

## LIT 2-24

Order No.: 2804665



<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2804665>

Surge protection in one-piece 6.2 mm wide DIN rail module for two floating signal wires. Tested in acc. with the protection types in Ex areas: Ex ia IIC / Ex iaD.



### Commercial data

|                          |                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------|
| GTIN (EAN)               | <br>4 046356 428323 |
| sales group              | J342                                                                                                   |
| Pack                     | 10 pcs.                                                                                                |
| Customs tariff           | 85363010                                                                                               |
| Catalog page information | Page 98 (TT-2009)                                                                                      |

### Product notes

WEEE/RoHS-compliant since:  
06/24/2008



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### Technical data

#### General

|                                    |       |
|------------------------------------|-------|
| Housing material                   | PBT   |
| Inflammability class acc. to UL 94 | V0    |
| Color                              | black |

|                                          |                                  |
|------------------------------------------|----------------------------------|
| Standards for air and creepage distances | IEC 60664-1                      |
|                                          | EN 60079-11                      |
| Total surge current (8/20) $\mu$ s       | 20 kA                            |
| Total surge current (10/350) $\mu$ s     | 1 kA                             |
| Ambient temperature (operation)          | -40 °C ... 80 °C                 |
| Ambient temperature (storage/transport)  | -40 °C ... 80 °C                 |
| Mounting type                            | DIN rail: 35 mm                  |
| Design                                   | Rail-mountable module, one-piece |
| Degree of protection                     | IP20                             |
| Direction of action                      | Line-Line & Line-Earth Ground    |
| Width                                    | 6.20 mm                          |
| Height                                   | 102.50 mm                        |
| Length                                   | 93.00 mm                         |

**Protective circuit**

|                                                                            |                           |
|----------------------------------------------------------------------------|---------------------------|
| IEC category                                                               | 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 $I_N$                                                      | 500 mA (40°C)             |
| Operating effective current $I_C$ at $U_C$                                 | $\leq 2 \mu$ A (per path) |
| Ground conductor current $I_{PE}$                                          | $\leq 2 \mu$ A            |
| Nominal discharge surge current $I_n$ (8/20) $\mu$ s (Core-Core)           | 250 A                     |
| Nominal discharge surge current $I_n$ (8/20) $\mu$ s (Core-Earth)          | 5 kA                      |
|                                                                            | 10 kA (Total)             |
| Total surge current (8/20) $\mu$ s                                         | 20 kA                     |
| Max. discharge surge current $I_{max}$ (8/20) $\mu$ s maximum (Core-Core)  | 250 A                     |
| Max. discharge surge 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-Core)               | 50 A                      |

|                                                                              |                                       |
|------------------------------------------------------------------------------|---------------------------------------|
| Nominal pulse current $I_{an}$ (10/1000) $\mu$ s (Core-Earth)                | 50 A                                  |
|                                                                              | 100 A (Total)                         |
| Lightning test current (10/350) $\mu$ s, peak value $I_{imp}$                | 500 A                                 |
| Output voltage limitation at 1 kV/ $\mu$ s (Core-Core) spike                 | $\leq 60$ V                           |
| Output voltage limitation at 1 kV/ $\mu$ s (Core-Earth) spike                | $\leq 650$ V                          |
| Residual voltage at $I_n$ , (conductor-conductor)                            | $\leq 60$ V                           |
| Residual voltage with $I_{an}$ (10/1000) $\mu$ s (conductor-conductor)       | $\leq 60$ V                           |
| Protection level $U_p$ (Core-Core)                                           | $\leq 60$ V (C1 - 500 V / 250 A)      |
|                                                                              | $\leq 60$ V (C3 - 10 A)               |
| Protection level $U_p$ (Core-Earth)                                          | $\leq 650$ V (C1 - 500 V / 250 A)     |
|                                                                              | $\leq 650$ V (C2 - 10 kV / 5 kA)      |
|                                                                              | $\leq 700$ V (D1 - 500 A)             |
| Response time $t_A$ (Core-Core)                                              | $\leq 1$ ns                           |
| Response time $t_A$ (Core-Earth)                                             | $\leq 100$ ns                         |
| Input attenuation aE, sym.                                                   | Typ. 0.1 dB (1 MHz / 50 $\Omega$ )    |
|                                                                              | Typ. 0.1 dB (450 kHz / 150 $\Omega$ ) |
| Cut-off frequency $f_g$ (3 dB), asym. (GND) in 50 Ohm system                 | Typ. 7.5 MHz                          |
| Cut-off frequency $f_g$ (3 dB), asym. (GND) in 100 Ohm system                | Typ. 2.5 MHz                          |
| Capacity                                                                     | $\leq 1.3$ nF (per path)              |
| Resistance in series                                                         | 0 $\Omega$                            |
| Max. required back-up fuse                                                   | 500 mA                                |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)                | C1 (500 V / 250 A)                    |
|                                                                              | C1 (500 V / 250 A)                    |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)               | C2 (10 kV/5 kA)                       |
|                                                                              | C3 (25 A)                             |
|                                                                              | D1 (500 A)                            |
| Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Earth) | 5 A - 1 s                             |
| <b>Connection data</b>                                                       |                                       |
| 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 mm <sup>2</sup>   |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup>   |
| Conductor cross section solid min.     | 0.14 mm <sup>2</sup>  |
| Conductor cross section solid max.     | 2.5 mm <sup>2</sup>   |
| Conductor cross section AWG/kcmil min. | 26                    |
| Conductor cross section AWG/kcmil max  | 12                    |

**Connection, equipotential bonding**

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

**Connection, protective circuit**

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

**Certificates / Approvals**

Certification UL Listed

Certification Ex: IECEX, KEMA-EX

**Accessories**

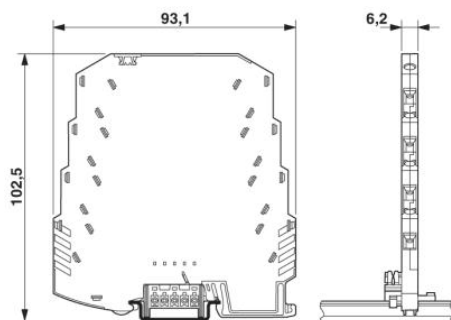
| Item           | Designation                     | Description                                                                                                                                                   |
|----------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General</b> |                                 |                                                                                                                                                               |
| 1857919        | IMC 1,5/ 5-ST-3,81              | Plug component, Nominal current: 8 A, Rated voltage (III/2): 160 V, Number of positions: 5, Pitch: 3.81 mm, Connection method: Screw connection, Color: green |
| 2969401        | ME 6,2 TBUS-2 1,5/5-ST-3,81KMGY | DIN rail bus connector for potential bridging of devices arranged next to one another across all modules.                                                     |

## Marking

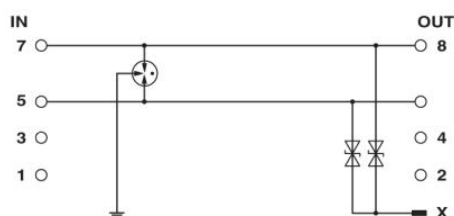
|         |            |                                                                                                                                                   |
|---------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 0818085 | UC-TM 6    | UniCard materials for labeling terminal blocks with a marker groove,80-section, can be labeled with BLUEMARK X1 and CMS-P1-PLOTTER, color: white  |
| 0818344 | UC-TM 6 BU | UniCard materials for labeling terminal blocks with a marker groove,80-section, can be labeled with BLUEMARK X1 and CMS-P1-PLOTTER, color: blue   |
| 0818360 | UC-TM 6 GN | UniCard materials for labeling terminal blocks with a marker groove,80-section, can be labeled with BLUEMARK X1 and CMS-P1-PLOTTER, color: green  |
| 0818328 | UC-TM 6 OG | UniCard materials for labeling terminal blocks with a marker groove,80-section, can be labeled with BLUEMARK X1 and CMS-P1-PLOTTER, color: orange |
| 0818357 | UC-TM 6 RD | UniCard materials for labeling terminal blocks with a marker groove,80-section, can be labeled with BLUEMARK X1 and CMS-P1-PLOTTER, color: red    |
| 0818331 | UC-TM 6 YE | UniCard materials for labeling terminal blocks with a marker groove,80-section, can be labeled with BLUEMARK X1 and CMS-P1-PLOTTER, color: yellow |

## Diagrams/Drawings

### Dimensioned drawing



### Circuit diagram



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