

# Surge protection device - CN-UB-70DC-6-BB



2803166

<https://www.phoenixcontact.com/pc/products/2803166>

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Attachment plug with surge protection for coaxial signal interfaces. Connection: N connector, female/female

## Commercial Data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 2803166             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Product Key                          | CL3311              |
| Catalog Page                         | Page 176 (C-4-2017) |
| GTIN                                 | 4046356293211       |
| Weight per Piece (including packing) | 75.7 g              |
| Weight per Piece (excluding packing) | 75 g                |
| Customs tariff number                | 85363010            |
| Country of origin                    | US                  |

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## Technical Data

### Notes

#### General

|      |   |
|------|---|
| Note | To meet the discharge conditions for DC voltages, please note the following information: "The surge protective device should be used together with a transmitter unit, which shuts down in the event of a short-circuit." |
|------|---|

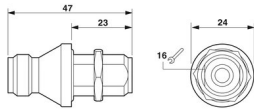
### Product properties

|                                |  |
|--------------------------------|--|
| IEC test classification        | C2                                       |
|                                | C3                                       |
|                                | D1                                       |
| VDE requirement class          | C2                                       |
|                                | C3                                       |
|                                | D1                                       |
| Type                           | Attachment plug                          |
| Product type                   | Surge protection for transceiver systems |
| Surge protection fault message | none                                     |

### Connection data

|                   |                  |
|-------------------|------------------|
| Connection method | N connector 50 Ω |
|-------------------|------------------|

### Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Width               | 24 mm  |
| Height              | 24 mm  |
| Depth               | 47 mm  |

### Material specifications

|                                  |              |
|----------------------------------|--------------|
| Color                            | nickel       |
| Seal material                    | Silicon      |
| Housing surface material         | Nickel       |
| Housing material                 | Brass (CuZn) |
| Inner conductor material         | BeCu         |
| Inner conductor surface material | Gold         |
| Insulation body material         | PTFE         |

### Mechanical properties

#### Mechanical data

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

## Protective circuit

|   |   |
|---|---|
| Direction of action   | Line-Shield/Earth Ground                |
| Maximum continuous voltage $U_C$  | 70 V DC                                 |
|   | 50 V AC                                 |
| Maximum continuous voltage $U_C$ (line-earth)                               | 70 V DC                                 |
|   | 50 V AC                                 |
| Rated current   | 10 A                                    |
| Operating effective current $I_C$ at $U_C$                                  | $\leq 1 \mu\text{A}$                    |
| Nominal discharge current $I_n$ (8/20) $\mu\text{s}$                        | 5 kA                                    |
| Nominal discharge surge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)     | 5 kA                                    |
| Nominal discharge surge current $I_n$ (8/20) $\mu\text{s}$ (core-shield)    | 5 kA                                    |
| Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$                    | 1 kA                                    |
| Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)       | 1 kA                                    |
| Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-earth)  | 10 kA                                   |
| Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-shield) | 10 kA                                   |
| Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-shield)        | 100 A                                   |
| Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$     | 1 kA                                    |
| Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike         | $\leq 650 \text{ V}$                    |
| Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-shield) spike        | $\leq 650 \text{ V}$                    |
| Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) static        | $\leq 650 \text{ V}$                    |
| Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-shield) static       | $\leq 650 \text{ V}$                    |
| Voltage protection level $U_p$ (line-earth)                                 | $\leq 800 \text{ V}$ (C2 - 4 kV / 2 kA) |
|   | $\leq 1 \text{ kV}$ (C2 - 10 kV / 5 kA) |
| Voltage protection level $U_p$ (line-shield)                                | $\leq 800 \text{ V}$ (C2 - 4 kV / 2 kA) |
|   | $\leq 1 \text{ kV}$ (C2 - 10 kV / 5 kA) |
| Response time $t_A$ (line-earth)  | $\leq 100 \text{ ns}$                   |
| Response time $t_A$ (line-shield)   | $\leq 100 \text{ ns}$                   |
| Input attenuation aE, asym.   | 0.1 dB ( $\leq 6 \text{ GHz}$ )         |
| Cut-off frequency $f_g$ (3 dB), asym. (shield) in 50 $\Omega$ system        | $> 6 \text{ GHz}$                       |
| Frequency range   | 0 Hz ... 6 GHz                          |
| Voltage standing wave ratio VSWR in a 50 $\Omega$ system                    | typ. 1.15 ( $\leq 6 \text{ GHz}$ )      |
| Permissible HF power $P_{max}$ at VSWR = xx (50 ohm system)                 | 30 W (VSWR = 1.15)                      |
| Capacity (Core-Earth)   | typ. 1.5 pF                             |
| Capacity asymmetrical (shield)  | typ. 1.5 pF                             |
| Surge protection fault message  | none                                    |
| Impulse durability (line-earth)   | C2 - 10 kV / 5 kA                       |
|   | C3 - 100 A                              |
|   | D1 - 1 kA                               |
| Impulse durability (line-shield)  | C2 - 10 kV/5 kA                         |
|   | C3 - 100 A                              |
|   | D1 - 1 kA                               |
| Alternating current carrying capacity (line-shield)                         | 5 A - 1 s                               |

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## Environmental and real-life conditions

### Ambient conditions

|                                 |                  |
|---------------------------------|------------------|
| Degree of protection            | IP68             |
| Ambient temperature (operation) | -40 °C ... 90 °C |

## Standards and regulations

|                       |    |
|-----------------------|----|
| VDE requirement class | C2 |
|                       | C3 |
|                       | D1 |

### Air clearances and creepage distances

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

### Standards Information technology specification

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

## Mounting

|                       |   |
|-----------------------|---|
| Mounting type         | Connection-specific intermediate plugging |
| Assembly instructions | Outdoors and indoors                      |

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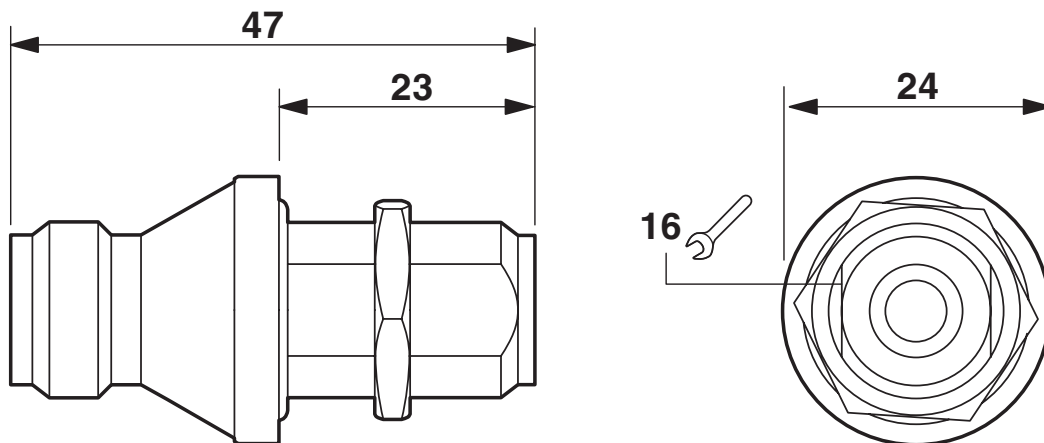


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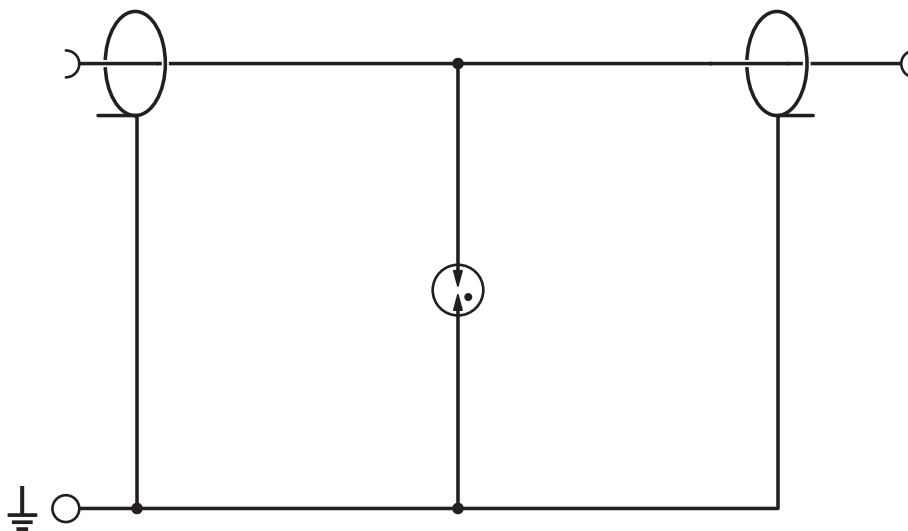
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals



**EAC**

Approval ID: EAC-Zulassung



**EAC**

Approval ID: RU C-DE.\*09.B.00169

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## Classifications

### ECLASS

|               |          |
|---------------|----------|
| ECLASS-9.0    | 27130807 |
| ECLASS-10.0.1 | 27130807 |
| ECLASS-11.0   | 27130807 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC000943 |
|----------|----------|

### UNSPSC

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

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## Accessories

### Mounting plate

Mounting plate - CN-UB/MP - 2818135

<https://www.phoenixcontact.com/pc/products/2818135>

Tongue for attaching the CN-UB..., to housing panels, for example.



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### Mounting plate

Mounting plate - CN-UB/MP-90DEG-50 - 2803137

<https://www.phoenixcontact.com/pc/products/2803137>

Angled bracket for individually fixing CN-UB... to housing panels, for example.





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## Mounting plate

Mounting plate - CN-UB/MP - 2818135

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Tongue for attaching the CN-UB..., to housing panels, for example.



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