

# D-LAN-CAT.5E - Surge protection device



2858991

<https://www.phoenixcontact.com/us/products/2858991>

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Fine surge protection in accordance with Class D (CAT.5e), for token ring and Ethernet. RJ45 attachment plug with separate grounding cable, incl. RJ45 cable

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2858991       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | CL24          |
| Product key                          | CL3111        |
| GTIN                                 | 4017918920463 |
| Weight per piece (including packing) | 135.8 g       |
| Weight per piece (excluding packing) | 135 g         |
| Customs tariff number                | 85363010      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

|                                |   |
|--------------------------------|---|
| Product type                   | Surge protection for information technology |
| Product family                 | DATATRAB                                    |
| IEC test classification        | C1  |
|                                | C2  |
|                                | C3  |
|                                | B2  |
|                                | B3  |
| VDE requirement class          | C1  |
|                                | C2  |
|                                | C3  |
|                                | B2  |
|                                | B3  |
| Type                           | Intermediate plug                           |
| Surge protection fault message | none  |

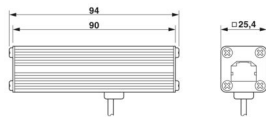
### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Pollution degree     | 2  |

### Connection data

|                   |      |
|-------------------|------|
| Connection method | RJ45 |
|-------------------|------|

### Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Width               | 25.4 mm  |
| Height              | 94 mm  |
| Depth               | 25.4 mm  |

### Material specifications

|                  |                    |
|------------------|--------------------|
| Color            | black (RAL 9005)   |
| Housing material | Aluminum, anodized |

### Mechanical properties

#### Mechanical data

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

### Protective circuit

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|  |  |
|--|--|
| Direction of action  | Line-Line & Line-Shield & Shield-Earth Ground  |
| Maximum continuous operating voltage $U_C$                           | $\pm 7$ V DC   |
| Rated current  | 1.5 A (25 °C)  |
| Operating effective current $I_C$ at $U_C$                           | $\leq 100$ $\mu$ A   |
| Protective conductor current $I_{PE}$                                | $\leq 100$ $\mu$ A   |
| Nominal discharge current $I_n$ (8/20) $\mu$ s (line-line)           | 350 A  |
| Nominal discharge current $I_n$ (8/20) $\mu$ s (line-ground)         | 2.5 kA   |
| Max. discharge current $I_{max}$ (8/20) $\mu$ s maximum (line-earth) | 2.5 kA (in total)  |
| Nominal pulse current $I_{an}$ (10/700) $\mu$ s (line-line)          | 160 A  |
| Nominal pulse current $I_{an}$ (10/700) $\mu$ s (line-earth)         | 160 A  |
| Output voltage limitation at 1 kV/ $\mu$ s (line-line) spike         | $\leq 22$ V  |
| Output voltage limitation at 1 kV/ $\mu$ s (line-earth) spike        | $\leq 80$ V (equipotential bonding lead: 1 m)  |
| Output voltage limitation at 1 kV/ $\mu$ s (shield-ground) spike     | $\leq 700$ V (equipotential bonding lead: 1 m)   |
| Residual voltage at $I_n$ (conductor-conductor)                      | $\leq 45$ V  |
| Residual voltage at $I_n$ (conductor-ground)                         | $\leq 45$ V  |
| Residual voltage at $I_n$ (shield-ground)                            | $\leq 700$ V   |
| Voltage protection level $U_p$ (line-line)                           | $\leq 50$ V (C1 - 500 V / 250 A)<br>$\leq 20$ V (B3 - 2 kV / 25 A)   |
| Voltage protection level $U_p$ (line-earth)                          | $\leq 65$ V (C1, 500 V/250 A - PA-Ltg: 1 m)<br>$\leq 25$ V (B3 - 2 kV / 25 A - PA-Ltg: 1 m)<br>$\leq 60$ V (C3, 7 kV/90 A - PA-Ltg: 1 m) |
| Voltage protection level $U_p$ (shield-ground)                       | $\leq 850$ V (C2 - 4 kV/2 kA - PA-Ltg: 1 m)  |
| Response time $t_A$ (line-line)                                      | $\leq 500$ ns  |
| Response time $t_A$ (line-earth)                                     | $\leq 100$ ns  |
| Input attenuation aE, sym.   | 1 dB (up to 100 MHz, 100 $\Omega$ system)  |
| Near-end crosstalk attenuation                                       | 36 dB (pair 3-6 against pair 4-5 in 100 $\Omega$ system / 100 MHz)<br>40 dB (all other pair combinations in 100 $\Omega$ system/100 MHz) |
| Cut-off frequency $f_g$ (3 dB), sym. in 100 $\Omega$ system          | $\leq 100$ MHz   |
| Capacity (Core-Core)   | 20 pF (typical)  |
| Capacity (Core-Earth)  | 1 pF (typical)   |
| Surge protection fault message                                       | none   |
| Impulse durability (line-line)                                       | B2 - 4 kV / 100 A<br>B3 - 2 kV / 25 A<br>C1 - 500 V / 250 A  |
| Impulse durability (line-earth)                                      | B2 - 4 kV / 100 A<br>C1 - 500 V / 250 A<br>C2 - 4 kV / 2 kA<br>B3 - 2 kV / 25 A  |

## Environmental and real-life conditions

### Ambient conditions

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

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## Standards and regulations

|                       |    |
|-----------------------|----|
| VDE requirement class | C1 |
|                       | C2 |
|                       | C3 |
|                       | B2 |
|                       | B3 |

## Standards Information technology specification

|                       |                |
|-----------------------|----------------|
| Standards/regulations | IEC 61643-21   |
|                       | E VDE 0845-3-1 |
|                       | DIN EN 50173-1 |
|                       | IEC 61643-21   |
|                       | E VDE 0845-3-1 |
| DIN EN 50173-1        |                |

## Air clearances and creepage distances

|                       |                              |
|-----------------------|------------------------------|
| Standards/regulations | DIN VDE 0110-1 / IEC 60664-1 |
|-----------------------|------------------------------|

## Mounting

|               |   |
|---------------|---|
| Mounting type | Connection-specific intermediate plugging |
|---------------|---|

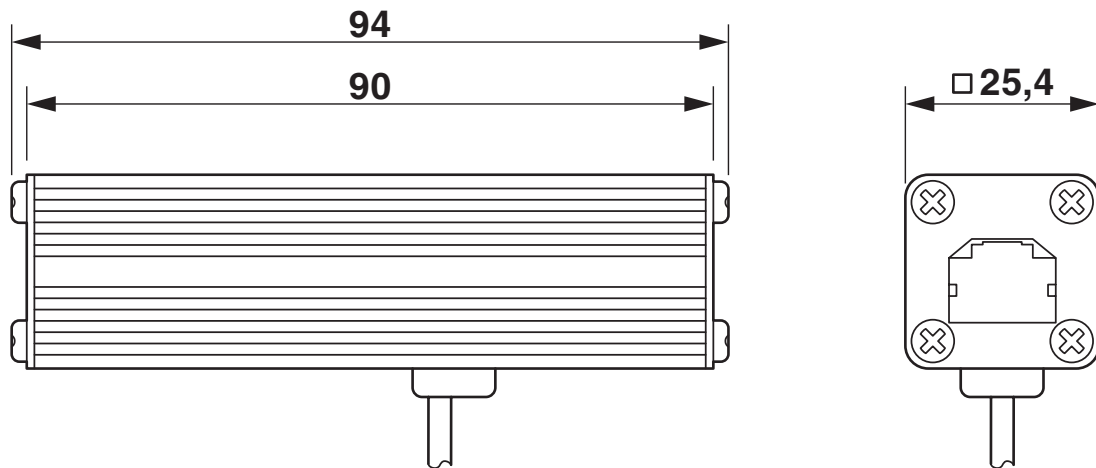
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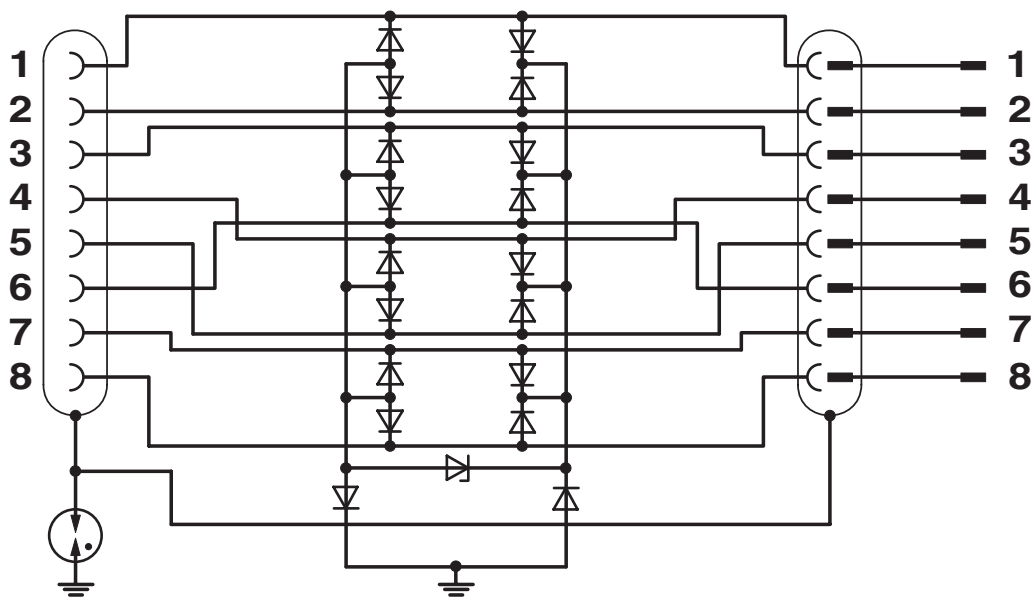
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2858991>



**UL Listed**

Approval ID: FILE E 138168

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27171503 |
| ECLASS-15.0 | 27171503 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001466 |
|-----------|----------|

### 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                                | 5560daf8-02ad-477f-8264-22d6d2558977 |

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