

Electronic circuit breaker - CBMC E4 24DC/1-4A NO - 2906031

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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
- ✓ Optimum protection for cables and sensors as well as NEC Class 2 circuits by means of an additional internal output fuse
- ✓ Reliable protection against unintentional adjustment of current values, thanks to electronic locking
- ✓ Status LEDs in traffic light colors enable instantaneous determination of operating states



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 149349
GTIN	4055626149349
Weight per Piece (excluding packing)	119.700 g
Custom tariff number	85363090
Country of origin	Germany
Sales Key	CLA152

Technical data

Dimensions

Height	90 mm
Width	36 mm
Depth	98 mm (incl. DIN rail 7.5 mm)

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Humidity test	96 h, 95 % RH, 40 °C

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Ambient conditions

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	1
Protection class	III
Degree of pollution	2
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. 16 A DC (IN+)
	max. 40 A DC (per terminal position when bridging additional devices via IN+)
	1 / 2 / 3 / 4 A DC (adjustable per output channel)
Rated current (pre-adjusted)	4 A
Measuring tolerance I	± 15 %
Feedback resistance	max. 35 V DC
Fail-safe element	4 A DC (per output channel)
Efficiency	> 99 %
Closed circuit current I_0	typ. 33 mA
Power dissipation	typ. 0.8 W (No-load operation)
	< 4 W (Nominal operation)
Module initialization time	1.6 s
Waiting time after switch off of a channel	5 s (at overload / short circuit)
Tripping method	E (electronic)
Required backup fuse	Only required if I_{max} of the power supply > the short-circuit switching capacity. Integrated failsafe element.
Short-circuit switching capacity	300 A
Dielectric strength	max. 35 V DC (Load circuit)
MTBF (IEC 61709, SN 29500)	11764705 h (at 25 °C with 21 % load)

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	5319148 h (at 40°C with 34.25% load)
	846023 h (at 60°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 switch-off load circuit	≤ 17.8 V DC (active)
	≥ 18.8 V DC (inactive)
Overvoltage switch-off shutdown load circuit	≥ 30.5 V DC (active)
	≤ 29.5 V DC (inactive)
Max. capacitive load load circuit	30000 μF (Depending on the current setting and the short-circuit current available)

Remote indication contact

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

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)

Connection data

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

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Connection data

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 EMC – Immunity for industrial areas
	EN 61000-6-3 EMC – Emission for residential, business and commercial properties and small operations
	EN 60068-2-6 Environmental influences – Vibrations (sinusoidal)
	EN 60068-2-27 Environmental influences – Shocks
	EN 60068-2-78 Environmental influences – Moisture and heat, constant
	EN 50178 Equipping power installations with electronic equipment

Conformance/approvals

Designation	UL approval
Identification	UL/C-UL Listed UL 508
	UL Recognized UL 2367
	NEC Class 2 according to UL 1310

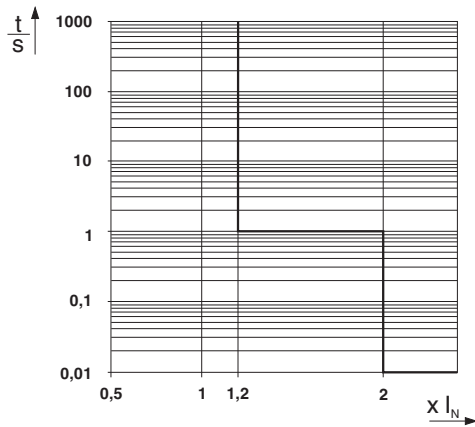
Environmental Product Compliance

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"

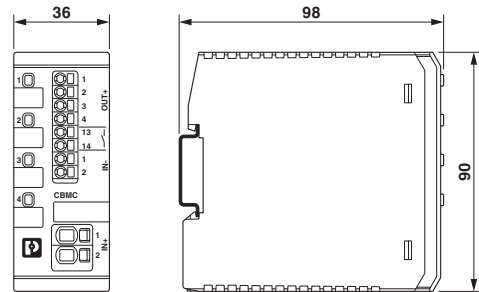
Drawings

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Diagram

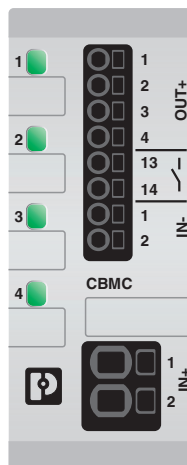


Dimensional drawing



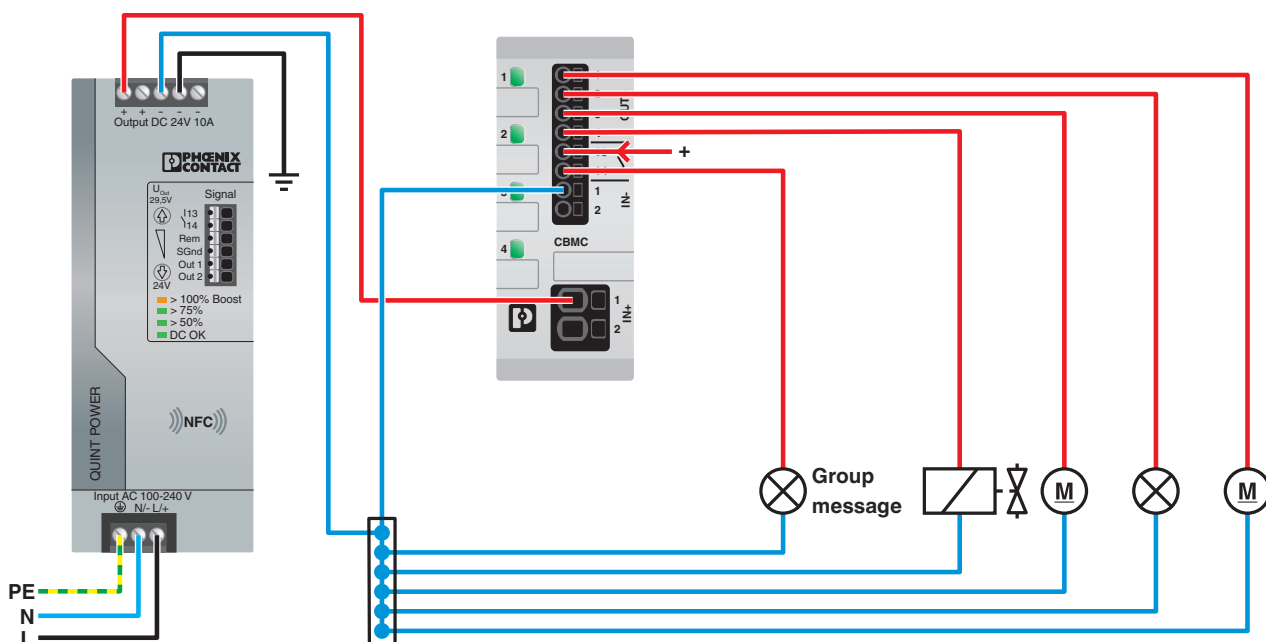
Trigger characteristic in the DC range

Product drawing

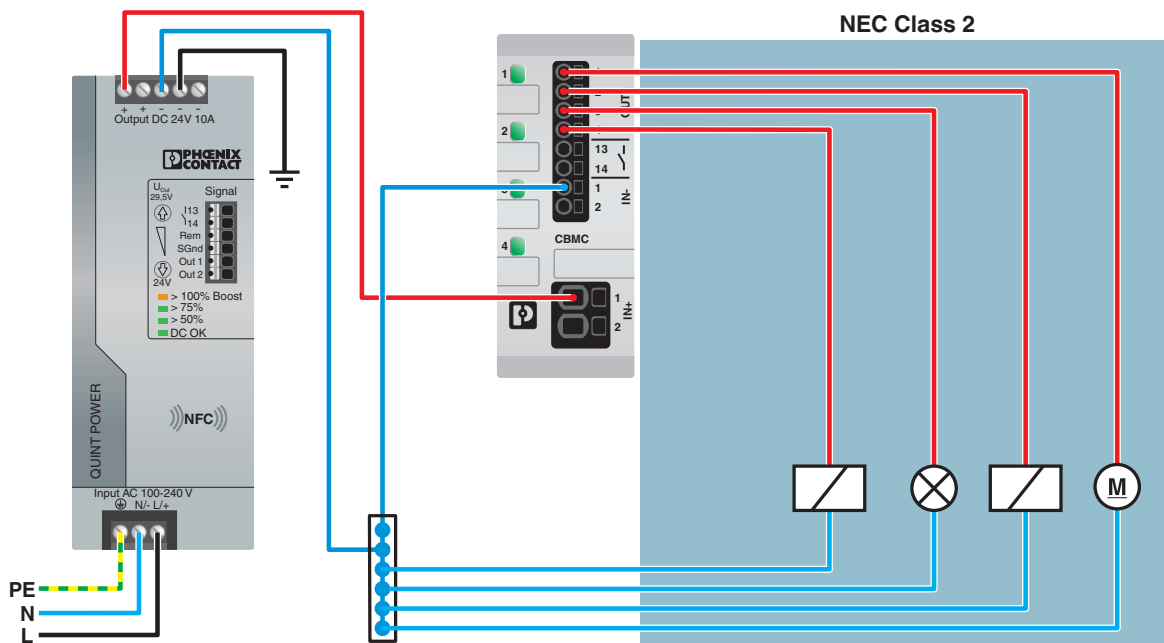


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Application drawing



Application drawing



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Approvals

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UL Recognized / UL Listed / UL Recognized / cUL Listed / EAC / cULus Listed

Ex Approvals

Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	E317172-20150319
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
EAC			RU C- DE.*09.B.00169
cULus Listed			



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