

Electronic device circuit breaker - CBMC E4 24DC/1-10A IOL - 2910411

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Multi-channel electronic circuit breaker with IO-Link interface 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

- ✓ Circuits can be adjusted without any tools by means of one single pushable LED button
- ✓ System transparency, thanks to comprehensive diagnostics capabilities
- ✓ Worldwide access to the device, thanks to integration into your IO-Link infrastructure
- ✓ Secure locking, thanks to interlock
- ✓ Plan service calls more efficiently since regular service interval calls can be performed conveniently via the interface.
- ✓ Convenient error diagnostics, thanks to precise error categorization and recording
- ✓ Autonomous operation since the device is fully functional even without the IO-Link interface connection



Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4055626448572
Weight per Piece (excluding packing)	125.000 g
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	90 mm
Width	36 mm
Depth	98 mm

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C

Electronic device circuit breaker - CBMC E4 24DC/1-10A IOL - 2910411

Technical data

Ambient conditions

Humidity test	96 h, 95 % RH, 40 °C
Altitude	≤ 3000 m Up to 52 °C (amsl (above mean sea level))
	≤ 4000 m Up to 46 °C (amsl (above mean sea level))
Shock (operation)	30g (IEC 60068-2-27, Test Ea)
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)
Degree of protection	IP20

General

Flammability rating according to UL 94	V-0
Mounting type	DIN rail: 35 mm
Color	light grey RAL 7035
Number of positions	4
Protection class	III
Type	DIN rail module, one-piece

Electrical data

Fuse type	electronic
Rated surge voltage	0.5 kV
Operating voltage	18 V DC ... 30 V DC
Rated voltage	24 V DC
Rated current I _N	max. 40 A DC (IN+)
	max. 40 A DC (per terminal position when bridging additional devices via IN+)
Measuring tolerance I	± 15 %
Feedback resistance	max. 35 V DC
Fail-safe element	15 A DC (per output channel)
Efficiency	> 99 %
Closed circuit current I ₀	typ. 33 mA
Power dissipation	typ. 0.8 W (No-load operation)
	< 9 W (Nominal operation)
Module initialization time	1.6 s
Waiting time after switch off of a channel	5 s (at overload / short circuit)
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)
Tripping method	E (electronic)
Required backup fuse	not required, integrated failsafe element
Dielectric strength	max. 35 V DC (Load circuit)

Electronic device circuit breaker - CBMC E4 24DC/1-10A IOL - 2910411

Technical data

Electrical data

MTBF (IEC 61709, SN 29500)	6896552 h (at 25°C with 21% load)
	2597403 h (at 40°C with 34.25% load)
	443066 h (at 35°C with 100% load)
Shutdown time load circuit	≤ 10 ms (for short circuit > 2.0 x I _N)
	1 s (1.2 ... 2.0 x I _N)
Undervoltage shutdown load circuit	≤ 17.8 V DC (active)
	≥ 18.8 V DC (inactive)
Surge voltage shutdown load circuit	≥ 30.5 V DC (active)
	≤ 29.5 V DC (inactive)
Max. capacitive load load circuit	40000 µF (Depending on the current setting and the short-circuit current available)

Interface

Interface type	IO-Link
Specification	V1.1
Reverse polarity protection	Yes
Transmission speed	230.4 kbps (COM3)
Cycle Time	min. 40 ms
Amount of process data	8 Byte (Input data)
	3 Byte (Output data)
Nominal voltage for I/O supply	24 V DC
Current consumption	max. 30 mA (IO-Link L+)
IO-Link Vendor ID	176 _{dec} , 00 B0 _{hex}
IO-Link Device ID	393504 _{dec} , 06 01 20 _{hex}

Signaling

Channel LED off	off (Channel switched off)
Channel LED green	lit (Channel switched on)
Channel LED yellow	lit (Channel switched on, channel load > 80%)
	flashing (Programming mode active)
Channel LED red	lit (Channel switched off, over- or undervoltage active)
	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)
IO-Link LED off	off (No communication)
IO-Link LED green	flashing (IO-Link connection exists)

Connection data

Connection name	Main circuit IN+
Connection method	Push-in connection

Electronic device circuit breaker - CBMC E4 24DC/1-10A IOL - 2910411

Technical data

Connection data

Stripping length	15 mm
Conductor cross section solid	0.2 mm ² ... 10 mm ²
Conductor cross section AWG	24 ... 8
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 4 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 6 mm ²
Connection name	Main circuit IN-
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
Connection name	Main circuit OUT
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 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

Environmental Product Compliance

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

Approvals

Approvals

Approvals

UL Listed / UL Recognized / cUL Listed / cULus Listed

Electronic device circuit breaker - CBMC E4 24DC/1-10A IOL - 2910411

Approvals

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 317172
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cULus Listed			

Accessories

Additional products

Label - 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

Equipment 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

Electronic device circuit breaker - CBMC E4 24DC/1-10A IOL - 2910411

Accessories

Power supply unit - 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 unit - 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

Power supply unit - 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 unit - 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

Power supply unit - 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

Electronic device circuit breaker - CBMC E4 24DC/1-10A IOL - 2910411

Accessories

Power supply unit - 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

Power supply unit - 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 unit - 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

Power supply unit - 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 unit - 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
