

## 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.

### Product Features

- ✓ 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 pc
Weight per Piece (excluding packing)	28.0 GRM
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

#### General

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## 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
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 operating voltage $U_C$	30 V DC
	21 V AC
Maximum continuous voltage $U_C$ (wire-wire)	30 V DC
	21 V AC
Nominal current $I_N$	10 A (40°C)
Operating effective current $I_C$ at $U_C$	$\leq 1 \mu A$
Residual current $I_{PE}$	$\leq 1 \mu A$
Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Core)	300 A
Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Earth)	5 kA
Total surge current (8/20) $\mu s$	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core-Core)	60 A
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core-Earth)	100 A
Impulse discharge current (10/350) $\mu s$ , peak value $I_{imp}$	500 A
Output voltage limitation at 1 kV/ $\mu s$ (Core-Core) spike	$\leq 45 V$
Output voltage limitation at 1 kV/ $\mu s$ (Core-Earth) spike	$\leq 700 V$
Voltage protection level $U_P$ (Core-Core)	$\leq 50 V$ (C1 - 500 V / 250 A)
	$\leq 45 V$ (C3 - 10 A)
	$\leq 50 V$ (C3 - 25 A)
Voltage protection level $U_P$ (Core-Earth)	$\leq 900 V$ (C2 - 10 kV / 5 kA)
	$\leq 650 V$ (C1 - 1 kV/500 A)
	$\leq 850 V$ (C3 - 25 A)
	$\leq 850 V$ (D1 - 500 A)

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## Technical data

### Protective circuit

Response time tA (Core-Core)	$\leq 1 \text{ ns}$
Response time tA (Core-Earth)	$\leq 100 \text{ ns}$
Input attenuation aE, sym.	typ. 0 dB ( $\leq 1 \text{ MHz} / 50 \Omega$ )
	typ. 0 dB ( $\leq 200 \text{ kHz} / 150 \Omega$ )
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 current resistance (conductor-conductor)	C1 - 500 V / 250 A
	C3 - 25 A
Surge current resistance (conductor-ground)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 (25 A)
	D1 (500 A)
Alternating current carrying capacity (conductor-conductor)	1A - 1s
Alternating current carrying capacity (conductor-ground)	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

### Standards and Regulations

Standards/regulations	IEC 61643-21
	EN 61643-21

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### 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

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Approvals

GOST / GL / UL Listed

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Ex Approvals

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Approvals submitted

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Approval details

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

### Approvals

GOST 

GL

UL Listed 

### Accessories

#### Accessories

##### End cover

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

##### Labeled terminal marker

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

##### Marker pen

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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### Accessories

#### Terminal marking

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

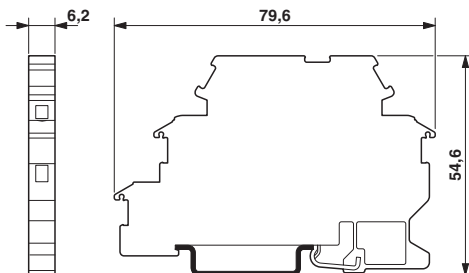
Zack Marker strip, flat - ZBF 6/WH-100:UNBEDRUCKT - 0808736



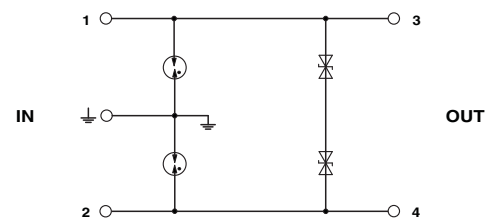
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### Drawings

Dimensioned drawing



Circuit diagram



Schematic diagram

