

Device circuit breakers - CBMC E4

24DC/1-10A NO - 2906032



<https://www.phoenixcontact.com/il/products/2906032>

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Multi-channel electronic circuit breaker for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.

Your advantages

- Easy device replacement without replanning, thanks to compact design and options for individual adjustments
- Circuits can be adjusted without any tools by means of one single pushable LED button
- Reliable protection against unintentional adjustment of current values, thanks to electronic locking
- Status LEDs in traffic light colors enable instantaneous determination of operating states

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Commercial Data

| | |
|--------------------------------------|---------------------|
| Order Key | 2906032 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Catalog Page | Page 375 (C-4-2019) |
| GTIN | 4055626149356 |
| Weight per Piece (including packing) | 140.2 GRM |
| Weight per Piece (excluding packing) | 121.4 GRM |
| Customs tariff number | 85363090 |
| Country of origin | DE |

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Technical Data

Environmental and real-life conditions

Ambient conditions

| | |
|---|--|
| Vibration (operation) | 10 Hz ... 57.6 Hz (Amplitude ± 0.35 mm; in accordance with IEC 60068-2-6, Test Fc) |
| | 57.6 Hz ... 150 Hz (Acceleration 5g; in accordance with IEC 60068-2-6, Test Fc) |
| Ambient temperature (operation) | -25 °C ... 60 °C |
| Humidity test | 96 h, 95 % RH, 40 °C |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Degree of protection | IP20 |
| Shock (operation) | 30g (IEC 60068-2-27, Test Ea) |
| Altitude | ≤ 3000 m up to 52 °C (amsl (above mean sea level)) |
| | ≤ 4000 m up to 46 °C (amsl (above mean sea level)) |

Notes

Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Electrical properties

| | |
|------------------------------|---|
| Fuse | electronic |
| Dielectric strength | max. 35 V DC (Load circuit) |
| Rated current I_N | max. 40 A DC (IN+) |
| | max. 40 A DC (per terminal position when bridging additional devices via IN+) |
| | 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 A DC (adjustable per output channel) |
| Rated surge voltage | 0.5 kV |
| No. of channels | 4 |
| Fail-safe element | 15 A DC (per output channel) |
| Measuring tolerance I | ± 15 % |
| Closed circuit current I_0 | typ. 33 mA |
| Operating voltage | 18 V DC ... 30 V DC |
| Temperature derating | 24 A DC (at 60 °C) |
| | 28 A DC (at 54 °C) |
| | 32 A DC (at 47 °C) |
| | 36 A DC (at 41 °C) |
| | 40 A DC (at 35 °C) |
| Feedback resistance | max. 35 V DC |

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| | |
|--|---|
| Short-circuit switching capacity | 300 A |
| Efficiency | > 99 % |
| Rated voltage | 24 V DC |
| Waiting time after switch off of a channel | 5 s (at overload / short circuit) |
| Power dissipation | typ. 0.8 W (No-load operation) |
| | < 9 W (Nominal operation) |
| MTBF (IEC 61709, SN 29500) | 8403361 h (at 25 °C with 21 % load) |
| | 3067484 h (at 40 °C with 34.25% load) |
| | 534188 h (at 35 °C with 100 % load) |
| Required backup fuse | Only required if I_{max} of the power supply > the short-circuit switching capacity. Integrated failsafe element. |
| Tripping method | E (electronic) |
| Module initialization time | 1.6 s |

Load circuit

| | |
|-------------------------|--|
| Shutdown time | ≤ 10 ms (for short circuit $> 2.0 \times I_N$) |
| | 1 s ($1.2 \dots 2.0 \times I_N$) |
| Max. capacitive load | 45000 μ F (Depending on the current setting and the short-circuit current available) |
| Undervoltage switch-off | ≤ 17.8 V DC (active) |
| | ≥ 18.8 V DC (inactive) |
| Overvoltage switch-off | ≥ 30.5 V DC (active) |
| | ≤ 29.5 V DC (inactive) |

Indicator/remote signaling

| | |
|--------------------|---------------------------|
| Operating current | 100 mA DC |
| Switching function | N/O contact |
| Connection name | Remote indication circuit |
| Operating voltage | 0 V DC ... 30 V DC |

Dimensions

| | |
|---------------------|-------------------------------|
| Dimensional drawing | |
| Height | 90 mm |
| Width | 36 mm |
| Depth | 98 mm (incl. DIN rail 7.5 mm) |

LED signaling

| | |
|--------------------|--|
| Channel LED yellow | lit (Channel switched on, channel load > 80%) |
| | flashing (Programming mode active) |
| | lit (Channel switched off, over- or undervoltage active) |

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| | |
|-------------------|--|
| Channel LED red | ON temporarily (Channel switched off, 5 s cool-down phase, overload or short-circuit release) |
| | flashing (Channel switched off, ready to be switched back on, overload or short-circuit release) |
| | two flashes (Channel switched off, device total current limit 40 A exceeded) |
| Channel LED off | off (Channel switched off) |
| Channel LED green | lit (Channel switched on) |

Material specifications

| | |
|--|-------------------------------|
| Color | light grey RAL 7035 |
| Material | PC (Housing) |
| | PA 6.6 (Terminal blocks) |
| | PA 6.3T (Light emission area) |
| | POM (Base latch) |
| Flammability rating according to UL 94 | V-0 |

Mounting

| | |
|---------------|-----------------|
| Mounting type | DIN rail: 35 mm |
|---------------|-----------------|

Approval data

UL approval

| | |
|----------------|-----------------------|
| Identification | UL/C-UL Listed UL 508 |
| | UL Recognized UL 2367 |

Connection data

Main circuit OUT

| | |
|---|--|
| Conductor cross section AWG | 24 ... 12 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| Conductor cross section solid | 0.2 mm ² ... 2.5 mm ² |
| Stripping length | 10 mm |
| Connection method | Push-in connection |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 1.5 mm ² |

Main circuit IN-

| | |
|---|--|
| Conductor cross section AWG | 24 ... 12 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| Conductor cross section solid | 0.2 mm ² ... 2.5 mm ² |
| Stripping length | 10 mm |
| Connection method | Push-in connection |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 1.5 mm ² |

Main circuit IN+

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| | |
|---|--|
| Conductor cross section AWG | 24 ... 8 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 6 mm ² |
| Conductor cross section solid | 0.2 mm ² ... 10 mm ² |
| Stripping length | 15 mm |
| Connection method | Push-in connection |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 4 mm ² |

Standards and regulations

| | |
|--------------------------|---------------|
| Standards/specifications | EN 61000-6-2 |
| | EN 61000-6-3 |
| | EN 60068-2-6 |
| | EN 60068-2-27 |
| | EN 60068-2-78 |
| | EN 50178 |

Product properties

| | |
|---------------------|----------------------------|
| Number of positions | 1 |
| Type | DIN rail module, one-piece |
| No. of channels | 4 |

Insulation characteristics

| | |
|------------------|-----|
| Protection class | III |
| Pollution degree | 2 |

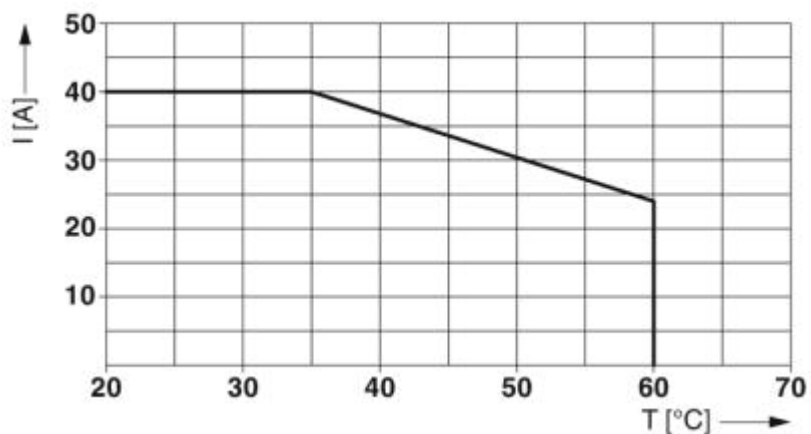
Device circuit breakers - CBMC E4 24DC/1-10A NO - 2906032



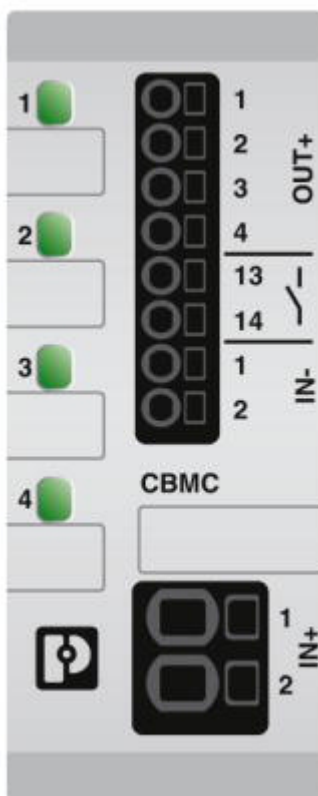
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Drawings

Diagram



Product drawing

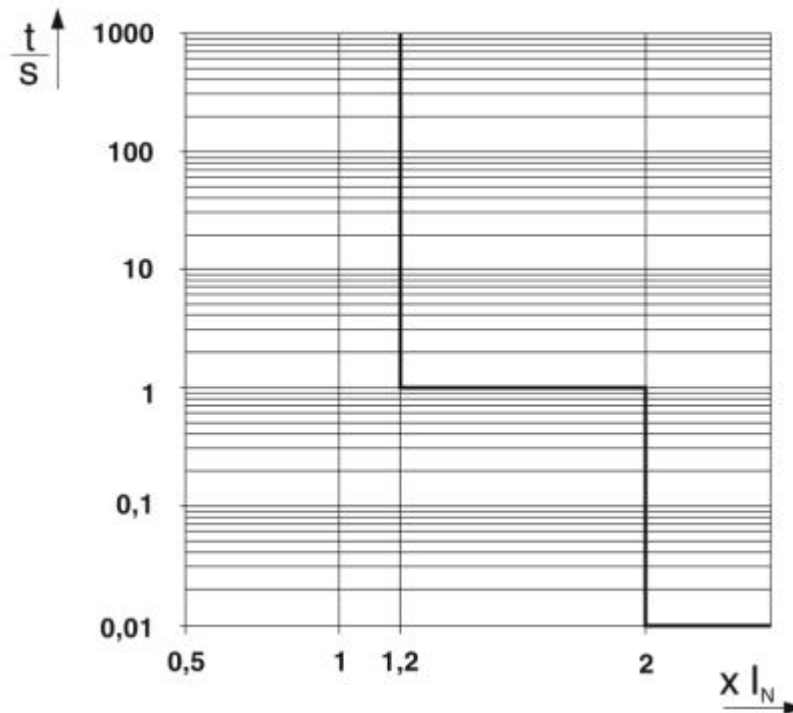


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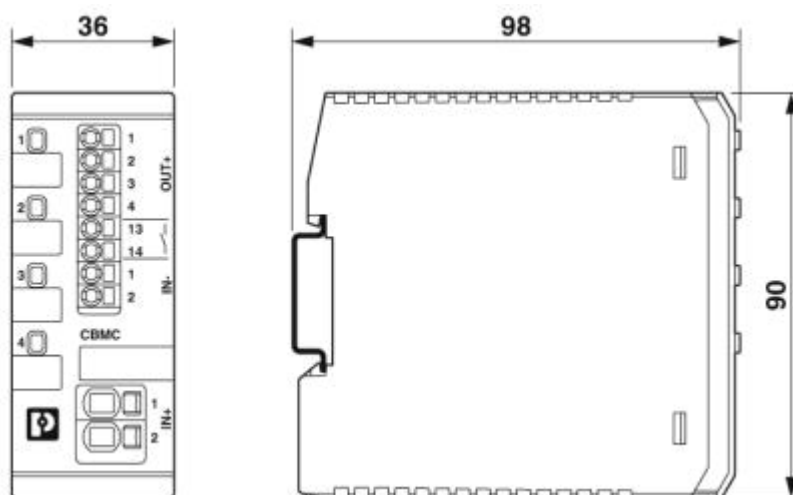


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Diagram



Dimensional drawing




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Approvals

UL Listed 

UL Recognized 

cUL Listed 

EAC 

cULus Listed

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Accessories

Device marking

Device marking - EML (10X7)R - 0816663



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive, lettering field size: 10 x 7 mm, Number of individual labels: 10000

Device marking

Device marking - EML-ESD (20X7)R - 0830567



Equipment marking, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive, lettering field size: 20 x 7 mm, Number of individual labels: 4000

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Power supply

Power supply - QUINT4-PS/1AC/24DC/10 - 2904601



Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 1-phase, output: 24 V DC/10 A

Power supply

Power supply - QUINT4-PS/1AC/24DC/20 - 2904602



Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 1-phase, output: 24 V DC/20 A

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Power supply

Power supply - QUINT4-PS/3AC/24DC/10 - 2904621



Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 3-phase, output: 24 V DC/10 A

Power supply

Power supply - QUINT4-PS/3AC/24DC/20 - 2904622



Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 3-phase, output: 24 V DC/20 A

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Power supply

Power supply - TRIO-PS-2G/1AC/24DC/10 - 2903149



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: single phase, output: 24 V DC/10 A

Power supply

Power supply - TRIO-PS-2G/1AC/24DC/20 - 2903151



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: single-phase, output: 24 V DC/20 A

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Power supply

Power supply - TRIO-PS-2G/3AC/24DC/5 - 2903153



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 3-phase, output: 24 V DC/5 A

Power supply

Power supply - TRIO-PS-2G/3AC/24DC/10 - 2903154



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 3-phase, output: 24 V DC/10 A

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Power supply

Power supply - TRIO-PS-2G/3AC/24DC/20 - 2903155



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 3-phase, output: 24 V DC/20 A

Power supply

Power supply - TRIO-PS-2G/3AC/24DC/40 - 2903156



Primary-switched TRIO power supply for DIN rail mounting, input: 3-phase, output: 24 V DC/40 A, dynamic boost, tool-free fast connection technology for solid and stranded conductors with ferrule

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