

CB E1 24DC/3A S-R P - Electronic circuit breaker



2800910

<https://www.phoenixcontact.com/us/products/2800910>

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Electronic circuit breaker, 1-pos., active current limitation, status output and reset input, 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
- Remote reconnection with the reset function
- Increased system transparency with integrated remote message function

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2800910 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL04 |
| Product key | CLA134 |
| GTIN | 4046356690973 |
| Weight per piece (including packing) | 34.3 g |
| Weight per piece (excluding packing) | 34.3 g |
| Customs tariff number | 85362010 |
| Country of origin | DE |

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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). Special precautionary measures must be taken in systems or machines, to prevent components from restarting (e.g., use of a safety PLC). 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

| | |
|---------------------|---|
| Degree of pollution | 2 |
|---------------------|---|

Electrical properties

General

| | |
|------------------------------|---|
| Operating voltage | 24 V DC |
| | 18 V DC ... 30 V DC |
| Nominal current I_N | 3 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. $1.25 \times I_N$ |
| Fuse | electronic |
| Closed circuit current I_0 | typ. 8 mA (When switched on) |
| | typ. 11 mA (With status output) |
| Power dissipation | 0.62 W (Nominal operation) |
| Temperature derating | 3 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 | 120 mV (at I_N) |
| Fail-safe element | 6 A DC |
| Contact switching type | without electrical isolation |

Load circuit

| | |
|-------------------------|--|
| Shutdown time | 300 ms (see time/current characteristic curve) |
| Undervoltage switch-off | < 14 V (typ. OFF) |

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

Auxiliary contact

| | |
|-------------------------|----------------------------------|
| Contact connection type | Positive-switching signal output |
|-------------------------|----------------------------------|

Reset

| | |
|---------------------|---|
| Input voltage range | 7 V DC ... 30 V DC (Reset with falling edge) |
| Current consumption | typ. 2.6 mA (at 24 V DC) |
| Pulse length | min. 20 ms |
| Voltage | < 3 V DC (Low state) > 8 V DC (High state) |

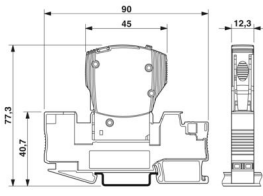
Status output

| | |
|----------------|----------------------------------|
| Output voltage | 24 V DC |
| Output current | max. 0.2 A (Short-circuit-proof) |

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 |

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| | |
|-----------------------|--|
| 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 |
|---------------|-----------------|

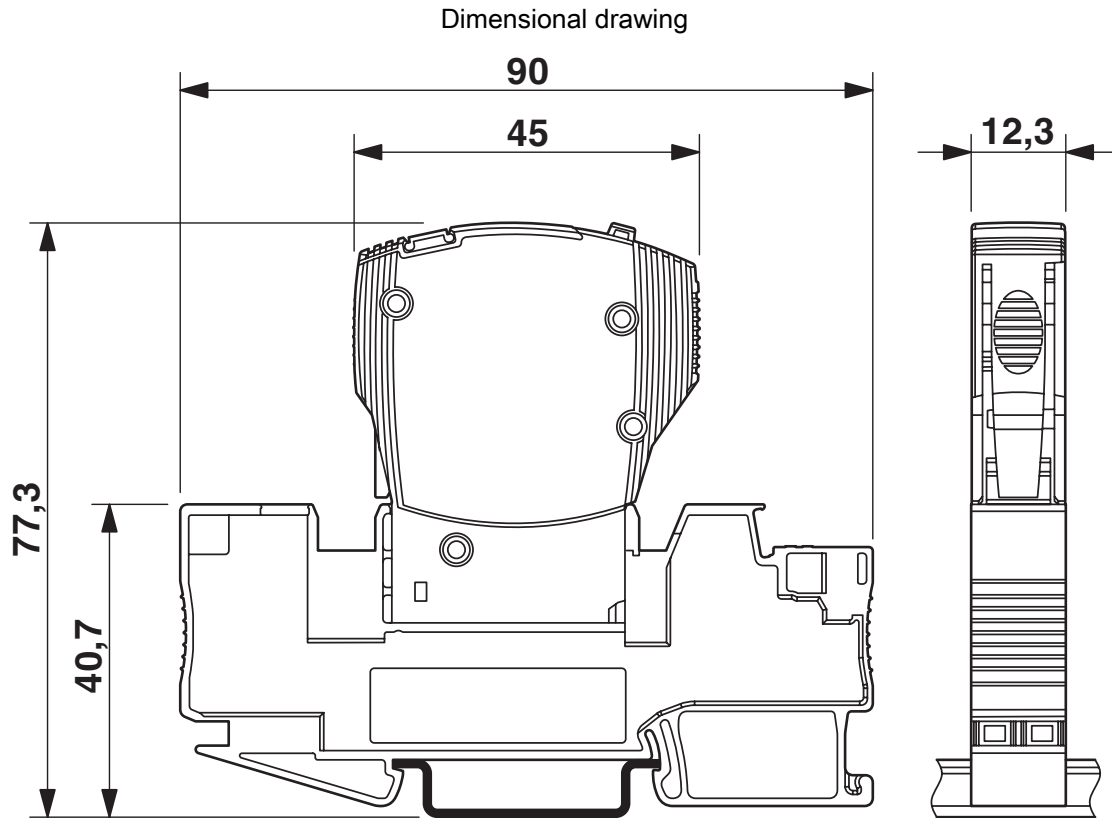
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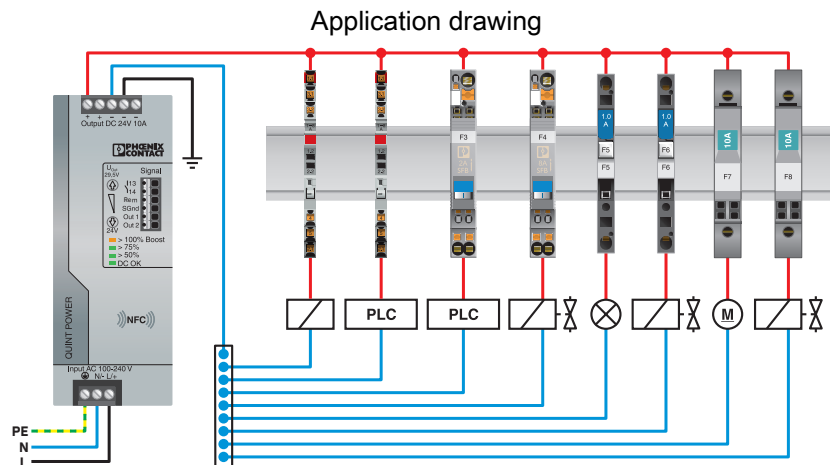
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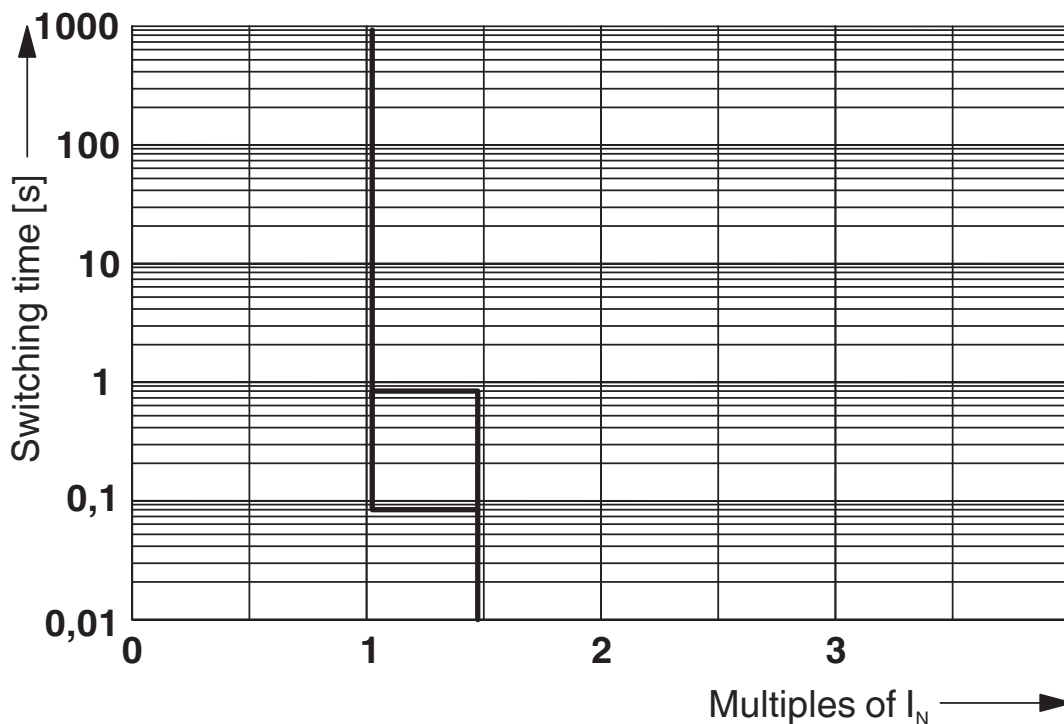
Drawings



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

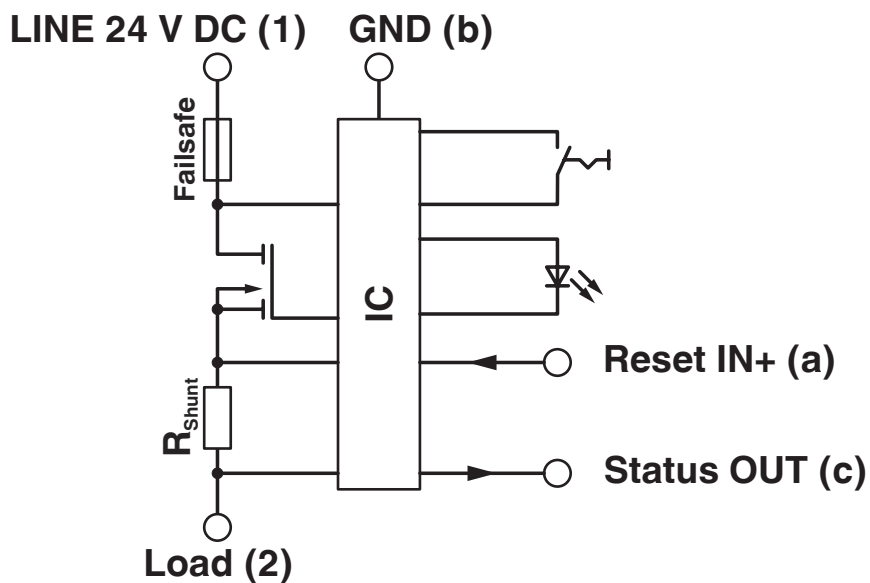


Diagram



Trigger characteristic

Circuit diagram



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Approvals

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UL Recognized

Approval ID: FILE E 317172



DNV GL

Approval ID: TAE00003KA



cULus Listed

Approval ID: E123528

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Classifications

ECLASS

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

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC003538 |
|----------|----------|

UNSPSC

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

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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-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 | 43517dd0-b914-48e4-8bd8-89dee25daceb |

EF3.0 Climate Change

| | |
|---------|---------------|
| CO2e kg | 2.159 kg CO2e |
|---------|---------------|

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