

# Electronic circuit breaker - CAPAROC E1 12-24DC/8A



1157279

<https://www.phoenixcontact.com/il/products/1157279>

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1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. With fixed nominal current. For DIN rail installation via the CAPAROC current rails.

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## Your advantages

- The benchmark that you can tailor with channel-precise design with integrated potential distribution
- Easy operation for everyone through tool-free assembly, uninterrupted installation, and transparent operating state
- Exceptionally easy design-in with the narrowest of space requirements and four protected outputs

# Electronic circuit breaker - CAPAROC E1 12-24DC/8A



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## Commercial Data

Item number	1157279
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Product Key	CLA232
GTIN	4063151160661
Weight per Piece (including packing)	93.7 g
Weight per Piece (excluding packing)	93.7 g
Customs tariff number	85363010
Country of origin	DE

## Technical Data

### Notes

#### General

Note	LABS release – in accordance with test specification VW PV 3. 10.7:2005-0
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### Product properties

Product type	Device circuit breakers
Number of positions	1
No. of channels	1

#### Insulation characteristics

Protection class	III
Pollution degree	2

### Electrical properties

No. of channels	1
Operating voltage	10 V DC ... 30 V DC
Rated voltage	12 V DC
	24 V DC
Rated current $I_N$	8 A DC
Rated current (pre-adjusted)	8 A
Rated surge voltage	0.5 kV
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	35 V DC (Load circuit)
Fuse	electronic
Efficiency	> 99 %
Closed circuit current $I_0$	typ. 8.5 mA (no load at 24 V)
Power dissipation	typ. 0.2 W (no load at 24 V)
	< 1.1 W (in nominal operation at 24 V and 8 A)
Measuring tolerance I	± 15 % (typ.)
Temperature derating	8 A (Total current at 55 °C)
	7 A (Total current at 65 °C)
MTBF (IEC 61709, SN 29500)	20013180 h (at 25 °C with 21 % load)
	8710104 h (at 40 °C with 34.25% load)
	1264771 h (at 40 °C with 100% load)
Voltage drop	0.11 V (at 8 A)
Fail-safe element	15 A DC (per output channel)

#### Load circuit

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Shutdown time	4 s (with overload 1.1...1.5 x I <sub>N</sub> )
	1 s (with overload 1.5...2.0 x I <sub>N</sub> )
	0.1 s (with overload 2.0...3.0 x I <sub>N</sub> )
	typ. 10 ms (For short circuit > 3.0 x I <sub>N</sub> )
Undervoltage switch-off	≤ 8.5 V DC (active)
	≥ 9.2 V DC (inactive)
Overvoltage switch-off	≥ 32.5 V DC (active)
	≤ 30.5 V DC (inactive)
Max. capacitive load	≤ 20000 µF (Depending on the current setting and the short-circuit current available)

## Connection data

### Fuse-protected output

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section solid	0.2 mm <sup>2</sup> ... 4 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> ... 4 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>

## LED signaling

Channel LED off	off (Channel switched off)
Channel LED yellow	lit (Channel switched on, channel load > 80% )
	flashing (Programming mode active)
	two flashes (Check the installation, no communication to power module)
Channel LED green	lit (Channel switched on)
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)

## Dimensions

Dimensional drawing	
Width	6.2 mm
Height	132.4 mm
Depth	111.3 mm (incl. DIN rail 7.5 mm)

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## Material specifications

Color	light grey RAL 7035
Material	PA 6 (Housing)
	PA 6 (Pusher)
	PA 6 (Release lever)
	PC (Fiber optics)
Flammability rating according to UL 94	V-0

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-30 °C ... 65 °C (The temperature range of the power module must be taken into consideration)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Altitude	≤ 4000 m (amsl (above mean sea level))
Humidity test	96 h, 95 % RH, 40 °C
Shock (operation)	30g (11 ms period, half-sine shock pulse, according to IEC 60068-2-27)
	25g (6 ms duration, half-sine shock pulse in accordance with IEC 60068-2-27, continuous shock)
	15g (6 ms duration, half-sine shock pulse in accordance with IEC 60068-2-27, continuous shock. If more than six CAPAROC E1 modules are used in the system.)
Vibration (operation)	5g (10 ... 150 Hz / 10 cycles / axis / X, Y, Z)

## Approval data

### UL approval

Identification	UL/C-UL Listed UL 508
	UL Recognized UL 2367

## Standards and regulations

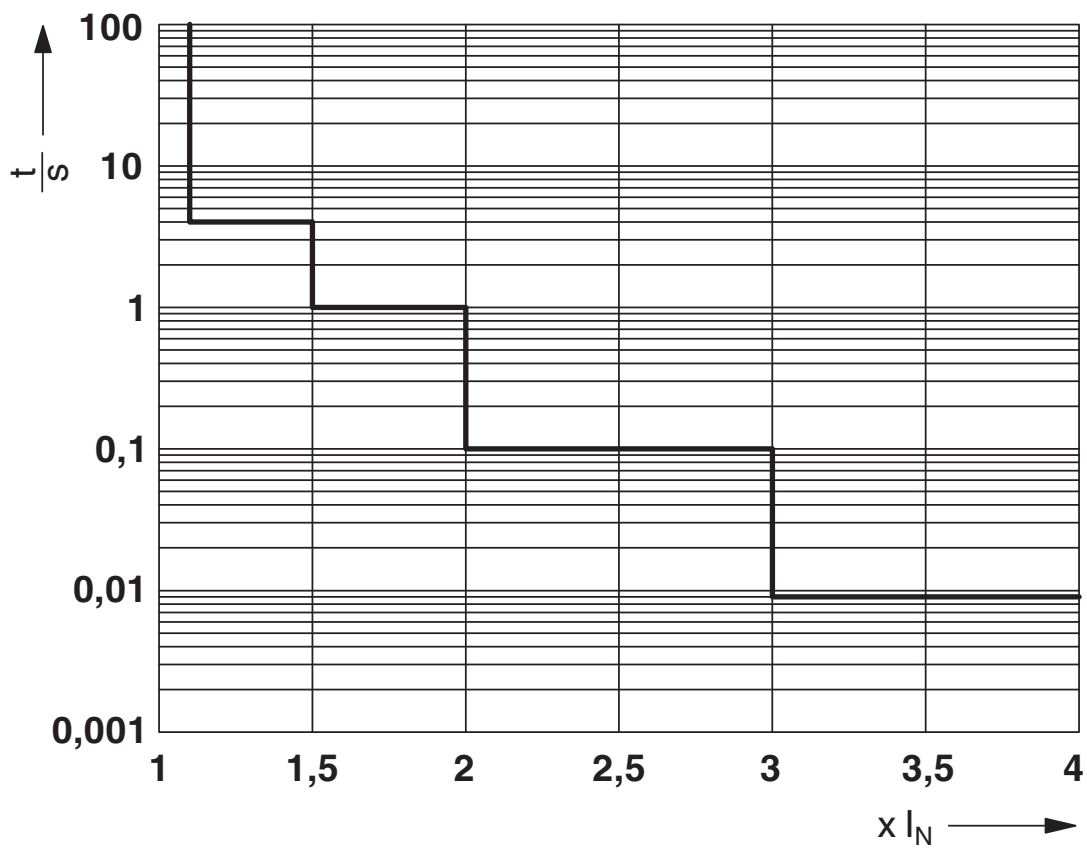
Standards/specifications	EN 61000-6-2
Standards/specifications	EN 61000-6-3
Standards/specifications	EN 60068-2-78
Standards/specifications	EN 50178
Standards/specifications	EN 60068-2-6
Standards/specifications	EN 60068-2-27

## Mounting

Mounting type	pluggable onto CAPAROC CR... current rail
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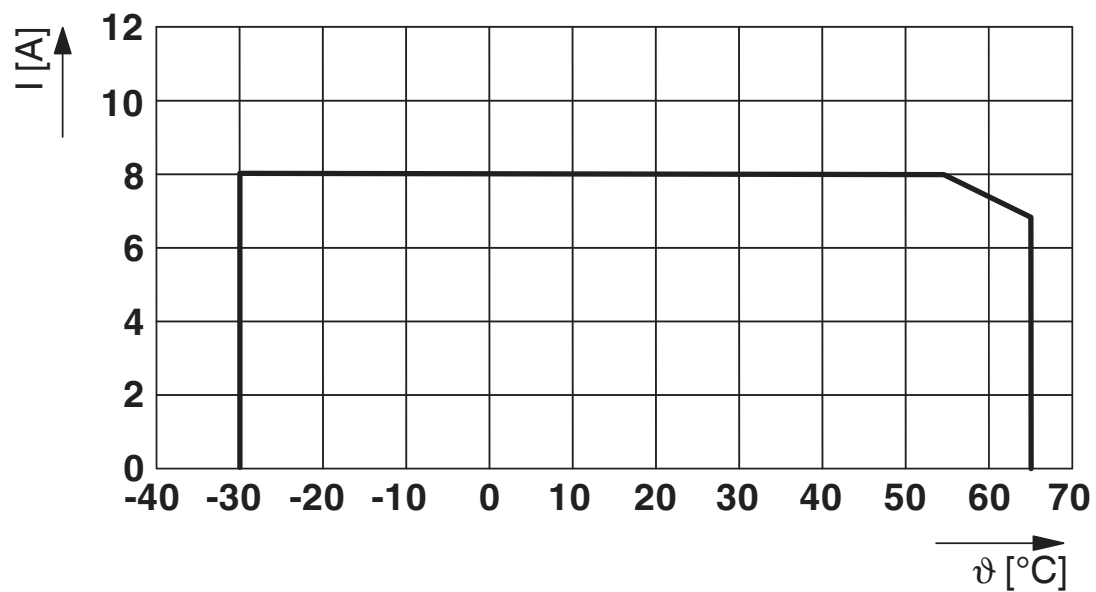
## Drawings

Diagram



Trigger characteristic

Diagram



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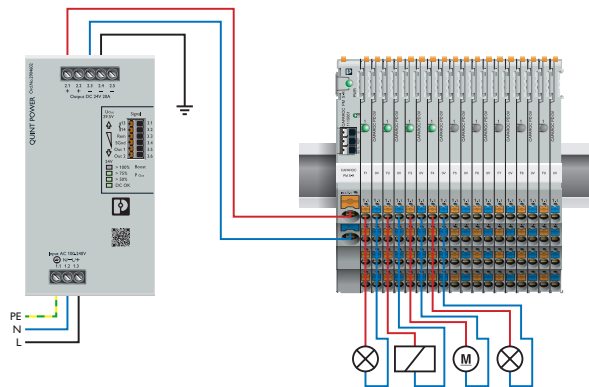
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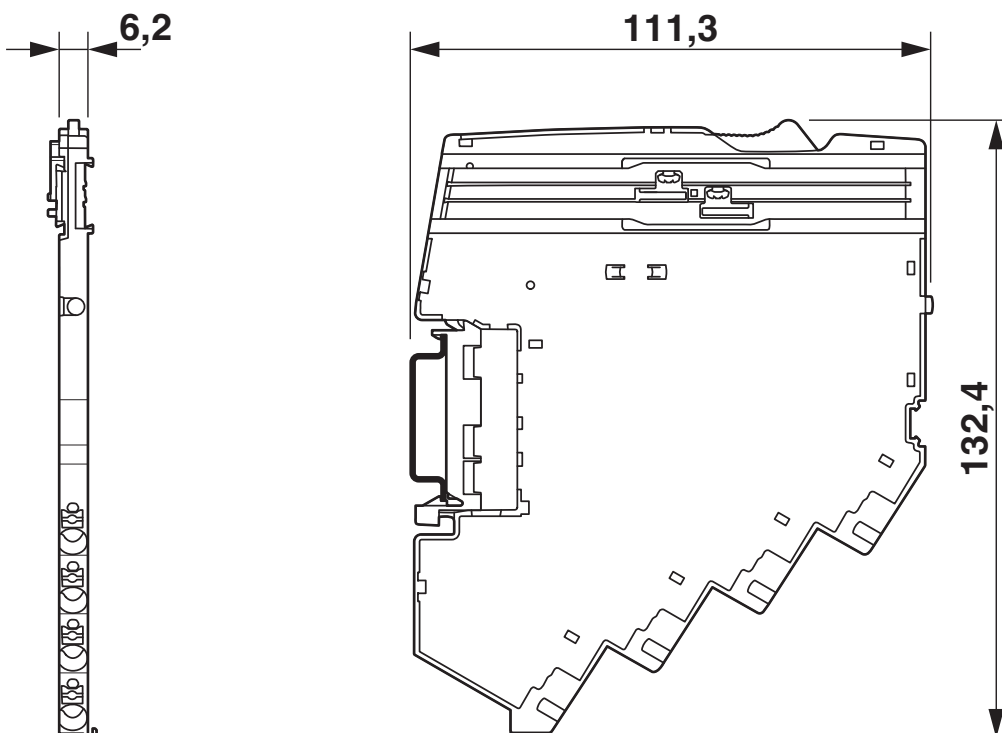
Product drawing



Application drawing



Dimensional drawing



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## Approvals



**UL Recognized**

Approval ID: FILE E 317172



**UL Listed**

Approval ID: FILE E 123528



**cUL Listed**

Approval ID: FILE E 123528

**cULus Listed**



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## Classifications

### ECLASS

ECLASS-9.0	27141116
ECLASS-10.0.1	27140401
ECLASS-11.0	27140401

### ETIM

ETIM 8.0	EC003538
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental Product Compliance

REACH SVHC

Lead 7439-92-1

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## Mandatory Accessories

### Busbar

Busbar - CAPAROC CR 20 - 1110989

<https://www.phoenixcontact.com/il/products/1110989>

Busbar for CAPAROC system with 20 slots. For installation on a DIN rail.



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### Busbar

Busbar - CAPAROC CR 8 - 1115672

<https://www.phoenixcontact.com/il/products/1115672>

Busbar for the CAPAROC system with 8 slots. For installation on a DIN rail.



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## Power module

Power module - CAPAROC PM S-R - 1115661

<https://www.phoenixcontact.com/il/products/1115661>



Power module with status output and reset input for supplying the CAPAROC circuit breaker system with 12 or 24 V DC. For DIN rail installation via the CAPAROC current rails.

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## Power module

Power module - CAPAROC PM PN - 1110986

<https://www.phoenixcontact.com/il/products/1110986>



Power module with PROFINET interface for supplying the CAPAROC circuit breaker system with 12 or 24 V DC. Additional system interface for communication with the power supply. For DIN rail installation via the CAPAROC current rails.

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## Accessories

# Electronic circuit breaker - CAPAROC E1 12-24DC/8A



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## Metal part

Metal part - CAPAROC CR CON - 1270955

<https://www.phoenixcontact.com/il/products/1270955>



Metal extension rails from connecting CAPAROC initial busbars.

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## Busbar

Busbar - CAPAROC CR EXT20 - 1115674

<https://www.phoenixcontact.com/il/products/1115674>



Extension busbar with 20 slots for the CAPAROC system. For installation on a DIN rail.

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## Busbar

Busbar - CAPAROC CR EXT8 - 1110990

<https://www.phoenixcontact.com/il/products/1110990>



Extension busbar with 8 slots for CAPAROC system. For installation on a DIN rail.

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## Busbar

Busbar - CAPAROC CR EXT4 - 1110991

<https://www.phoenixcontact.com/il/products/1110991>



Extension busbar with 4 slots for the CAPAROC system. For installation on a DIN rail.

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<https://www.phoenixcontact.com/il/products/1157279>

## Marker for terminal blocks

Marker for terminal blocks - UC-TMF 6 - 0818140

<https://www.phoenixcontact.com/il/products/0818140>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap in, for terminal block width: 6.2 mm, lettering field size: 5.6 x 5.1 mm, Number of individual labels: 80

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## Marker for terminal blocks

Marker for terminal blocks - UC-TM 6 - 0818085

<https://www.phoenixcontact.com/il/products/0818085>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap in, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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## Marker for terminal blocks

Marker for terminal blocks - UCT-TM 6 - 0828736

<https://www.phoenixcontact.com/il/products/0828736>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap in, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 60

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## Marker for terminal blocks

Marker for terminal blocks - UCT-TMF 6 - 0828746

<https://www.phoenixcontact.com/il/products/0828746>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap in, for terminal block width: 6.2 mm, lettering field size: 5.4 x 4.7 mm, Number of individual labels: 60



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## Potential distributors

Potential distributors - CAPAROC PD 0V - 1110987

<https://www.phoenixcontact.com/il/products/1110987>



Potential distributor with Push-in connections for directly connecting the 0 V return conductor in the CAPAROC system. For DIN rail installation via the CAPAROC current rails.

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PHOENIX CONTACT Israel Ltd.

P.O.B. 1799 Industrial Park Hasharon

Quadima 60920

+972-9-8915700

[info@phoenixcontact.co.il](mailto:info@phoenixcontact.co.il)