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# Electronic device circuit breaker - CBM E8 24DC/0.5-10A NO-R - 2905744

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Multi-channel, electronic device circuit breaker with active current limitation for protecting eight loads at 24 V DC in the event of overload and short circuit. With nominal current assistant and electronic locking of the set nominal currents. For installation on DIN rails.

## Why buy this product

- For protection against voltage dips caused by overload and short circuit
- Precise nominal current levels of 0.5 to 10 A
- Integrated dynamic current limitation
- Electronic locking mechanism to increase system safety
- Early warning when exceeding 80% of the set nominal current per channel
- Supply up to 80 A possible
- Sophisticated remote signaling concept enables monitoring from any location
- Slim design

## Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 992367
GTIN	4046356992367

## Technical data

### Dimensions

Height	130 mm
Width	41 mm
Depth	121 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C (Startup at -40 C type-tested)
	-25 °C ... 65 °C (for UL 2367)
Ambient temperature (storage/transport)	-40 °C ... 80 °C

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## Technical data

### Ambient conditions

Humidity test	240 h, 95% RH, 40°C
Altitude	6000 m
Shock (operation)	30g
Degree of protection	IP20

### General

Mounting type	DIN rail: 35 mm
Protection class	III
Degree of pollution	2
Design	Rail-mountable 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. 80 A DC (for double supply IN+ with at least 2 x 6 mm <sup>2</sup> )
	max. 40 A DC (Per terminal position)
	max. 70 A DC (for UL 2367)
	0.5 / 1 / 2 / 4 / 6 / 10 A DC (adjustable per output channel)
Measuring tolerance I	typ. 40 % (0.5 ... 1 A)
	typ. 10 % (2 - 10 A)
Rated insulation voltage $U_i$	30 V (Load circuit)
Feedback resistance	max. 35 V DC
Switch-on delay	0.1 s (per output channel)
Required backup fuse	not required, integrated failsafe element
Internal output fuse	15 A DC (per output channel)
Active current limitation	Typ. 2.0 x $I_N$ (0.5 - 1 A)
	Typ. 1.5 x $I_N$ (2 - 10 A)
Status display	LED (green, yellow, red)
Efficiency	> 99 %
Closed circuit current $I_0$	typ. 50 mA
Power dissipation	1.2 W (No-load operation)
	17.2 W (Nominal operation)
Module initialization time	3.3 s
Waiting time after switch off of a channel	10 s (of overload / short circuit)
Temperature derating	40 A DC (at 70°C (65°C for UL 2367))
	50 A DC (at 60 °C)
	60 A DC (at 50 °C)
	70 A DC (at 40 °C)

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## Technical data

### Electrical data

	80 A DC (at 40 °C)
	70 A DC (at 40°C for UL 2367)
Tripping method	E (electronic)
Dielectric strength	max. 30 V DC (Load circuit)
Contact type	without electrical isolation
MTBF (IEC 61709, SN 29500)	1304293 h (at 25 °C)
	858501 h (at 40 °C)
	440048 h (at 60 °C)
Shutdown time load circuit	0.02 s (> 1.3 x I <sub>N</sub> )
	30 s (1,1 ... 1,3 x I <sub>N</sub> )
Undervoltage shutdown load circuit	≤ 17.8 V DC (active)
	≥ 19 V DC (inactive)
Surge voltage shutdown load circuit	≥ 30.5 V DC (active)
	≤ 29.5 V DC (inactive)
Max. capacitive load load circuit	75000 µF (per channel at 24 V DC)
Output voltage status output	24 V DC
Output current status output	max. 20 mA (when I > 80% at at least one channel)
Input voltage reset input	7 V DC ... 30 V DC (Falling edge)
Vibration resistance, frequency	15 Hz ... 150 Hz
Vibration resistance, acceleration	39.2 m/s <sup>2</sup>
Vibration resistance, test duration	90 min.

### 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	1.5 mm <sup>2</sup> ... 0.25 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	1 mA DC ... 100 mA DC

### Connection data

Connection name	Main circuit IN+
Connection method	Push-in connection
Stripping length	18 mm
Conductor cross section solid	0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Conductor cross section AWG	20 ... 4
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.75 mm <sup>2</sup> ... 10 mm <sup>2</sup>



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## Technical data

### Connection data

Conductor cross section flexible, with ferrule without plastic sleeve	0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Connection name	Main circuit IN-
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 60068-2-11
	EN 60068-2-78

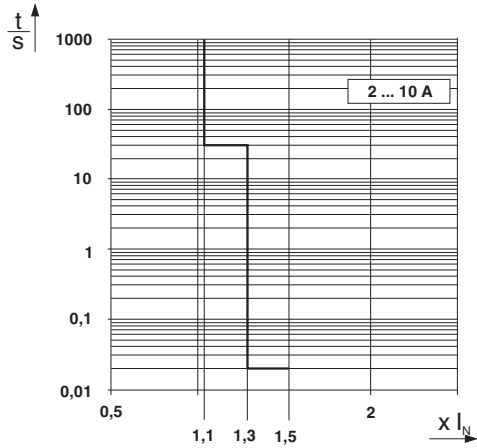
### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

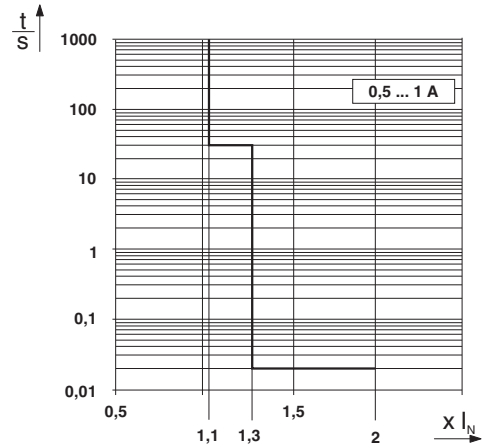
# Electronic device circuit breaker - CBM E8 24DC/0.5-10A NO-R - 2905744

Diagram



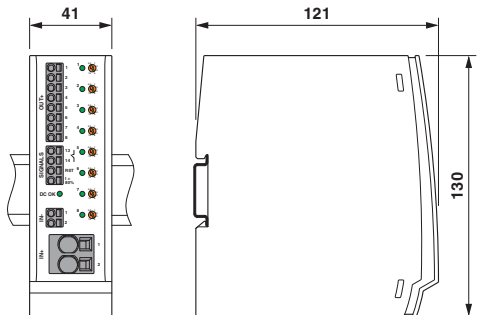
Trigger characteristic in the DC range

Diagram

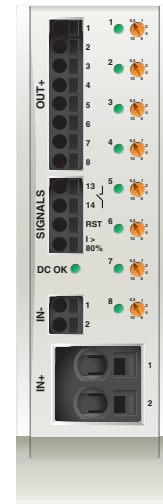


Trigger characteristic in the DC range

Dimensional drawing

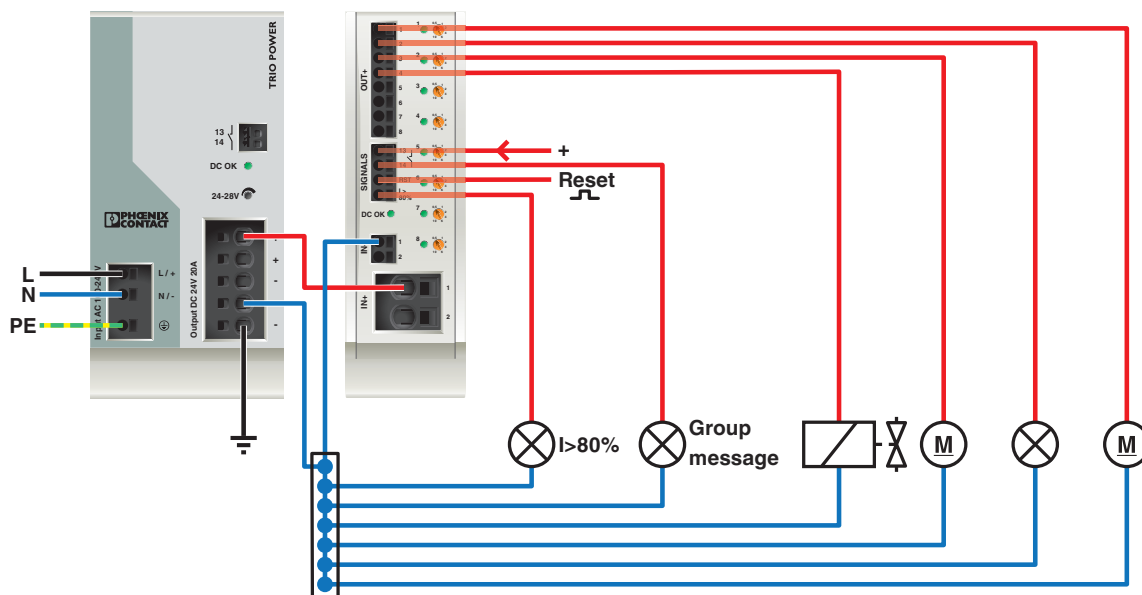


Product drawing



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Application drawing



## Approvals

Approvals

Approvals

UL Listed / cUL Listed / UL Recognized / EAC / DNV GL / cULus Listed

Ex Approvals

UL Recognized / UL Listed / cUL Listed / cULus Listed




## 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

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
EAC			RU C-DE.A*30.B01561
DNV GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAA00000U2
cULus Listed			

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