

# LIT 2X1-24 - Surge protection device



2804636

<https://www.phoenixcontact.com/us/products/2804636>

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

## Your advantages

- Space saving with a narrow overall width of just 6 mm
- Cost-optimized with tailored product features
- Universal use with extended nominal voltage range

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2804636       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 1 pc          |
| Sales key                            | CL02          |
| Product key                          | CL2211        |
| GTIN                                 | 4046356428316 |
| Weight per piece (including packing) | 54.12 g       |
| Weight per piece (excluding packing) | 53.46 g       |
| Customs tariff number                | 85363010      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

|                                |                                     |
|--------------------------------|-------------------------------------|
| Product type                   | Surge protection for MCR technology |
| Product family                 | LINETRAB                            |
| IEC test classification        | C1                                  |
|                                | C2                                  |
|                                | C3                                  |
|                                | D1                                  |
| Type                           | DIN rail module, one-piece          |
| Surge protection fault message | none                                |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Pollution degree     | 2   |

### Electrical properties

|                       |         |
|-----------------------|---------|
| Nominal voltage $U_N$ | 24 V DC |
|-----------------------|---------|

### Connection data

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Connection method                | Screw connection                            |
| Screw thread                     | M3                                          |
| Tightening torque                | 0.8 Nm                                      |
| Conductor cross-section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section rigid    | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 24 ... 14                                   |

### Dimensions

|                     |                                  |
|---------------------|----------------------------------|
| Dimensional drawing |                                  |
| Width               | 6.2 mm                           |
| Height              | 93.1 mm                          |
| Depth               | 102.5 mm (incl. DIN rail 7.5 mm) |

### Material specifications

|                                        |                            |
|----------------------------------------|----------------------------|
| Color                                  | anthracite grey (RAL 7016) |
| Flammability rating according to UL 94 | V-0                        |
| Insulating material                    | PBT                        |
| Housing material                       | PBT                        |

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## Mechanical properties

### Mechanical data

|                 |    |
|-----------------|----|
| Open side panel | No |
|-----------------|----|

### Protective circuit

|                                                                      |                                     |
|----------------------------------------------------------------------|-------------------------------------|
| Direction of action                                                  | Line-Earth Ground                   |
| Maximum continuous operating voltage $U_C$                           | 36 V DC                             |
|                                                                      | 25 V AC                             |
| Rated current                                                        | 350 mA (40 °C)                      |
| Operating effective current $I_C$ at $U_C$                           | $\leq 2 \mu A$                      |
| Protective conductor current $I_{PE}$                                | $\leq 4 \mu A$                      |
| Nominal discharge current $I_n$ (8/20) $\mu s$ (line-ground)         | 5 kA                                |
| Pulse discharge current $I_{imp}$ (10/350) $\mu s$ (line-earth)      | 500 A                               |
|                                                                      | 1 kA (in total)                     |
| Total discharge current $I_{Total}$ (8/20) $\mu s$                   | 10 kA                               |
|                                                                      | 20 kA (1x)                          |
| Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-line)  | 10 kA                               |
| Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-earth) | 20 kA (in total)                    |
| Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (line-earth)        | 50 A                                |
|                                                                      | 100 A (in total)                    |
| Output voltage limitation at 1 kV/ $\mu s$ (line-earth) spike        | $\leq 60 V$                         |
| Residual voltage at $I_n$ (conductor-ground)                         | $\leq 50 V$                         |
| Residual voltage with $I_{an}$ (10/1000) $\mu s$ (line-earth)        | $\leq 60 V$                         |
| Voltage protection level $U_p$ (line-earth)                          | $\leq 60 V$ (C1 - 500 V / 250 A)    |
|                                                                      | $\leq 95 V$ (C2 - 10 kV / 5 kA)     |
|                                                                      | $\leq 55 V$ (C3 - 10 A)             |
|                                                                      | $\leq 55 V$ (C3 - 50 A)             |
|                                                                      | $\leq 250 V$ (D1 - 500 A)           |
| Response time $t_A$ (line-earth)                                     | $\leq 1 ns$                         |
| Input attenuation aE, 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 $\Omega$ system     | typ. 6 MHz                          |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 $\Omega$ system    | typ. 2 MHz                          |
| Capacity                                                             | $\leq 1.3 nF$ (per channel)         |
| Resistance per path                                                  | 3.3 $\Omega$ 20 %                   |
| Surge protection fault message                                       | none                                |
| Max. required back-up fuse                                           | 315 mA (T)                          |
| Impulse durability (line-earth)                                      | C1 - 500 V / 250 A                  |
|                                                                      | C2 - 10 kV / 5 kA                   |
|                                                                      | C3 - 50 A                           |
|                                                                      | D1 - 500 A                          |
| Alternating current carrying capacity (line-earth)                   | 5 A - 1 s                           |

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## Environmental and real-life conditions

### Ambient conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Degree of protection                    | IP20             |
| Ambient temperature (operation)         | -40 °C ... 80 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Altitude                                | ≤ 2000 m (amsl)  |

## Standards and regulations

|                          |                          |
|--------------------------|--------------------------|
| Standards/specifications | IEC 61643-21             |
| Note                     | A2:2012                  |
| Standards/specifications | EN 61643-21              |
| Note                     | 2001 + A1:2009 + A2:2013 |

## Mounting

|               |                 |
|---------------|-----------------|
| Mounting type | DIN rail: 35 mm |
|---------------|-----------------|

# LIT 2X1-24 - Surge protection device

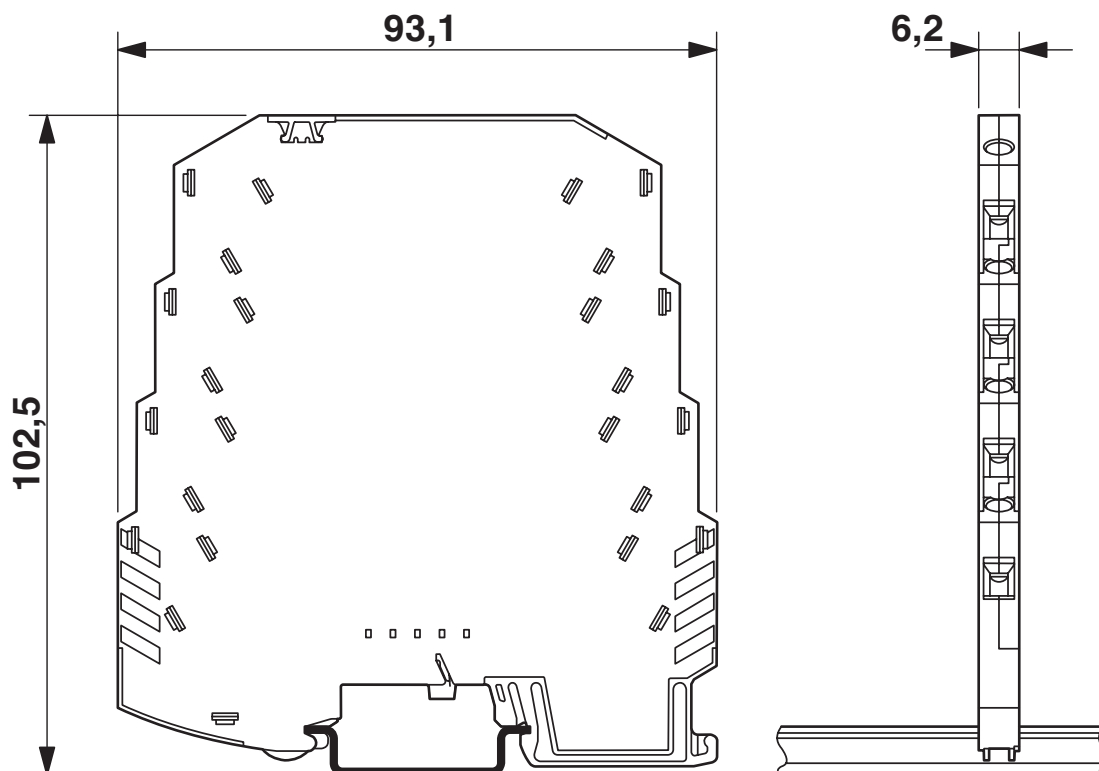
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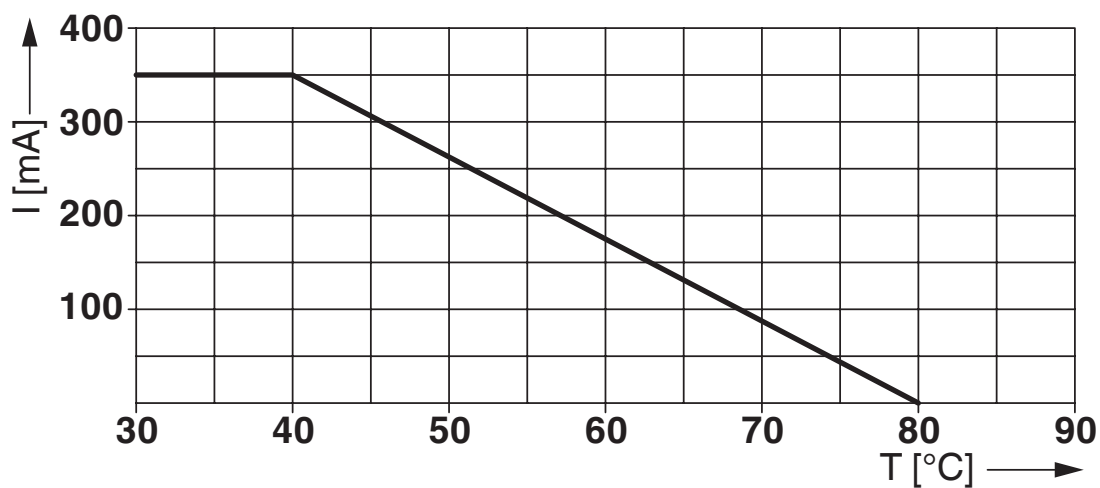


## Drawings

Dimensional drawing



Diagram



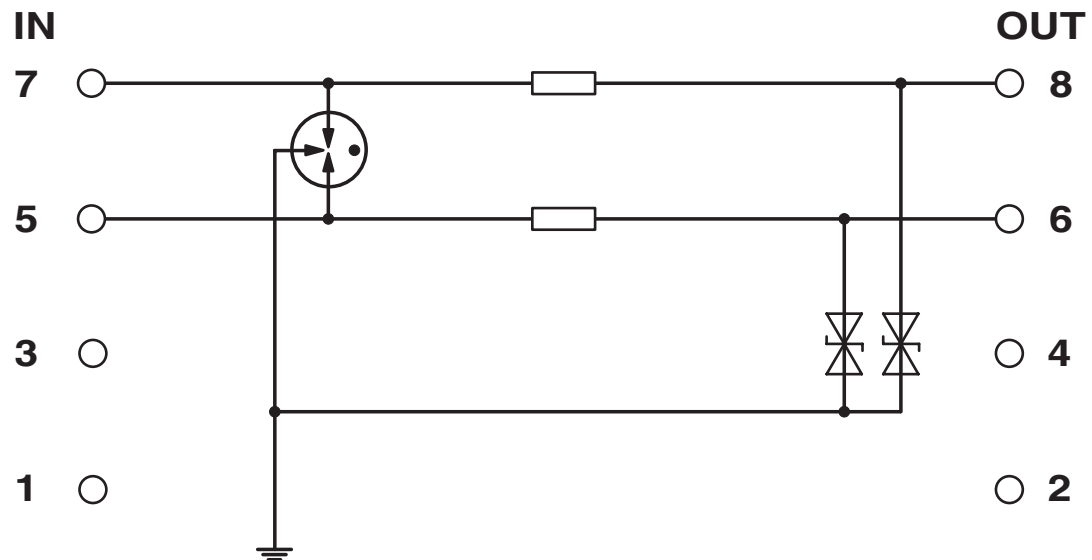
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Circuit diagram



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## Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2804636>



**DNV GL**

Approval ID: TAE00001N8



**UL Listed**

Approval ID: FILE E 138168

**UAE-RoHS**

Approval ID: 23-10-88889

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27171501 |
| ECLASS-15.0 | 27171501 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC000943 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121600 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|                                         |              |
|-----------------------------------------|--------------|
| Fulfills EU RoHS substance requirements | Yes          |
| Exemption                               | 7(a), 7(c)-I |

### China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | c39ddbfe-1fd3-4714-8585-882fac004681 |

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