

EC-E 10A DC24V - Electronic circuit breaker



0903048

<https://www.phoenixcontact.com/us/products/0903048>

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Electronic circuit breaker, 1 reset input, nominal current: 10 A



Your advantages

- Error-free short-circuit detection even across long cable paths with the electronics characteristic curve
- Active current limitation to improve the capacity of the upstream power supply
- Increased system transparency with integrated status output
- Remote reconnection with the reset function

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 0903048 |
| Packing unit | 6 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL04 |
| Product key | CLA131 |
| GTIN | 4046356466943 |
| Weight per piece (including packing) | 69.28 g |
| Weight per piece (excluding packing) | 69.28 g |
| Customs tariff number | 85362010 |
| Country of origin | DE |

Technical data

Product properties

| | |
|---------------------|----------------------------|
| Product type | Device circuit breakers |
| Product family | EC-E |
| Type | DIN rail module, one-piece |
| Number of positions | 1 |
| No. of channels | 1 |

Insulation characteristics

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

Electrical properties

| | |
|---|---------------------------|
| Fuse type | Automatic device |
| Maximum power dissipation for nominal condition | ≤ 2.22 VA |
| Switching capacity I_{CN} | Active current limitation |
| Fuse | electronic |

General

| | |
|---------------------------------|---|
| Operating voltage | 24 V DC |
| | 18 V DC ... 32 V DC |
| Nominal current I_N | 10 A |
| Rated surge voltage | 0.5 kV |
| Tripping method | E (electronic) |
| Required backup fuse | not required, integrated failsafe element |
| Dielectric strength | max. 32 V DC (Load circuit) |
| Switch off | typ. $1.5 \times I_N$ |
| Active current limitation | active |
| Fuse | electronic |
| Closed-circuit current range I0 | typ. 25 mA ±5 mA (When switched on) |
| MTBF (IEC 61709, SN 29500) | 7430000 h (at 25 °C with 80 % load) |
| | 6590000 h (at 40 °C with 80 % load) |
| Voltage drop | 150 mV (at I_N) |
| Contact switching type | without electrical isolation |

Load circuit

| | |
|----------------------|------------|
| Max. capacitive load | 20000 µF |
| Switch-on delay | typ. 0.5 s |

Reset

| | |
|---------------------|--------------------------|
| Input voltage | max. 32 V DC |
| Current consumption | typ. 2.6 mA (at 24 V DC) |
| Pulse length | min. 10 ms |
| Voltage | < 3 V DC (Low state) |
| | > 8 V DC (High state) |

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Status output

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

Indicator/remote signaling

| | |
|--------------------|-------------------|
| Connection name | Auxiliary contact |
| Switching function | Reset input |

Connection data

| | |
|-----------------------|-----------------------|
| Nominal cross section | 16.00 mm ² |
| Connection method | Screw connection |

Line+ / LOAD+ /0V

| | |
|---|---|
| Connection method | Screw connection |
| Screw thread | M4 |
| Tightening torque | ... 1.2 Nm |
| Stripping length | 10 mm |
| Conductor cross-section rigid | 0.5 mm ² ... 16 mm ² |
| Cross section AWG | 26 ... 6 (converted acc. to IEC) |
| Conductor cross-section flexible | 0.5 mm ² ... 16 mm ² |
| Conductor cross-section, flexible [AWG] | 20 ... 6 (converted acc. to IEC) |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.5 mm ² ... 10 mm ² |
| Flexible conductor cross-section (ferrule with plastic sleeve) | 0.5 mm ² ... 10 mm ² |
| 2 conductors with same cross section, rigid | 0.5 mm ² ... 4 mm ² |
| 2 conductors with the same cross-section AWG rigid | 20 ... 12 (converted acc. to IEC) |
| 2 conductors with same cross section, flexible | 0.5 mm ² ... 4 mm ² |
| 2 conductors with the same cross-section AWG flexible | 20 ... 12 (converted acc. to IEC) |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.5 mm ² ... 2.5 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 6 mm ² |
| Nominal cross section | 16 mm ² |

Auxiliary contact

| | |
|---|--|
| Connection method | Screw connection |
| Screw thread | M3 |
| Tightening torque | ... 0.5 Nm |
| Stripping length | 8 mm |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.25 mm ² ... 2.5 mm ² |
| Flexible conductor cross-section (ferrule with plastic sleeve) | 0.25 mm ² ... 2.5 mm ² |

Line+/LOAD+/0V

| | |
|-------------------|------------------|
| Connection method | Screw connection |
| Screw thread | M4 |
| Tightening torque | 1.2 Nm |
| Stripping length | 10 mm |

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| | |
|---|--|
| Conductor cross-section flexible | 0.5 mm ² ... 16 mm ² |
| Conductor cross-section rigid | 0.5 mm ² ... 16 mm ² |
| Conductor cross-section AWG | 20 ... 6 |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 6 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.5 mm ² ... 10 mm ² |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.5 mm ² ... 10 mm ² |

Auxiliary contact

| | |
|---|--|
| Connection method | Screw connection |
| Screw thread | M3 |
| Tightening torque | 0.5 Nm |
| Stripping length | 8 mm |
| Conductor cross-section AWG | 24 ... 14 |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 2.5 mm ² |

Dimensions

| | |
|------------------|---------|
| Width | 12.5 mm |
| Height | 83 mm |
| Height NS 35/15 | 90.5 mm |
| Height NS 35/7,5 | 83 mm |
| Depth | 80 mm |

Material specifications

| | |
|--|------------------|
| Color | black (RAL 9005) |
| Flammability rating according to UL 94 | V0 |

Environmental and real-life conditions

Ambient conditions

| | |
|---|---------------------------------|
| Degree of protection | IP20 (Housing) |
| Ambient temperature (operation) | 0 °C ... 50 °C (non-condensing) |
| Ambient temperature (storage/transport) | -20 °C ... 70 °C |
| Humidity test | 96 h, 95 % RH, 40 °C |

Standards and regulations

| | |
|--------------------------|----------|
| Standards/specifications | UL 508 |
| Standards/specifications | CSA 22.2 |
| Note | No. 14 |
| Standards/specifications | UL 2367 |
| Standards/specifications | CSA 22.2 |
| Note | No. 142 |
| Standards/specifications | CSA 22.2 |

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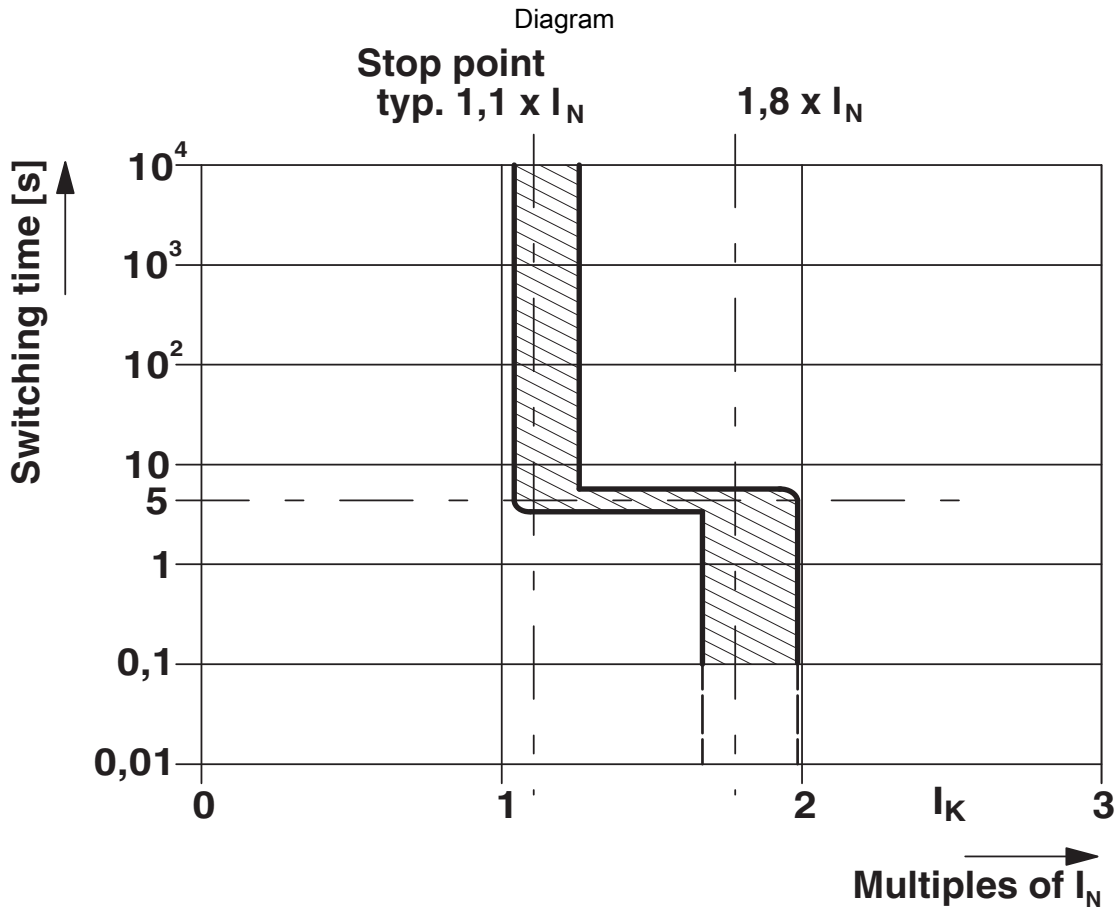
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| | |
|--------------------------|---------|
| Note | No. 213 |
| Standards/specifications | UL 1604 |

Mounting

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

Drawings



Trigger characteristic

Circuit diagram



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Approvals

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UL Recognized

Approval ID: FILE E 317172



DNV GL

Approval ID: TAE00002HC



cULus Listed

Approval ID: E123528



UL Recognized

Approval ID: FILE E 324415



CSA

Approval ID: 2840117

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Classifications

ECLASS

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

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | 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 | 870756fd-19c4-43b5-abfd-4164bee4e5e3 |

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 5.603 kg CO2e |
|---------|---------------|

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