Surge protection device - TTC-6-3-HF-F-M-EX-24DC-UT-I - 2906823

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Surge protection 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.

Why buy this product

- Space-saving installation due to the narrow overall width of 6.2 mm
- Signaling without additional auxiliary power, thanks to the mechanical status indicator
- Optional remote signaling module monitors up to 40 items, without additional wiring
- Signal circuits easily interrupted for maintenance work, thanks to vertical knife disconnection
- Safe behavior in the event of overload, thanks to the integrated disconnect device
- Grounded or insulated shield grounding, thanks to the third terminal point on the surge protective device

Key Commercial Data

Packing unit	1
GTIN	4 055626 135854
GTIN	4055626135854
Custom tariff number	85363010

Technical data

Dimensions

Height	105.8 mm
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Width	6.2 mm
Depth	83.5 mm

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Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

General

Housing material	PBT
Flammability rating according to UL 94	V-0
Color	sky blue RAL 5015
Mounting type	DIN rail: 35 mm
Design	Rail-mountable 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	≤ 5 µA
Residual current I_{PE}	≤ 1 µA
Nominal discharge current I_n (8/20) µs (Core-Core)	5 kA
Nominal discharge current I_n (8/20) µs (core-earth)	5 kA
Nominal discharge current I_n (8/20) µs (core-GND)	5 kA
Pulse discharge current I_{imp} (10/350) µs (core-core)	0.5 kA
Pulse discharge current I_{imp} (10/350) µs (core-ground)	0.5 kA
Pulse discharge current I_{imp} (10/350) µs (core-GND)	0.5 kA
Total discharge current I_{total} (8/20) µs	10 kA
Voltage protection level U_p (core-core)	≤ 150 V (C1 - 1 kV/500 A)
	≤ 275 V (C2 - 10 kV / 5 kA)
	≤ 55 V (C3 - 100 A)
Voltage protection level U_p (core-ground)	≤ 750 V (C1 - 1 kV/500 A)
	≤ 750 V (C2 - 10 kV / 5 kA)
	≤ 1.2 kV (C3 - 100 A)
Voltage protection level U_p (core-GND)	≤ 80 V (C1 - 1 kV/500 A)
	≤ 125 V (C2 - 10 kV / 5 kA)

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Technical data

Protective circuit

	≤ 55 V (C3 - 100 A)
Voltage protection level U_p static (core-core)	≤ 75 V (C1 - 1 kV/500 A)
	≤ 120 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (core-ground)	≤ 750 V (C1 - 1 kV/500 A)
	≤ 750 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (core-GND)	≤ 75 V (C1 - 1 kV/500 A)
	≤ 120 V (C2 - 10 kV / 5 kA)
Response time tA (core-core)	≤ 1 ns
Response time tA (core-earth)	≤ 1 ns
	≤ 100 ns
Input attenuation aE, sym.	typ. 0.3 dB (≤ 8.7 MHz / 150 Ω)
Input attenuation aE, asym.	typ. 0.3 dB (≤ 10.5 MHz / 150 Ω)
Cut-off frequency fg (3 dB), sym. in 150 Ohm system	typ. 60 MHz
Cut-off frequency fg (3 dB), asym. (GND) in 150 Ohm system	typ. 60 MHz
Capacity (core-core)	typ. 32 pF
Capacity (Core-GND)	typ. 32 pF
Resistance in series	1.65 Ω ±20 %
Surge protection fault message	optical
Max. required back-up fuse	630 mA (FF)
Impulse durability (conductor-conductor)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 100 A
Impulse durability (conductor-ground)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 100 A
	D1 - 500 A
Impulse durability (conductor-GND)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 100 A
	D1 - 500 A
Pulse reset time (conductor-conductor)	≤ 600 ms
Pulse reset time (conductor-ground)	≤ 30 ms
Pulse reset time (conductor-GND)	≤ 600 ms

Connection data

Connection method	Screw connection
Connection method IN	Screw terminal blocks
Connection method OUT	Screw terminal blocks

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Technical data

Connection data

Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section solid	0.2 mm² ... 4 mm²
Conductor cross section AWG	24 ... 12

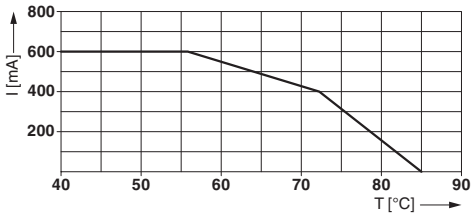
Standards and Regulations

Standards/specifications	EN 60079-0 2012 + A11:2013
	EN 60079-11 2012
	EN 61643-21 2001 + A1:2009 + A2:2013
	IEC 60079-0 2011 (modified) + corrigendum 2012 + corrigendum 2013
	IEC 60079-11 2008
	IEC 61643-21 2000 + corrigendum 2001 + A1:2008, modified + A2:2012

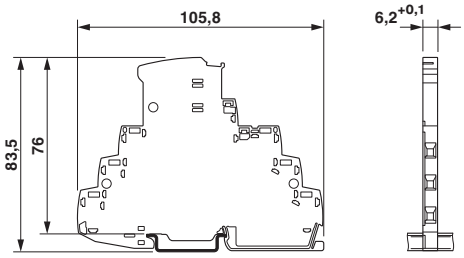
Drawings

Pictogram

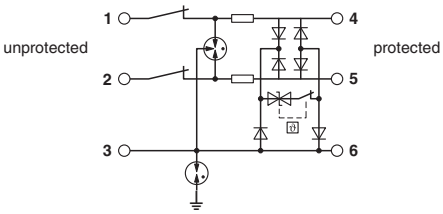
Diagram



Dimensional drawing



Circuit diagram



Approvals

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Surface protection device - TTC-6-3-HF-F-M-EX-24DC-UT-I - 2906823

Approvals

Approvals

UL Listed

Ex Approvals

IECEx / ATEX

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168