO / CCC / cULus Listed

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAE000027G
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CSA		http://www.csagroup.org/services-industries/product-listing/	70136717
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168
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CSAus		http://www.csagroup.org/services-industries/product-listing/	70136717
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Approvals

cCSAus



Accessories

Accessories

End block

End clamp - CLIPFIX 35-5 - 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

Labeled terminal marker

Zack Marker strip, flat - ZBF 6 CUS - 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

Zack Marker strip, flat - ZBF 6,QR:FORTL.ZAHLEN - 0808765



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, 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

Marker pen

Marker pen - X-PEN 0,35 - 0811228



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

Terminal marking

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Accessories

Zack Marker strip, flat - ZBF 6:UNBEDRUCKT - 0808710



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, 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

Zack Marker strip, flat - ZBF 6/WH-100:UNBEDRUCKT - 0808736



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, 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

Additional products

Remote signaling set - TTC-6-FMRS-UT - 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.

Separating plate - TTC-EX-PP - 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.

Shield connection - SSA 3-6 - 2839295



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

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Accessories

Shield connection - SSA 5-10 - 2839512



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

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