

Surge protection device - TT-2-PE- 24DC - 2838186

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Modular terminal block with three-stage surge protection for a floating double conductor, separate ground connection, nominal voltage: 24 V DC, for mounting on NS 35/7.5, terminal width: 6.2 mm, terminal height: 54,6 mm

Product Features

- ✓ Versions with and without disconnect knife
- ✓ Protection of a floating double wire
- ✓ Protection of two signal wires with common reference potential
- ✓ 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)	28.0 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 ... 85 °C
Degree of protection	IP20

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Technical data

General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	black
Standards for clearances and creepage distances	IEC 60664-1
Mounting type	DIN rail: 35 mm
Type	Double-level terminal block with PE foot – separate PE connection
Number of positions	2
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
Maximum continuous voltage U_C (wire-wire)	30 V DC
Nominal current I_N	300 mA (40°C)
Operating effective current I_C at U_C	$\leq 10 \mu\text{A}$
Standby power consumption P_C	$\leq 730 \text{ mVA}$
Residual current I_{PE}	$\leq 1 \mu\text{A}$
Nominal discharge current I_n (8/20) μs (Core-Core)	5 kA
Nominal discharge current I_n (8/20) μs (Core-Earth)	5 kA
Total surge current (8/20) μs	10 kA
Nominal pulse current I_{an} (10/1000) μs (Core-Core)	100 A
Nominal pulse current I_{an} (10/1000) μs (Core-Earth)	100 A
Impulse discharge current (10/350) μs , peak value I_{imp}	500 A
Output voltage limitation at 1 kV/ μs (Core-Core) spike	$\leq 45 \text{ V}$
Output voltage limitation at 1 kV/ μs (Core-Earth) spike	$\leq 650 \text{ V}$
Voltage protection level U_p (core-core)	$\leq 70 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 55 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 45 \text{ V}$ (C3 - 10 A)
	$\leq 45 \text{ V}$ (C3 - 100 A)
Voltage protection level U_p (core-ground)	$\leq 850 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 650 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 850 \text{ V}$ (C3 - 10 A)
	$\leq 900 \text{ V}$ (C3 - 100 A)

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Protective circuit

	$\leq 800 \text{ V (D1 - 500 A)}$
Response time tA (Core-Core)	$\leq 1 \text{ ns}$
Response time tA (Core-Earth)	$\leq 100 \text{ ns}$
Input attenuation aE, sym.	typ. 0.6 dB ($\leq 500 \text{ kHz} / 50 \Omega$)
	typ. 0.3 dB ($\leq 160 \text{ kHz} / 150 \Omega$)
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
Capacity (Core-Core)	$\leq 4 \text{ nF}$
Resistance in series	3.7 Ω 10 % (per path)
	3.7 Ω
Surge protection fault message	None
Max. required back-up fuse	315 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)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 100 A
	D1 - 500 A
Alternating current carrying capacity (conductor-conductor)	0.25 A/1s
Alternating current carrying capacity (conductor-ground)	0.25 A/1s
Pulse reset time (conductor-conductor)	$\leq 400 \text{ ms}$, at U_c and 330 mA
Pulse reset time (conductor-ground)	$\leq 400 \text{ ms}$, at U_c and 330 mA

Connection data

Connection method	Screw connection
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 min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	4 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12

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Standards and Regulations

Standards/regulations	IEC 61643-21
	EN 61643-21

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

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

GL / UL Listed / EAC / EAC

Ex Approvals

UL Listed / cUL Listed / cULus Listed

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Approvals

Approvals submitted

Approval details

GL

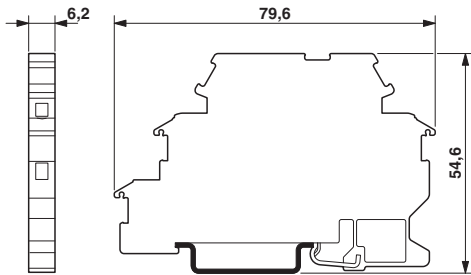
UL Listed 

EAC

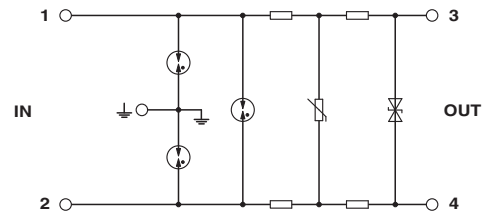
EAC

Drawings

Dimensional drawing



Circuit diagram



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Schematic diagram

