

## Surge protection device - TT-ST-M-SFP-24AC - 2858946

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://download.phoenixcontact.com>)



TERMITRAB, spring-cage modular terminal block with integrated surge protection as a filter circuit and disconnect knives, for assembly on NS 35/7.5, voltage  $U_N$  24 V DC, terminal width: 6.2 mm, cover width: 2.2 mm

### Why buy this product

- ✓ Combined protective circuit for absorbing transient surge voltages and high-frequency interference voltages
- ✓ With spring-cage connection
- ✓ Disconnection of signal circuits by disconnect knife



### Key commercial data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 10 pc   |
| GTIN                                 | <br>4 017918 938161 |
| Weight per Piece (excluding packing) | 27.55 g   |
| Custom tariff number                 | 85363030  |
| Country of origin                    | Germany   |

### Technical data

#### Dimensions

|        |         |
|--------|---------|
| Height | 100 mm  |
| Width  | 6.2 mm  |
| Depth  | 63.5 mm |

#### Ambient conditions

|                                 |                  |
|---------------------------------|------------------|
| Ambient temperature (operation) | -40 °C ... 85 °C |
| Degree of protection            | IP20             |

#### General

|  |            |
|--|------------|
| Housing material                         | PA 6.6     |
| Inflammability class according to UL 94  | V2         |
| Color                                    | black      |
| Standards for air and creepage distances | EN 60664-1 |

# Surge protection device - TT-ST-M-SFP-24AC - 2858946

## Technical data

### General

|                        |                             |
|------------------------|-----------------------------|
|                        | IEC 60664-1                 |
| Surge voltage category | III                         |
| Pollution degree       | 2                           |
| Mounting type          | DIN rail: 35 mm             |
| Type                   | Double-level terminal block |
| Direction of action    | Line-Earth Ground           |

### Protective circuit

|  |  |
|--|--|
| IEC test classification  | C1   |
|  | C3   |
| VDE requirement class  | C1   |
|  | C3   |
| Nominal voltage $U_N$  | 24 V AC                                    |
| Maximum continuous operating voltage $U_C$                                 | 38 V DC                                    |
|  | 30 V AC                                    |
| Maximum continuous voltage $U_C$ (wire-ground)                             | 38 V DC                                    |
|  | 30 V AC                                    |
| Nominal current $I_N$  | 0.5 A (55°C)                               |
| Operating effective current $I_C$ at $U_C$                                 | $\leq 100 \mu\text{A}$ (per path)          |
| Residual current $I_{PE}$  | $\leq 1 \text{ mA}$ (per path)             |
| Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)          | 350 A                                      |
| Total surge current (8/20) $\mu\text{s}$                                   | 700 A                                      |
| Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (Core-Earth) | 1.5 kA (per path)                          |
|  | 3 kA (in total)                            |
| Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Earth)        | 60 A (per path)                            |
|  | 120 A (in total)                           |
| Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) spike        | $\leq 70 \text{ V}$                        |
| Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) static       | $\leq 70 \text{ V}$                        |
| Residual voltage at $I_n$ , (conductor-ground)                             | $\leq 80 \text{ V}$                        |
| Residual voltage with $I_{an}$ (10/1000) $\mu\text{s}$ (conductor-ground)  | $\leq 80 \text{ V}$                        |
| Voltage protection level $U_P$ (Core-Earth)                                | $\leq 80 \text{ V}$ (C1 (500 V/250 A))     |
| Response time $t_A$ (Core-Earth)   | $\leq 25 \text{ ns}$                       |
| Input attenuation $a_E$ , asym.  | typ. 40 dB (1 MHz / 50 $\Omega$ )          |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 50 Ohm system                | typ. 60 kHz                                |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 Ohm system               | typ. 20 kHz                                |
| Capacity (Core-Earth)  | 130 nF                                     |
| Inductivity in series  | 100 $\mu\text{H}$ (per path)               |
| Resistance in series   | 0.5 $\Omega$ (per path)                    |
| Max. required back-up fuse   | 500 mA (e.g. T in acc. with IEC 127-2/III) |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)             | C1 (500 A/250 A)                           |
|  | C3 (25 A)                                  |

# Surge protection device - TT-ST-M-SFP-24AC - 2858946

## Technical data

### Connection data

|  |                        |
|--|------------------------|
| Connection method                      | Spring-cage connection |
| Connection type IN                     | Spring-cage            |
| Connection type OUT                    | Spring-cage            |
| 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                     |

### Standards and Regulations

|                          |                      |
|--------------------------|----------------------|
| Standards/specifications | IEC 61643-21/A1 2008 |
|                          | EN 61643-21/A1 2009  |

## 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

---

# Surge protection device - TT-ST-M-SFP-24AC - 2858946

## Approvals

Approvals

GOST / GOST / UL Listed

---

Ex Approvals

---

Approvals submitted

---

## Approval details

GOST

GOST

UL Listed

## Accessories

Accessories

End cover

End cover - TT-D-STTCO-BK - 2858894



End cover for TERMITRAB TT-ST-..., width: 2.2 mm, 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

## Surge protection device - TT-ST-M-SFP-24AC - 2858946

### Accessories

---

#### 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

---

#### 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



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

---

#### Additional products

End cover - TT-D-STTCO-BK - 2858894



End cover for TERMITRAB TT-ST-..., width: 2.2 mm, color: Black

---

Shield connection - SSA 3-6 - 2839295



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

---

# Surge protection device - TT-ST-M-SFP-24AC - 2858946

## Accessories

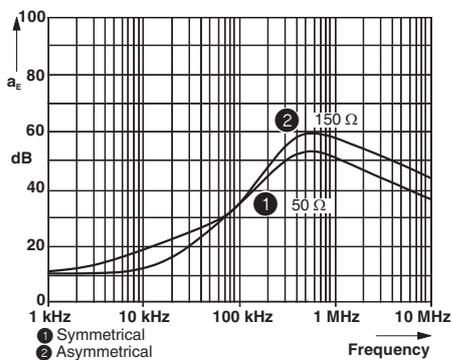
Shield connection - SSA 5-10 - 2839512



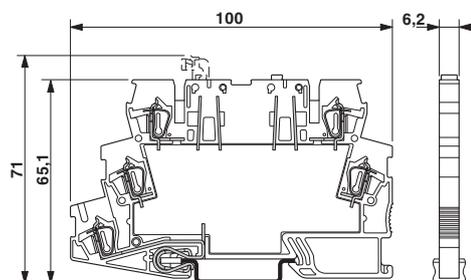
Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black

## Drawings

Diagram



Dimensioned drawing



Circuit diagram

