

## Surge protection device - TT-2PE-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

### Why buy this product

- 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
Minimum order quantity	10
Catalog page	Page 106 (TT-2011)
GTIN	 4 017918 172855
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 ... 85 °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 voltage UC (wire-wire)	30 V DC
Nominal current IN	300 mA (40°C)
Operating effective current IC at UC	≤ 10 μA
Ground conductor current IPE	≤ 1 μA
Nominal discharge surge current In (8/20) μs (Core-Core)	5 kA
Nominal discharge surge current In (8/20) μs (Core-Earth)	5 kA
Total surge current (8/20) μs	10 kA
Nominal pulse current I <sub>an</sub> (10/1000) μs (Core-Core)	100 A
Nominal pulse current I <sub>an</sub> (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	≤ 650 V
Protection level UP (Core-Core)	≤ 70 V (C2 - 10 kV / 5 kA)
Protection level UP (Core-Core)	≤ 55 V (C1 - 1 kV/500 A)
Protection level UP (Core-Core)	≤ 45 V (C3 (10 A))
Protection level UP (Core-Core)	≤ 45 V (C3 - 100 A)
Protection level UP (Core-Earth)	≤ 850 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 - 10 A)
Protection level UP (Core-Earth)	≤ 900 V (C3 - 100 A)
Protection level UP (Core-Earth)	≤ 800 V (D1 - 500 A)
Response time tA (Core-Core)	≤ 1 ns
Response time tA (Core-Earth)	≤ 100 ns
Input attenuation aE, sym.	Typ. 0.6 dB (≤ 400 kHz)
Input attenuation aE, sym.	Typ. 0.2 dB (≤ 40 kHz/150 Ω)
Cut-off frequency fg (3 dB), sym. in 50 Ohm system	Typ. 3.2 MHz
Cut-off frequency fg (3 dB), sym. in 150 Ohm system	Typ. 1 MHz
Capacity (Core-Core)	≤ 4 nF
Resistance in series	3.7 Ω 10 % (per path)
Resistance in series	3.7 Ω
Message: Surge protection fault	None
Max. required back-up fuse	315 mA (T/IEC 60127-2/3)

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## Technical data

### Protective circuit

Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C1 (1 kV / 500 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C3 (100 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C1 (1 kV / 500 A)
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 (100 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)	0.25 A/1s
Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Earth)	0.25 A/1s

### 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 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	12

### 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

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## Classifications

unspsc

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
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

UL Listed / cUL Listed / cULus Recognized

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Approvals submitted

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### Approval details

UL Recognized

GOST

GL

UL Listed

## Accessories

Accessories

Assembly

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

### Accessories

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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### 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

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## Accessories

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

Shield connection - SSA 3-6 - 2839295



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

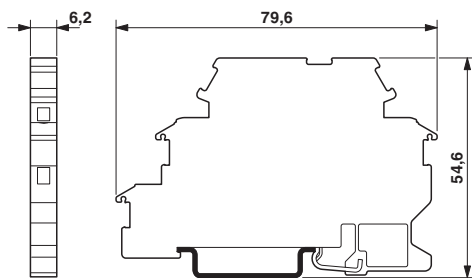
Shield connection - SSA 5-10 - 2839512



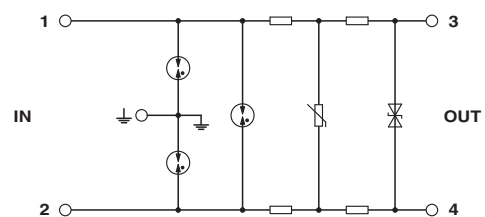
Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black

## Drawings

Dimensioned drawing

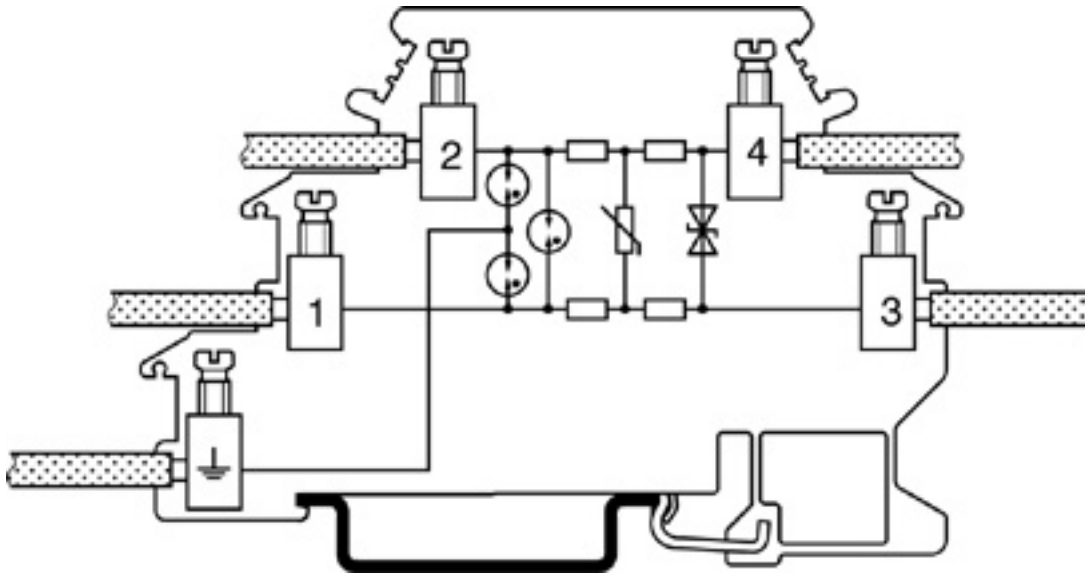


Circuit diagram



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

Schematic diagram



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