

# Electronic device circuit breaker - CBMC E4 24DC/1-10A NO-C - 2908716

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Multi-channel electronic device circuit breaker that can be preconfigured, 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.

## Why buy this product

- 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
- Pre-configuration available – for device protection that meets the specific requirements of your system
- 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 STK
Minimum order quantity	6 STK

## 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
Humidity test	96 h, 95% RH, 40°C
Altitude	≤ 2000 m (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)

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## Technical data

### Ambient conditions

Degree of protection	IP20
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### 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+)
	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 A DC (Adjustable or fixed per output channel)
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)
Contact type	without electrical isolation
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 60°C with 100% load)

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## Technical data

### Electrical data

Shutdown time load circuit	≤ 10 ms (for short circuit > 2.0 x I <sub>N</sub> )
	1 s (1.2 ... 2.0 x I <sub>N</sub> )
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	45000 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 <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
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 <sup>2</sup> ... 10 mm <sup>2</sup>
Conductor cross section AWG	24 ... 8
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Connection name	Main circuit IN-

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## Technical data

### Connection data

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Connection name	Main circuit OUT
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

### 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
	UL 2367
	UL 508

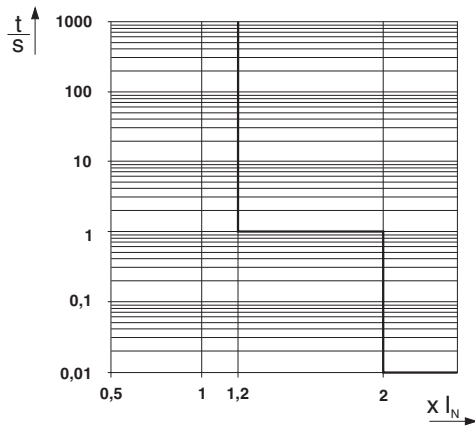
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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### Drawings

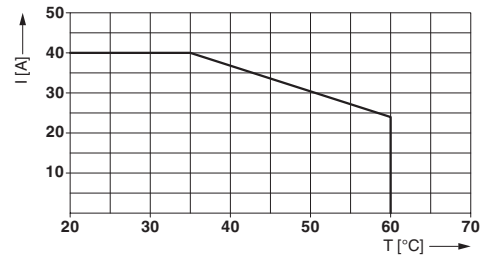
# Electronic device circuit breaker - CBMC E4 24DC/1-10A NO-C - 2908716

Diagram



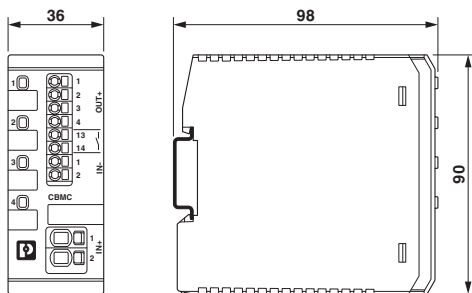
Trigger characteristic in the DC range

Diagram

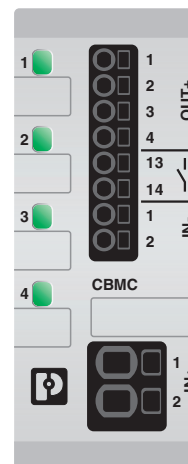


Max. permissible current in relation to the ambient temperature

Dimensional drawing

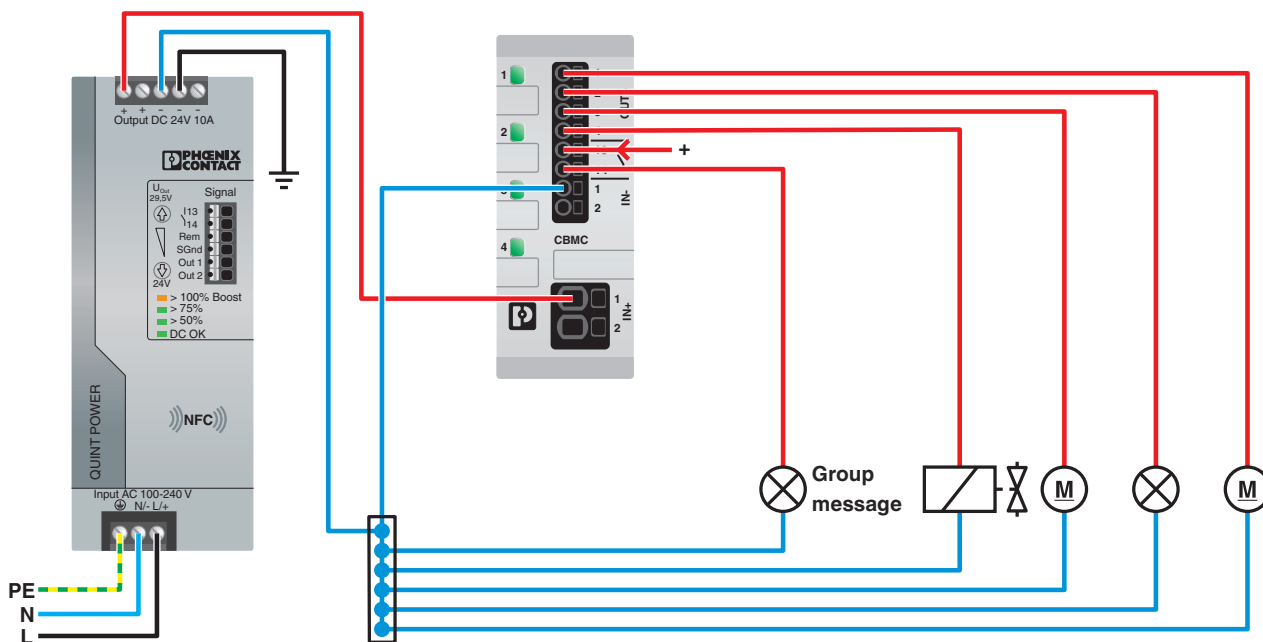


Product drawing



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Application drawing



## Approvals

Approvals

Approvals

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

Ex Approvals

## Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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## Approvals

EAC		RU C- DE.A*30.B01561
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UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> FILE E 317172
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cULus Listed		
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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>