

# CB TM1 16A SFB P - Thermal-magnetic device circuit breaker



2800845

<https://www.phoenixcontact.com/us/products/2800845>

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Thermal-magnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 changeover contact, plug for base element.

## Your advantages

- Individually adjustable with protective plugs
- Fuse protection for above-average conductor lengths with the aid of the SFB 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                          | 2800845       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | CL04          |
| Product key                          | CLA124        |
| GTIN                                 | 4046356689960 |
| Weight per piece (including packing) | 43.48 g       |
| Weight per piece (excluding packing) | 30.47 g       |
| Customs tariff number                | 85362010      |
| Country of origin                    | ID            |

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## Technical data

### Notes

|         |   |
|---------|---|
| General | When mounted in rows, the nominal device current can be limited to just 80% or must be overdimensioned accordingly. |
|---------|---|

### 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 |
|---------------------|---|

### Electrical properties

|           |                  |
|-----------|------------------|
| Fuse type | Automatic device |
|-----------|------------------|

#### 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 $I_N$                             | 16 A (IEC 60934)  |
|   | 16 A (low-induction load according to UL 1077)                    |
|   | 16 A (low-induction load according to UL 508 - with plug-in base) |
| Rated surge voltage                             | 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                               | 8 m $\Omega$  |
| Required backup fuse                            | 64 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)                                     |
|   | 1000 V AC (Open auxiliary circuit)                                |

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|                        |   |
|------------------------|---|
| Switching cycles, max. | 6000 (at 1 x I <sub>n</sub> )             |
| Fuse                   | SFB                                       |
| Power dissipation      | 5.12 W (in nominal operation per channel) |
| Voltage drop           | 0.13 V (at 1 x I <sub>n</sub> )           |
| Contact switching type | 1 changeover contact                      |

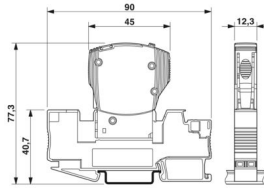
## Auxiliary contact

|   |       |
|---|-------|
| Minimum operating voltage U <sub>min</sub> DC | 10 V  |
| Maximum operating voltage U <sub>max</sub> DC | 240 V |
| Maximum operating voltage U <sub>max</sub> AC | 240 V |
| Minimum operating current I <sub>min</sub>    | 10 mA |
| Max. operating current I <sub>max</sub>       | 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 |
|-----------------|----|

## Environmental and real-life conditions

### Ambient conditions

|                      |                       |
|----------------------|-----------------------|
| Degree of protection | IP30 (Actuation area) |
|----------------------|-----------------------|

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|   |                               |
|---|-------------------------------|
| 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)                       | 30g (IEC 60068-2-27, Test Ea) |
| Vibration (operation)                   | 8g (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 |
|----------------|------------------------------|

### Shipbuilding approval

|                |        |
|----------------|--------|
| Identification | DNV GL |
|----------------|--------|

## Standards and regulations

|                          |          |
|--------------------------|----------|
| Standards/specifications | EN 60934 |
|--------------------------|----------|

## 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: SW05012-15002

**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 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 6.141 kg CO2e |
|---------|---------------|

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