# CB E1 24DC/1A NO P - Electronic circuit breaker

2800901

https://www.phoenixcontact.com/us/products/2800901

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Electronic circuit breaker, 1-pos., active current limitation, 1 N/O contact, plug for base element.

## Your advantages

- Individually adjustable with protective plugs
- Protective plug with fixed nominal current value as protection against unintentional changes
- Active current limitation to improve the capacity of the upstream power supply
- Increased system transparency with integrated remote message function

## Commercial data

| | |
|---|---|
| Item number | 2800901 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL04 |
| Product key | CLA134 |
| GTIN | 4046356690713 |
| Weight per piece (including packing) | 35.22 g |
| Weight per piece (excluding packing) | 35.22 g |
| Customs tariff number | 85362010 |
| Country of origin | DE |

# Technical data

## Notes

| | |
|---|---|
| General | When mounted in rows without convection cooling, the nominal device current should only be led to a maximum of 80% due to the thermal effect during continuous operation (100% operating factor).<br>Special precautionary measures must be taken in systems or machines, to prevent components from restarting (e.g., use of a safety PLC).<br>Parallel connection of multiple circuit breakers is not permitted. |

## Product properties

| | |
|---|---|
| Product type | Device circuit breakers |
| Product family | CB E |
| Type | Male |
| Number of positions | 1 |
| No. of channels | 1 |

### Insulation characteristics

| | |
|---|---|
| Pollution degree | 2 |

## Electrical properties

### General

| | |
|---|---|
| Operating voltage | 24 V DC |
| | 18 V DC ... 30 V DC |
| Nominal current $I_N$ | 1 A |
| Rated surge voltage | 0.5 kV |
| Tripping method | E (electronic) |
| Required backup fuse | not required, integrated failsafe element |
| Dielectric strength | max. 30 V DC (Load circuit) |
| Active current limitation | typ. 1.25 x $I_N$ |
| Fuse | electronic |
| Closed circuit current $I_0$ | typ. 8 mA (When switched on) |
| | typ. 17 mA (With alarm output) |
| Power dissipation | 0.55 W (Nominal operation) |
| Temperature derating | 1 A (at 50 °C) |
| MTBF (IEC 61709, SN 29500) | 8320000 h (at 25 °C with 80 % load) |
| | 7410000 h (at 40 °C with 80 % load) |
| Voltage drop | 140 mV (at $I_N$) |
| Fail-safe element | 2 A DC |
| Contact switching type | without electrical isolation |

### Load circuit

| | |
|---|---|
| Shutdown time | 800 ms (see time/current characteristic curve) |
| Undervoltage switch-off | < 14 V (typ. OFF) |

| | |
|---|---|
| | > 17 V (typ. ON) |
| Max. capacitive load | 20000 µF |
| Switch-on delay | typ. 2 ms |

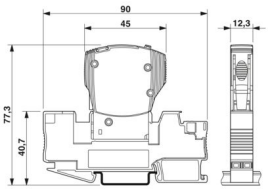
Auxiliary contact

| | |
|---|---|
| Contact connection type | floating signal contact |
| Minimum operating voltage $U_{min}$ DC | 10 V DC |
| Maximum operating voltage $U_{max}$ DC | 30 V DC |
| Minimum operating current $I_{min}$ | 10 mA |
| Max. operating current $I_{max}$ | 0.5 A |

## Connection data

| | |
|---|---|
| Connection method | pluggable |

## Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Width | 12.3 mm |
| Height | 45 mm |
| Depth | 52 mm |
| Complete module width | 12.3 mm |
| Complete module height | 90 mm |
| Complete module depth | 77.3 mm |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |
| | black (RAL 9005) |
| Flammability rating according to UL 94 | V-0 |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection | IP30 (Actuation area) |
| Ambient temperature (operation) | -25 °C ... 50 °C (non-condensing) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Humidity test | 96 h, 95 % RH, 40 °C |
| Vibration (operation) | 3g (according to IEC 60068-2-6, Test Fc) |

## Approvals

UL approval

| | |
|---|---|
| Identification | UL Listed UL 508 |

| | |
|---|---|
| | UL Recognized UL 2367 |

Shipbuilding approval

| | |
|---|---|
| Identification | DNV GL |

## Standards and regulations

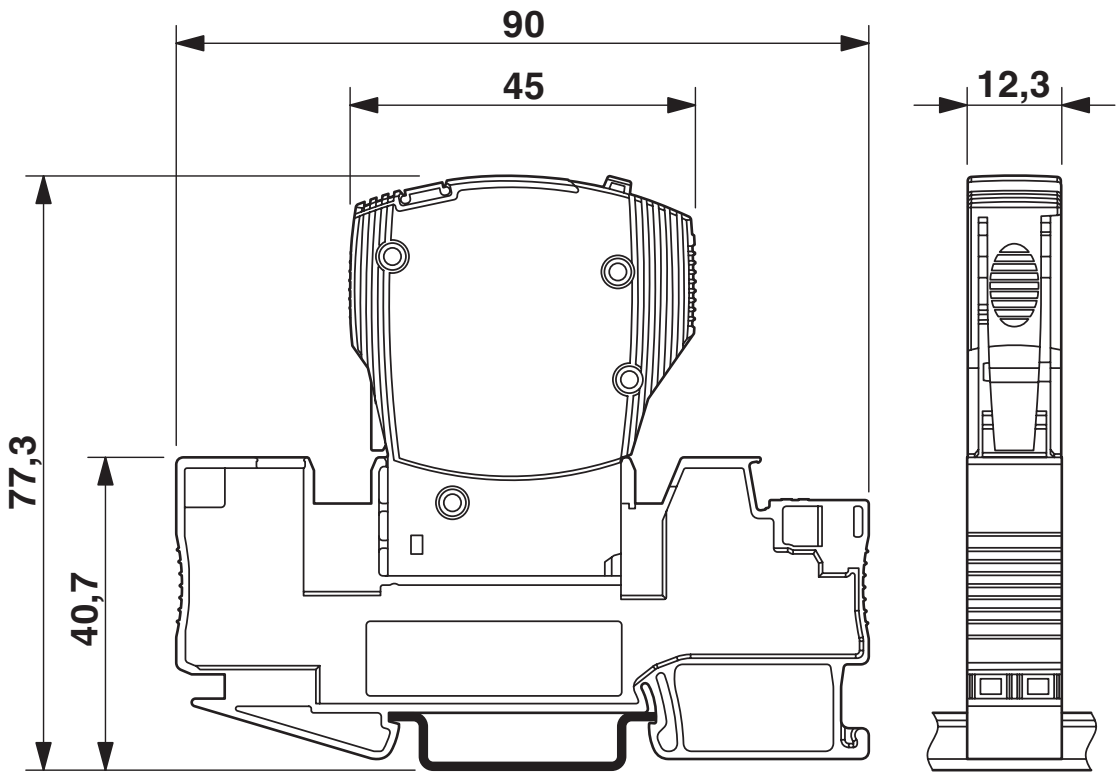
| | |
|---|---|
| Standard designation | EMV |
| Standards/specifications | EN 61000-6-3 |
| Note | Interference emission |
| Standard designation | EMV |
| Standards/specifications | EN 61000-6-2 |
| Note | Noise immunity |

## Mounting

| | |
|---|---|
| Mounting type | on base element |

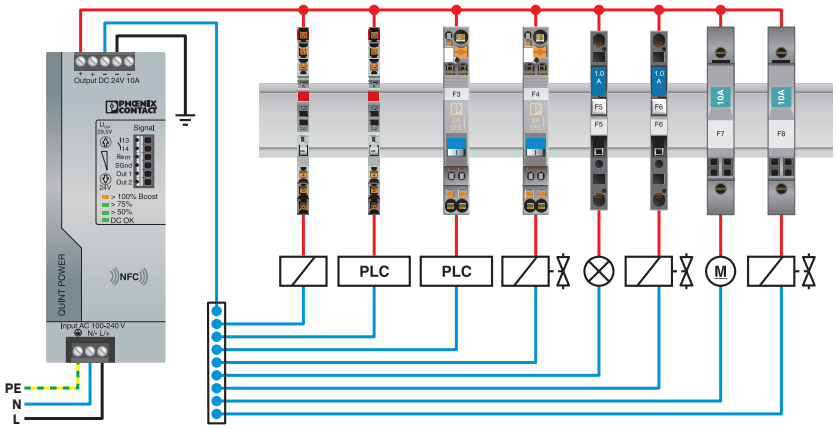
## Drawings

Dimensional drawing

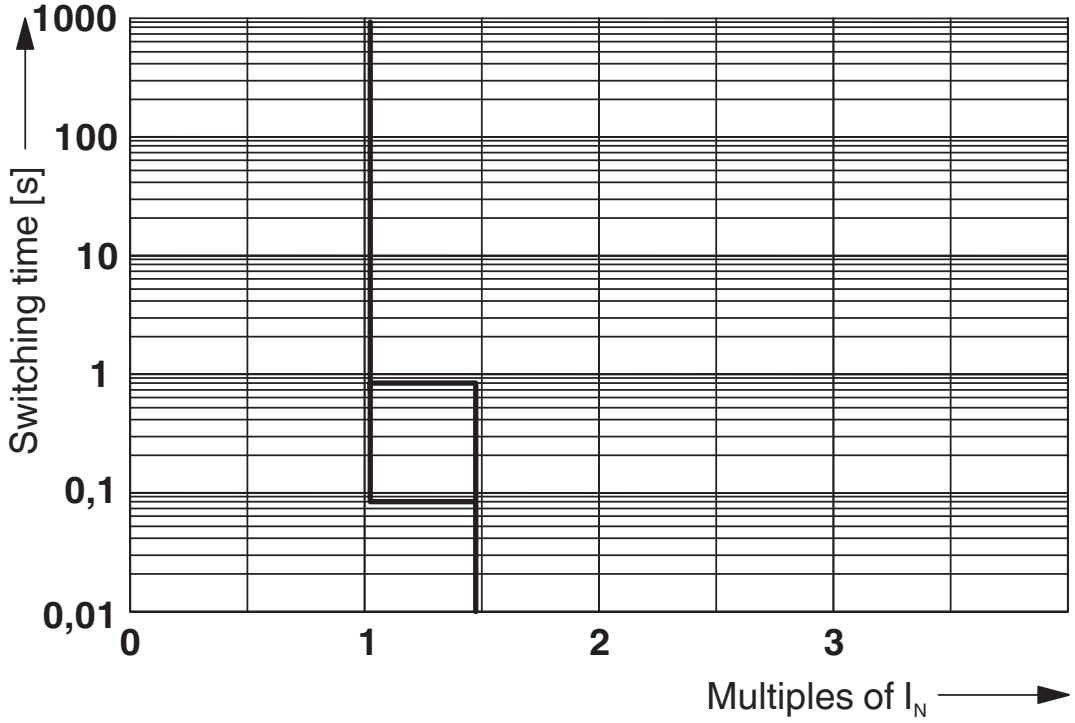



The figure shows the complete module consisting of a base element and connector

Application drawing

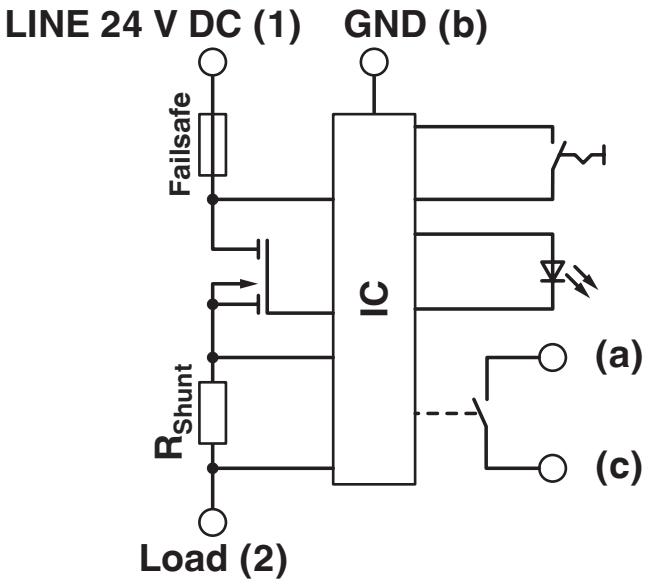


Diagram




Trigger characteristic

Circuit diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2800901

**UL Recognized**
Approval ID: FILE E 317172

**DNV GL**
Approval ID: TAE00003KA

**cULus Listed**
Approval ID: E123528

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27140401 |
| ECLASS-15.0 | 27140401 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC003538 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 39121400 |

## 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-25 |
| | 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 | c3f5c2f4-3a99-490b-8a57-8c4d5d41500e |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 2.636 kg CO2e |


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