Surge protection device - TT-ST-M-EX(I)-24DC - 2859424

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Spring-cage modular terminal block with integrated three-stage surge protection for a floating Ex-i signal circuit, separate PE connection, nominal voltage: 24 V DC, for mounting on NS 35

Your advantages

- Disconnection of signal circuits by disconnect knife
- Conductors can be led up to Ex protection zone 0
- Can be used in Ex protection zones 1 and 2
- Multi-stage modular terminal blocks with spring-cage connection

Key Commercial Data

Packing unit	10 pc
GTIN	4 017918 961763
GTIN	4017918961763

Technical data

Dimensions

Height	100 mm
Width	6.2 mm
Depth	65.1 mm (incl. DIN rail 7.5 mm)

Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Degree of protection	IP20

General

Housing material	PA 6.6

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Technical data

General

Flammability rating according to UL 94	V-2
Color	sky blue RAL 5015
Standards for cearances and creepage distances	EN 60079-11
Mounting type	DIN rail: 35 mm
Type	Double-level terminal block with disconnect knife
Direction of action	Line-Line & Line-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
	21 V AC
Rated current	200 mA (40 °C)
Operating effective current I_C at U_C	≤ 10 µA
Residual current I_{PE}	≤ 2 µA
Nominal discharge current I_n (8/20) µs (line-line)	5 kA
Nominal discharge current I_n (8/20) µs (line-earth)	10 kA (in total)
Pulse discharge current I_{imp} (10/350) µs (line-line)	1 kA
Pulse discharge current I_{imp} (10/350) µs (line-earth)	2 kA
Total discharge current I_{total} (8/20) µs	10 kA
Total discharge current I_{total} (10/350) µs	2 kA
Max. discharge current I_{max} (8/20) µs maximum (line-line)	5 kA
Max. discharge current I_{max} (8/20) µs maximum (line-earth)	10 kA (in total)
Nominal pulse current Ian (10/1000) µs (line-line)	100 A
Nominal pulse current Ian (10/1000) µs (line-earth)	200 A (in total)
Output voltage limitation at 1 kV/µs (line-line) spike	≤ 40 V
Output voltage limitation at 1 kV/µs (line-earth) spike	≤ 1.5 kV
Output voltage limitation at 1 kV/µs (line-line) static	≤ 40 V
Output voltage limitation at 1 kV/µs (line-earth) static	≤ 1.5 kV
Residual voltage at I_n (line-line)	≤ 40 V
Residual voltage with Ian (10/1000) µs (line-line)	≤ 45 V
Voltage protection level U_p (line-line)	≤ 60 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p (line-earth)	≤ 1.5 kV (C2 - 10 kV / 5 kA)
Response time t_A (line-line)	≤ 1 ns
Response time t_A (line-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 1 dB (≤ 400 kHz/50 Ω)
	typ. 0.4 dB (≤ 150 kHz / 150 Ω)

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Protective circuit

Cut-off frequency fg (3 dB), sym. in 50 Ohm system	typ. 3 MHz
Cut-off frequency fg (3 dB), sym. in 150 Ohm system	typ. 1 MHz
Resistance per path	6.6 Ω ±20 %
Surge protection fault message	none
Max. required back-up fuse	200 mA (T)
Impulse durability (line-line)	C2 - 10 kV / 5 kA
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	D1 - 1 kA
Alternating current carrying capacity (line-earth)	2.5 A - 1 s

Connection data

Connection method	Spring-cage connection
Connection method IN	Spring-cage
Connection method OUT	Spring-cage
Stripping length	8 mm
Conductor cross section flexible	0.5 mm² ... 2.5 mm²
Conductor cross section solid	0.5 mm² ... 4 mm²
Conductor cross section AWG	24 ... 14

Standards and Regulations

Standards/specifications	EN 61643-21 A2:2013
	EN 60079-0 2012
	EN 60079-11 2012
	EN 60079-26 2015
	IEC 60079-0 2011
	IEC 60079-11 2011
	IEC 60079-26 2014

General

Maximum inner capacitance C_i	4 nF
Max. internal inductance L_i	1 µH
Max. input current I_i	200 mA
Max. input voltage U_i	30 V
max. input power P_i	1.6 W
Ambient temperature (operation)	-40 °C ... 85 °C (T4)
	-40 °C ... 55 °C (T5)
	-40 °C ... 40 °C (T6)

Conformity / approvals

ATEX	# II 1G Ex ia IIC T4...T6 Ga
	# II 1D Ex ia IIIC T135°C...T85°C Da
IECEx	Ex ia IIC T4...T6 Ga
	Ex ia IIIC T135 °C...T85 °C Da

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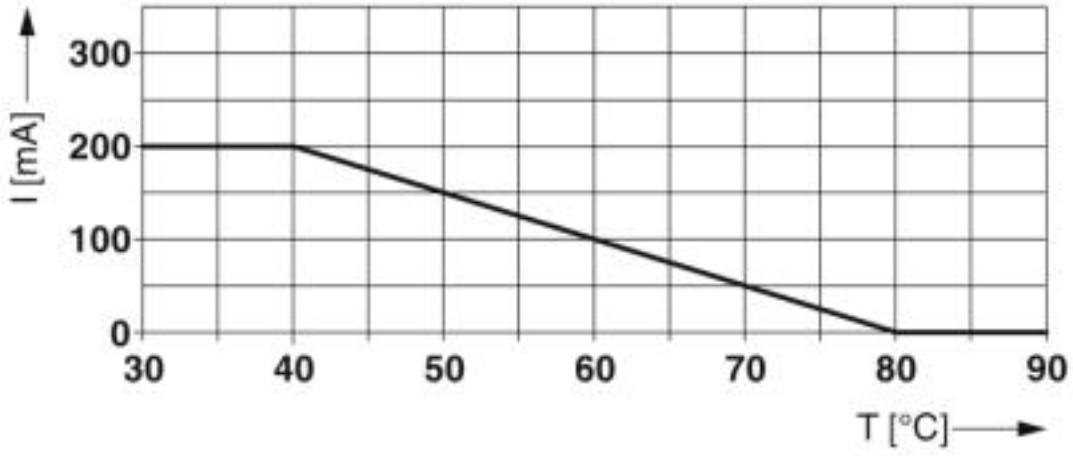
Environmental Product Compliance

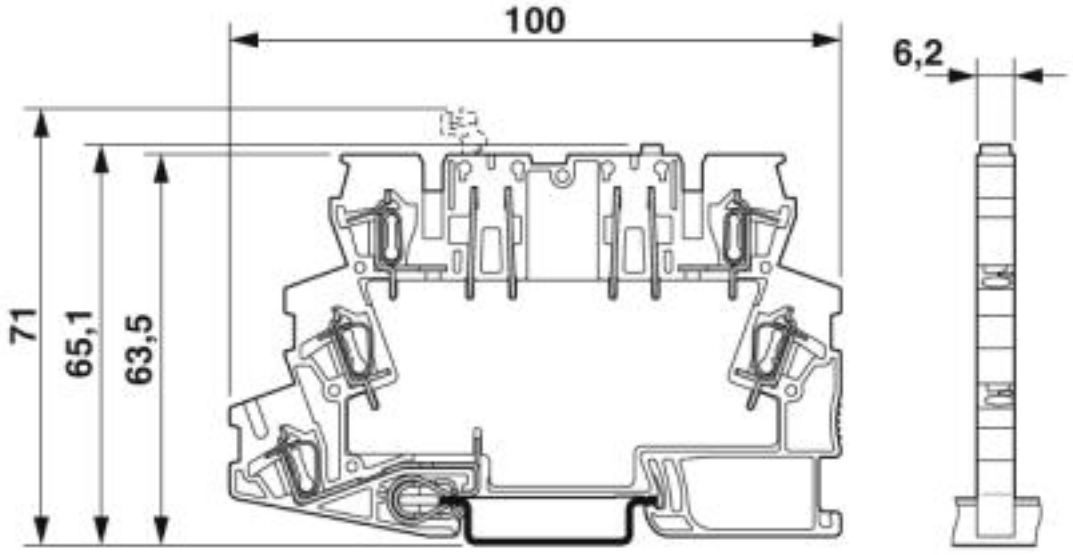
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Diagram



Dimensional drawing



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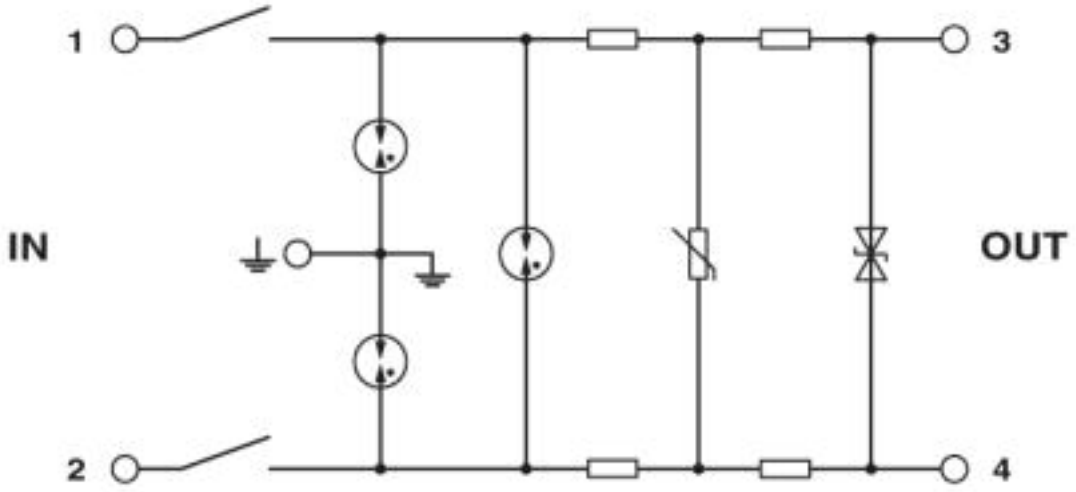
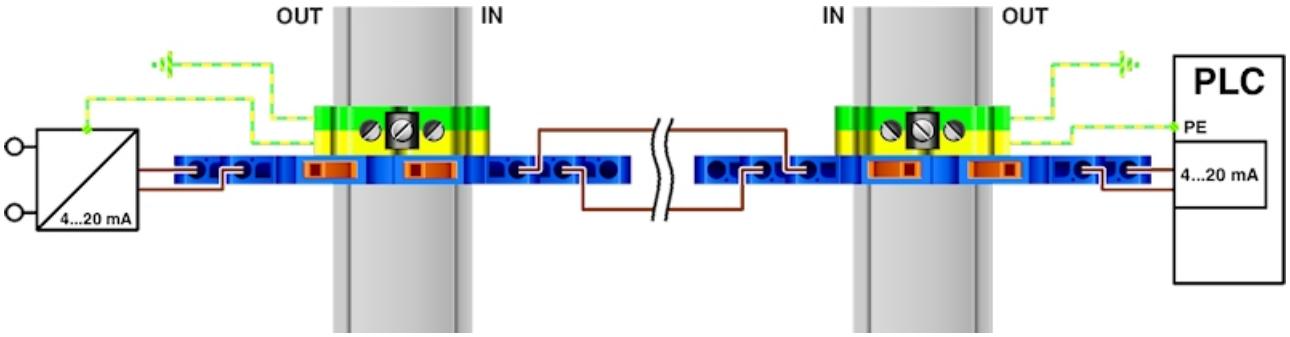
Circuit diagram



Application drawing



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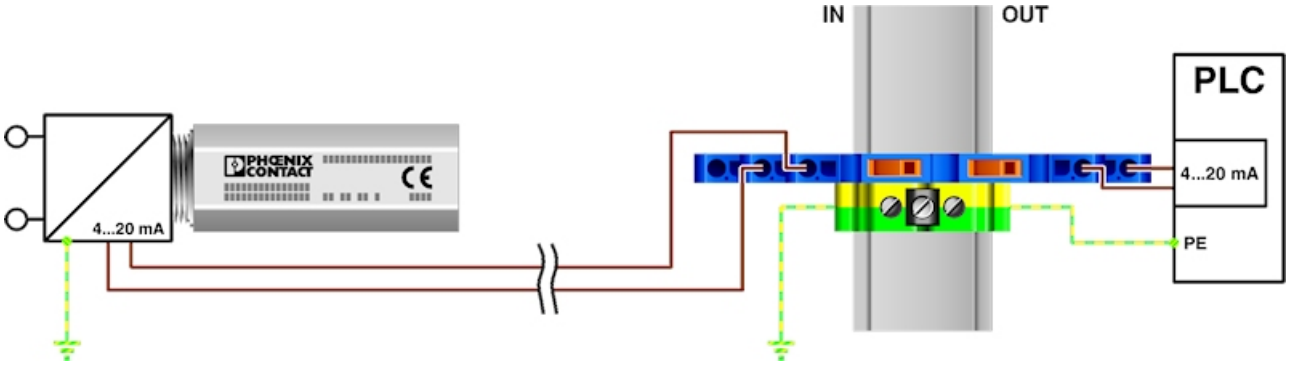
Application drawing



Approvals

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DNV GL / UL Listed / EAC / EAC

Ex Approvals

IECEx / ATEX / EAC Ex

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAE00001N7
UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168
EAC			EAC-Zulassung

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Approvals

EAC	EAC	RU C-DE.A*30.B01561

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