

## Surge protection device - LIT 2X1-24 - 2804636

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Surge protection in one-piece 6.2 mm wide DIN rail module for two conductors with common reference potential.

### Product Features

- ✓ Can be used in binary, analog, and intrinsically safe circuits
- ✓ Protection of up to four signal wires over a design width of 6.2 mm



### Key commercial data

|                                      |          |
|--------------------------------------|----------|
| Packing unit                         | 1 pc     |
| Weight per Piece (excluding packing) | 54.0 GRM |
| Custom tariff number                 | 85363010 |
| Country of origin                    | Germany  |

### Technical data

#### Dimensions

|        |          |
|--------|----------|
| Height | 93 mm    |
| Width  | 6.2 mm   |
| Depth  | 102.5 mm |

#### Ambient conditions

|   |                  |
|---|------------------|
| Ambient temperature (operation)         | -40 °C ... 80 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Degree of protection                    | IP20             |

#### General

|                  |     |
|------------------|-----|
| Housing material | PBT |
|------------------|-----|

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### Technical data

#### General

|  |                                  |
|--|----------------------------------|
| 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                                     | Rail-mountable module, one-piece |
| Direction of action                      | Line-Earth Ground                |

#### Protective circuit

|  |                                       |
|--|---------------------------------------|
| IEC test classification  | C1                                    |
|  | C2                                    |
|  | C3                                    |
|  | D1                                    |
| Nominal voltage $U_N$  | 24 V DC                               |
| Maximum continuous operating voltage $U_C$                           | 25 V AC                               |
|  | 36 V DC                               |
| Nominal current $I_N$  | 350 mA (40°C)                         |
| Operating effective current $I_C$ at $U_C$                           | $\leq 2 \mu A$                        |
| Residual current $I_{PE}$  | $\leq 4 \mu A$                        |
| Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Earth)          | 5 kA                                  |
|  | 10 kA ((Total))                       |
| Total surge current (8/20) $\mu s$                                   | 20 kA                                 |
| Total surge current (10/350) $\mu s$                                 | 1 kA                                  |
| Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (Core-Earth) | 10 kA                                 |
|  | 20 kA ((Total))                       |
| Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core-Earth)        | 50 A                                  |
|  | 100 A ((Total))                       |
| Impulse discharge current (10/350) $\mu s$ , peak value $I_{imp}$    | 500 A                                 |
| Output voltage limitation at 1 kV/ $\mu s$ (Core-Earth) spike        | $\leq 60 V$                           |
| Residual voltage at $I_n$ , (conductor-ground)                       | $\leq 50 V$                           |
| Residual voltage with $I_{an}$ (10/1000) $\mu s$ (conductor-ground)  | $\leq 60 V$                           |
| Voltage protection level $U_p$ (Core-Earth)                          | $\leq 60 V$ (C1 - 500 V / 250 A)      |
|  | $\leq 95 V$ (C2 - 10 kV / 5 kA)       |
|  | $\leq 60 V$ (C3 - 10 A)               |
| Response time $t_A$ (Core-Earth)                                     | $\leq 1 ns$                           |
| Input attenuation $a_E$ , asym.                                      | typ. 0.3 dB (1 MHz / 50 $\Omega$ )    |
|  | typ. 0.2 dB (350 kHz / 150 $\Omega$ ) |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 50 Ohm system          | typ. 6 MHz                            |

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### Technical data

#### Protective circuit

|  |                             |
|--|-----------------------------|
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 Ohm system | typ. 2 MHz                  |
| Capacity   | $\leq 1.3$ nF (per channel) |
| Resistance in series   | $3.3 \Omega$ 20 %           |
| Max. required back-up fuse                                   | 315 mA                      |
| Surge current resistance (conductor-ground)                  | C2 - 10 kV/5 kA             |
|  | C3 (25 A)                   |
|  | D1 (500 A)                  |
| Alternating current carrying capacity (conductor-ground)     | 5 A - 1 s                   |

#### Connection data

|  |                       |
|--|-----------------------|
| Connection method                      | Screw connection      |
| Connection type IN                     | Screw terminal blocks |
| Connection type OUT                    | Screw terminal blocks |
| Screw thread                           | M3                    |
| Conductor cross section stranded min.  | $0.2 \text{ mm}^2$    |
| Conductor cross section stranded max.  | $2.5 \text{ mm}^2$    |
| Conductor cross section solid min.     | $0.14 \text{ mm}^2$   |
| Conductor cross section solid max.     | $2.5 \text{ mm}^2$    |
| Conductor cross section AWG/kcmil min. | 26                    |
| Conductor cross section AWG/kcmil max  | 12                    |

#### Connection, equipotential bonding

|                   |               |
|-------------------|---------------|
| Connection method | DIN rail NS35 |
|-------------------|---------------|

#### Standards and Regulations

|                       |                 |
|-----------------------|-----------------|
| Standards/regulations | IEC 61643-21    |
|                       | DIN 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 |

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## Classifications

### 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

UL Listed / GL

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Ex Approvals

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Approvals submitted

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### Approval details

|   |
|---|
| UL Listed  |
|---|

|    |
|----|
| GL |
|----|

## Accessories

Accessories

Terminal marking

## Surge protection device - LIT 2X1-24 - 2804636

### Accessories

#### Marker for terminal blocks - UC-TM 6 - 0818085



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 6.2 mm, Lettering field: 5.6 x 10.5 mm

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#### Marker for terminal blocks - UC-TM 6 OG - 0818328



Marker for terminal blocks, Sheet, orange, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 6.2 mm, Lettering field: 5.6 x 10.5 mm

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#### Marker for terminal blocks - UC-TM 6 YE - 0818331



Marker for terminal blocks, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 6.2 mm, Lettering field: 5.6 x 10.5 mm

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#### Marker for terminal blocks - UC-TM 6 BU - 0818344



Marker for terminal blocks, Sheet, blue, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 6.2 mm, Lettering field: 5.6 x 10.5 mm

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#### Marker for terminal blocks - UC-TM 6 RD - 0818357



Marker for terminal blocks, Sheet, red, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 6.2 mm, Lettering field: 5.6 x 10.5 mm

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## Accessories

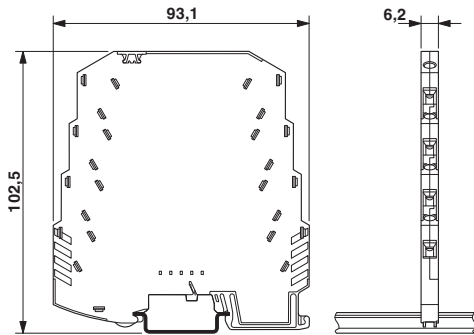
Marker for terminal blocks - UC-TM 6 GN - 0818360



Marker for terminal blocks, Sheet, green, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 6.2 mm, Lettering field: 5.6 x 10.5 mm

## Drawings

Dimensioned drawing



Circuit diagram

