

# CB TM1 0.5A F1 P - Thermal-magnetic device circuit breaker



2800857

<https://www.phoenixcontact.com/us/products/2800857>

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Thermal-magnetic device circuit breaker, 1-pos., tripping characteristic F1 (fast-blow), 1 changeover contact, plug for base element.

## Your advantages

- Individually adjustable with protective plugs
- Fast tripping in the event of an error with the aid of the F1 characteristic curve
- Protective plug with fixed nominal current value as protection against unintentional changes
- Increased safety with electrical isolation in the event of errors

## Commercial data

Item number	2800857
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL04
Product key	CLA124
GTIN	4046356690263
Weight per piece (including packing)	44.9 g
Weight per piece (excluding packing)	42 g
Customs tariff number	85362010
Country of origin	ID

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## Technical data

### Product properties

Product type	Thermomagnetic device circuit breakers
Product family	CB TM
Type	Male
Number of positions	1
No. of channels	1

### Insulation characteristics

Degree of pollution	2
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### Electrical properties

Fuse type	Automatic device
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### General

Rated voltage	50 V DC (IEC 60934)
	50 V DC (UL 1077)
	50 V DC (UL 508 - with plug-in base)
Rated insulation voltage $U_i$	277 V AC (UL 1077)
	250 V AC (IEC 60934)
Rated current $I_N$	0.5 A (IEC 60934)
	inductive load according to UL 1077
	0.5 A DC (low-induction load according to UL 1077)
	0.5 A DC (inductive load according to UL 508 - with plug-in base)
Rated surge voltage	0.5 A DC (low-induction load according to UL 508 - with plug-in base)
	2.5 kV (Increased insulation in actuation area)
Insulation resistance $R_{iso}$	> 100 M $\Omega$ (500 V DC)
Auxiliary circuit	277 V AC / 0.5 A (Low-induction)
	277 V AC / 1 A (Low-induction, maximum of 2000 cycles)
	50 V DC / 1 A (Low-induction)
Type of actuation	S type
Tripping method	TM (thermal-magnetic)
Tripping level	Trip-free mechanism (positive)
Device resistance	4.9 $\Omega$
Switch-on delay	typ. 2 ms
Required backup fuse	15 A ( $I > I_{cn}$ )
Rated short-circuit switching capacity $I_{cn}$	600 A (50 V DC)
Short-circuit switching capacity	1000 A AC (277 V AC)
	1000 A DC (50 V DC)
Dielectric strength	3000 V AC (Actuation area)
	1500 V AC (Main to auxiliary circuit)
	1500 V AC (Open main circuit)

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	1000 V AC (Open auxiliary circuit)
Switching cycles, max.	6000 (at $1 \times I_n$ )
Fuse	F1 (fast blow)
Power dissipation	1.25 W (in nominal operation per channel)
Voltage drop	2.5 V (at $1 \times I_n$ )
Contact switching type	1 changeover contact

## Auxiliary contact

Minimum operating voltage $U_{min}$ DC	10 V
Maximum operating voltage $U_{max}$ DC	240 V
Maximum operating voltage $U_{max}$ AC	240 V
Minimum operating current $I_{min}$	10 mA
Max. operating current $I_{max}$	1 A

## Connection data

Connection method	pluggable
Connection method	pluggable

## 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
Insulating material group	II

## Mechanical properties

### Mechanical data

Open side panel	No
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## Environmental and real-life conditions

### Ambient conditions

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Degree of protection	IP30 (Actuation area)
Ambient temperature (operation)	-30 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Humidity test	240 h, 95 % RH, 40 °C
Shock (operation)	15g (According to IEC 60068-2-27, Test Ea)
Vibration (operation)	5g (in accordance with IEC 60068-2-6, Test Fc)

## Approvals

### UL approval

Identification	UL Listed UL 508
	UL/C-UL Recognized UL 1077

### CSA

Identification	CSA CAN/CSA-C22.2 No. 235-04
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### Shipbuilding approval

Identification	DNV GL
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## Standards and regulations

Standards/specifications	EN 60934
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## Mounting

Mounting type	on base element
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## Drawings



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



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Application drawing



Diagram



Trigger characteristic in the DC range

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Circuit diagram



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## Approvals

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**cUL Recognized**  
Approval ID: FILE E 140459



**UL Recognized**  
Approval ID: FILE E 140459



**DNV GL**  
Approval ID: TAE00003C7



**VDE Zeichengenehmigung**  
Approval ID: 40034683



**UL Listed**  
Approval ID: FILE E 172140



**CCC**  
Approval ID: 2025010307749779



**CSA**  
Approval ID: 2786957



**cUL Listed**  
Approval ID: FILE E 172140



**KC**  
Approval ID: SW05012-15003

**UAE-RoHS**

Approval ID: 22-09-50937

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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, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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### EF3.1 Climate Change

CO2e kg	6.15 kg CO2e
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