Surge protection device - TT-EX(I)- 24DC - 2832124

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Modular terminal block with three-stage surge protection for a floating Ex-i signal circuit, separate PE connection, nominal voltage: 24 V DC, for mounting on NS 35/7.5, terminal block width: 6.2 mm, terminal block height: 54.6 mm

Product Features

- Versions with and without disconnect knife
- To terminate a row of TERMITRAB TT... devices, covers are available in the corresponding colors
- Other voltage levels available on request
- Protection of a floating double wire in intrinsically safe circuits
- Multi-stage modular terminal blocks with screw connection technology
- Disconnection of signal circuits by disconnect knife

Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	25.67 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	79.6 mm
Width	6.2 mm
Depth	54.6 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
Degree of protection	IP20 (with end cover)

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Technical data

General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
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 PE foot – separate PE connection
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	250 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
Pulse discharge current I_{imp} (10/350) µs (core-ground)	500 A
Nominal pulse current Ian (10/1000) µs (Core-Core)	100 A
Nominal pulse current Ian (10/1000) µs (Core-Earth)	100 A
Output voltage limitation at 1 kV/µs (Core-Core) spike	≤ 50 V
Output voltage limitation at 1 kV/µs (Core-Earth) spike	≤ 1.7 kV
Output voltage limitation at 1 kV/µs (Core-Core) static	≤ 50 V
Output voltage limitation at 1 kV/µs (Core-Earth) static	≤ 1.7 kV
Voltage protection level U_p (core-core)	≤ 55 V (C1 - 1 kV/500 A)
	≤ 75 V (C2 - 10 kV / 5 kA)
	≤ 50 V (C3 - 10 A)
	≤ 50 V (C3 - 100 A)
Voltage protection level U_p (core-ground)	≤ 2.2 kV (C2 - 10 kV / 5 kA)
	≤ 1.5 kV (C3 - 10 A)
	≤ 2 kV (C3 - 100 A)
	≤ 2 kV (D1 - 500 A)
Response time tA (Core-Core)	≤ 1 ns

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Protective circuit

Response time tA (Core-Earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.7 dB (≤ 400 kHz/50 Ω)
	typ. 0.3 dB (≤ 200 kHz / 150 Ω)
Cut-off frequency fg (3 dB), sym. in 50 Ohm system	typ. 6 MHz
Cut-off frequency fg (3 dB), sym. in 150 Ohm system	typ. 2 MHz
Capacity (Core-Core)	≤ 2 nF
Resistance in series	4.7 Ω ±20 %
Surge protection fault message	None
Max. required back-up fuse	250 mA (T/IEC 60127-2/3)
Impulse durability (conductor-conductor)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 100 A
Impulse durability (conductor-ground)	C2 - 10 kV/5 kA
	C3 - 100 A
	D1 - 500 A
Alternating current carrying capacity (conductor-conductor)	0.5 A/1s

Connection data

Connection method	Screw terminal blocks
Connection type IN	Screw terminal blocks
Connection type OUT	Screw terminal blocks
Screw thread	M3
Tightening torque	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 ... 14

General

Maximum inner capacitance C_i	2 nF
Maximum inner inductance L_i	1 µH
Maximum inner time factor (R_i/L_i)	0.1 µs
Max. input current I_i	250 mA (T_A < 40 °C)
Max. input voltage U_i	30 V DC
Maximum input power Pi	0.75 W
Ambient temperature (operation)	-40 °C ... 40 °C (T6 / T 85 °C)
	-40 °C ... 50 °C (T5 / T 100 °C)
	-40 °C ... 80 °C (T4 / T 135 °C)

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Technical data

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

Classifications

eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

Approvals

Approvals

Approvals

UL Listed / EAC / EAC

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Approvals

Ex Approvals

IECEx / ATEX / UL Listed / cUL Listed / INMETRO / cULus Listed

Approvals submitted

Approval details

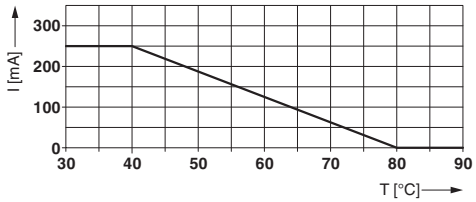
UL Listed

EAC

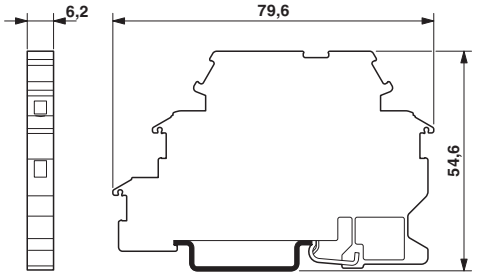
EAC

Drawings

Diagram



Dimensional drawing



Circuit diagram