

# CB E1 24DC/2A S-R P - Electronic circuit breaker



2800909

<https://www.phoenixcontact.com/us/products/2800909>

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Electronic circuit breaker, 1-pos., active current limitation, status output and reset input, plug for base element.

## Your advantages

- Individually adjustable with protective plugs
- Protective plug with fixed nominal current value as protection against unintentional changes
- Active current limitation to improve the capacity of the upstream power supply
- Remote reconnection with the reset function
- Increased system transparency with integrated remote message function

## Commercial data

Item number	2800909
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL04
Product key	CLA134
GTIN	4046356690867
Weight per piece (including packing)	34.67 g
Weight per piece (excluding packing)	34.6 g
Customs tariff number	85362010
Country of origin	DE

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## Technical data

### Notes

General	When mounted in rows without convection cooling, the nominal device current should only be led to a maximum of 80% due to the thermal effect during continuous operation (100% operating factor). Special precautionary measures must be taken in systems or machines, to prevent components from restarting (e.g., use of a safety PLC). Parallel connection of multiple circuit breakers is not permitted.
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### Product properties

Product type	Device circuit breakers
Product family	CB E
Type	Male
Number of positions	1
No. of channels	1

### Insulation characteristics

Degree of pollution	2
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### Electrical properties

#### General

Operating voltage	24 V DC
	18 V DC ... 30 V DC
Nominal current $I_N$	2 A
Rated surge voltage	0.5 kV
Tripping method	E (electronic)
Required backup fuse	not required, integrated failsafe element
Dielectric strength	max. 30 V DC (Load circuit)
Active current limitation	typ. $1.25 \times I_N$
Fuse	electronic
Closed circuit current $I_0$	typ. 8 mA (When switched on)
	typ. 11 mA (With status output)
Power dissipation	0.46 W (Nominal operation)
Temperature derating	2 A (at 50 °C)
MTBF (IEC 61709, SN 29500)	8320000 h (at 25 °C with 80 % load)
	7410000 h (at 40 °C with 80 % load)
Voltage drop	100 mV (at $I_N$ )
Fail-safe element	4 A DC
Contact switching type	without electrical isolation

#### Load circuit

Shutdown time	400 ms (see time/current characteristic curve)
Undervoltage switch-off	< 14 V (typ. OFF)

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	> 17 V (typ. ON)
Max. capacitive load	20000 µF
Switch-on delay	typ. 2 ms

## Auxiliary contact

Contact connection type	Positive-switching signal output
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## Reset

Input voltage range	7 V DC ... 30 V DC (Reset with falling edge)
Current consumption	typ. 2.6 mA (at 24 V DC)
Pulse length	min. 20 ms
Voltage	< 3 V DC (Low state) > 8 V DC (High state)

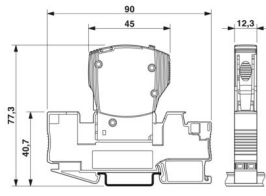
## Status output

Output voltage	24 V DC
Output current	max. 0.2 A (Short-circuit-proof)

## Connection data

Connection method	pluggable
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## Dimensions

Dimensional drawing	
Width	12.3 mm
Height	45 mm
Depth	52 mm
Complete module width	12.3 mm
Complete module height	90 mm
Complete module depth	77.3 mm

## Material specifications

Color	gray (RAL 7042) black (RAL 9005)
Flammability rating according to UL 94	V-0

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP30 (Actuation area)
Ambient temperature (operation)	-25 °C ... 50 °C (non-condensing)
Ambient temperature (storage/transport)	-40 °C ... 70 °C

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Humidity test	96 h, 95 % RH, 40 °C
Vibration (operation)	3g (according to IEC 60068-2-6, Test Fc)

## Approvals

### UL approval

Identification	UL Listed UL 508
	UL Recognized UL 2367

### Shipbuilding approval

Identification	DNV GL
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## Standards and regulations

Standard designation	EMV
Standards/specifications	EN 61000-6-3
Note	Interference emission
Standard designation	EMV
Standards/specifications	EN 61000-6-2
Note	Noise immunity

## Mounting

Mounting type	on base element
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## Drawings



The figure shows the complete module consisting of a base element and connector

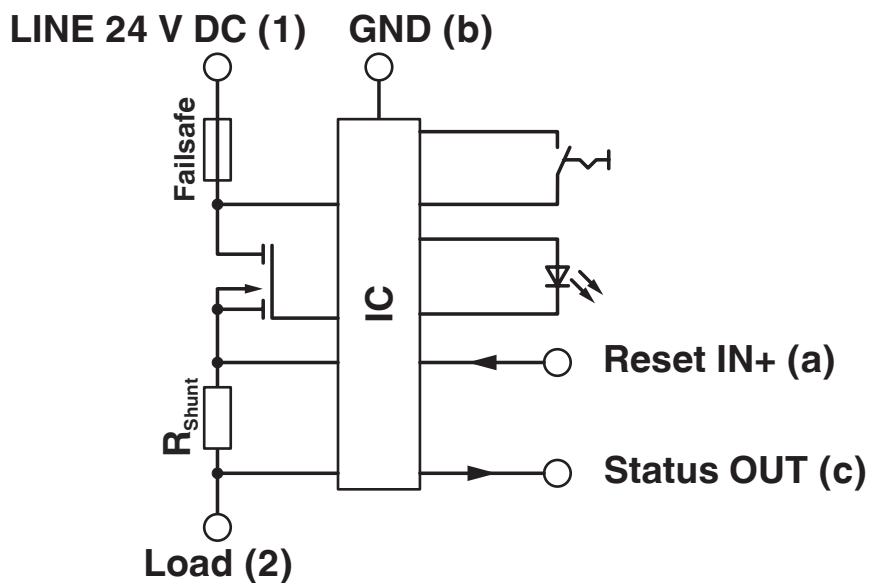


Diagram



Trigger characteristic

Circuit diagram



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## Approvals

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**UL Recognized**

Approval ID: FILE E 317172



**DNV GL**

Approval ID: TAE00003KA



**cULus Listed**

Approval ID: E123528

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## Classifications

### ECLASS

ECLASS-13.0	27140401
ECLASS-15.0	27140401

### ETIM

ETIM 10.0	EC003538
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	5f91123c-2dbb-4aba-9e3b-3f6a179d0d4b

### EF3.1 Climate Change

CO2e kg	2.755 kg CO2e
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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)