

EC-E1 10A - Electronic circuit breaker



0903030

<https://www.phoenixcontact.com/us/products/0903030>

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Electronic circuit breaker, signal contact: 1 N/O contact, 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 floating remote indication contact (N/O)

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 0903030 |
| Packing unit | 6 pc |
| Minimum order quantity | 6 pc |
| Sales key | CL04 |
| Product key | CLA131 |
| Catalog page | Page 386 (C-4-2019) |
| GTIN | 4046356328050 |
| Weight per piece (including packing) | 69.95 g |
| Weight per piece (excluding packing) | 65.25 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

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

Insulation characteristics

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

Electrical properties

| | |
|-----------------------------|---------------------------|
| Fuse type | Automatic device |
| 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. $1.8 \times I_N$ |
| Active current limitation | active |
| Fuse | electronic |
| Closed-circuit current range I_O | typ. 25 mA \pm 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) |

Load circuit

| | |
|----------------------|---------------|
| Max. capacitive load | 20000 μ F |
|----------------------|---------------|

Auxiliary contact

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

Indicator/remote signaling

| | |
|--------------------|-------------------|
| Connection name | Auxiliary contact |
| Switching function | N/O contact |

Connection data

| | |
|-----------------------|-----------------------|
| Nominal cross section | 16.00 mm ² |
|-----------------------|-----------------------|

Line+ / LOAD+ /0V

| | |
|---|---|
| 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 | 20 ... 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, solid | 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

| | |
|---|--|
| 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 |
| Conductor cross section flexible | 0.5 mm ² ... 16 mm ² |

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| | |
|---|--------------------|
| Conductor cross section rigid | 0.5 mm² ... 16 mm² |
| Conductor cross section AWG | 20 ... 6 |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.5 mm² ... 10 mm² |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.5 mm² ... 10 mm² |

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 mm² ... 2.5 mm² |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm² ... 2.5 mm² |

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

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Mounting

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

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Classifications

ECLASS

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|-------------|----------|
| ECLASS-11.0 | 27140401 |
| ECLASS-12.0 | 27140401 |
| ECLASS-13.0 | 27140401 |

ETIM

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| ETIM 9.0 | EC003538 |
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UNSPSC

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|-------------|----------|
| UNSPSC 21.0 | 39121400 |
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Environmental product compliance

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|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 25; |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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