

## Surge protection device - TT-2-PE/S1-24DC - 2839538

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Double-level modular terminal block with two-stage surge protection for one two-wire impedance-sensitive signal circuit, separate ground connection, nominal voltage: 24 V DC.

### Why buy this product

- Versions with and without disconnect knife
- Protection of a floating double wire in which the introduction of additional resistors for decoupling the protection stages leads to problems
- Multi-stage modular terminal blocks with screw connection technology
- Disconnection of signal circuits by disconnect knife



### Key commercial data

Packing unit	1
Minimum order quantity	10
Catalog page	Page 107 (TT-2011)
GTIN	 4 017918 183189
Custom tariff number	85363010
Country of origin	GERMANY

### Technical data

#### General

Housing material	PA 6.6
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	IEC 60664-1
Total surge current (8/20) $\mu$ s	10 kA
Ambient temperature (operation)	-40 °C ... 80 °C
Mounting type	DIN rail: 35 mm
Design	Double-level terminal block with PE foot – separate PE connection
Number of positions	2
Degree of protection	IP20
Direction of action	Line-Line & Line-Earth Ground

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### Technical data

#### General

Width	6.2 mm
Height	79.6 mm
Depth	54.6 mm

#### Protective circuit

IEC category	C1
IEC category	C2
IEC category	C3
IEC category	D1
Nominal voltage UN	24 V DC
Maximum continuous operating voltage UC	30 V DC
Maximum continuous operating voltage UC	21 V AC
Maximum continuous voltage UC (wire-wire)	30 V DC
Maximum continuous voltage UC (wire-wire)	21 V AC
Nominal current IN	10 A (40°C)
Operating effective current IC at UC	≤ 1 μA
Ground conductor current IPE	≤ 1 μA
Nominal discharge surge current In (8/20) μs (Core-Core)	300 A
Nominal discharge surge current In (8/20) μs (Core-Earth)	5 kA
Total surge current (8/20) μs	10 kA
Nominal pulse current Ian (10/1000) μs (Core-Core)	60 A
Nominal pulse current Ian (10/1000) μs (Core-Earth)	100 A
Lightning test current (10/350) μs, peak value limp	500 A
Output voltage limitation at 1 kV/μs (Core-Core) spike	≤ 45 V
Output voltage limitation at 1 kV/μs (Core-Earth) spike	≤ 700 V
Protection level UP (Core-Core)	≤ 50 V (C1 - 500 V / 250 A)
Protection level UP (Core-Core)	≤ 45 V (C3 - 10 A)
Protection level UP (Core-Core)	≤ 50 V (C3 - 25 A)
Protection level UP (Core-Earth)	≤ 900 V (C2 - 10 kV / 5 kA)
Protection level UP (Core-Earth)	≤ 650 V (C1 - 1 kV/500 A)
Protection level UP (Core-Earth)	≤ 850 V (C3 - 25 A)
Protection level UP (Core-Earth)	≤ 850 V (D1 - 500 A)
Response time tA (Core-Core)	≤ 1 ns
Response time tA (Core-Earth)	≤ 100 ns
Input attenuation aE, sym.	Typ. 0 dB (≤ 1 MHz / 50 Ω)
Input attenuation aE, sym.	Typ. 0 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. 2.2 MHz
Capacity (Core-Core)	4 nF
Max. required back-up fuse	10 A (T/IEC 60127-2/3)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C1 (500 V / 250 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C3 (25 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C1 (1 kV / 500 A)

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### Technical data

#### Protective circuit

Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C3 (25 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	D1 (500 A)
Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Core)	1A - 1s
Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Earth)	1 A - 1 s

#### Connection data

Connection method	Screw connection
Connection type IN	Screw terminal blocks
Connection type OUT	Screw terminal blocks
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 mm
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14

#### Connection, protective circuit

Standards/regulations	IEC 61643-21
Standards/regulations	EN 61643-21

### Classifications

#### eclass

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

#### etim

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943

#### unspsc

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610

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## Classifications

unspsc

UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## Approvals

Approvals

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Approvals

UL Recognized / GOST / GL / UL Listed

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Ex Approvals

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Approvals submitted

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## Approval details



## Accessories

Accessories

Assembly

End cover - D-DEK 1,5 BK - 2838995



Cover for setting the end of a TERMITRAB TT-2-PE... and TT-2/2 row of terminal blocks, color: black

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### Accessories

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#### Marking

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 6.2 mm, Lettering field: 5.15 x 6.15 mm

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



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 6.2 mm, Lettering field: 5.15 x 6.15 mm

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Zack Marker strip, flat - ZBF 6,LGS:FORTL.ZAHLEN - 0808749



Zack Marker strip, flat, Strip, white, Labeled, Printed horizontally: 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: 5.15 x 6.15 mm

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#### Additional products

End cover - D-DEK 1,5 BK - 2838995



Cover for setting the end of a TERMITRAB TT-2-PE... and TT-2/2 row of terminal blocks, color: black

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# Surge protection device - TT-2-PE/S1-24DC - 2839538

## Accessories

Shield connection - SSA 3-6 - 2839295



shield fast connections for conductor diameter 3 - 6 mm. Potential connection cable: 200 mm, black

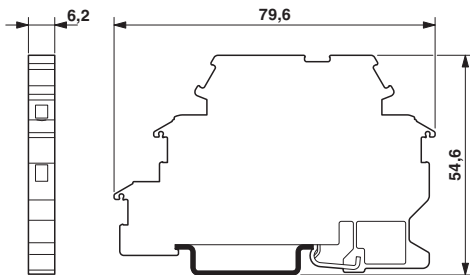
Shield connection - SSA 5-10 - 2839512



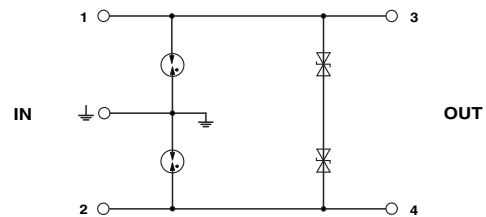
Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black

## Drawings

Dimensioned drawing



Circuit diagram



Schematic diagram

