

CB TM1 12A F1 P - Thermomagnetic device circuit breaker



2800866

<https://www.phoenixcontact.com/pc/products/2800866>

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Thermomagnetic 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                          | 2800866             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Product key                          | CLA124              |
| Catalog page                         | Page 393 (C-4-2019) |
| GTIN                                 | 4046356690256       |
| Weight per piece (including packing) | 44.5 g              |
| Weight per piece (excluding packing) | 42 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

|                     |                                        |
|---------------------|----------------------------------------|
| Type                | Male                                   |
| Product type        | Thermomagnetic device circuit breakers |
| Product family      | CB TM                                  |
| 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 $I_N$                             | 12 A (IEC 60934)                                                     |
|                                                 | inductive load according to UL 1077                                  |
|                                                 | 12 A DC (low-induction load according to UL 1077)                    |
|                                                 | 12 A DC (low-induction load according to UL 508 - with plug-in base) |
|                                                 | 12 A DC                                                              |
| 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 (thermomagnetic)                                                  |
| Tripping level                                  | Trip-free mechanism (positive)                                       |
| Device resistance                               | 11 m $\Omega$                                                        |
| Required backup fuse                            | 48 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)                                                  |
|                                                 | 3000 V AC (Actuation area)                                           |

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|                        |                                           |
|------------------------|-------------------------------------------|
| Dielectric strength    | 1500 V AC (Main to auxiliary circuit)     |
|                        | 1500 V AC (Open main circuit)             |
|                        | 1000 V AC (Open auxiliary circuit)        |
| Switching cycles, max. | 6000 (at $1 \times I_n$ )                 |
| Fuse                   | F1 (fast blow)                            |
| Power dissipation      | 2.88 W (in nominal operation per channel) |
| Voltage drop           | 0.13 V (at $1 \times I_n$ )               |

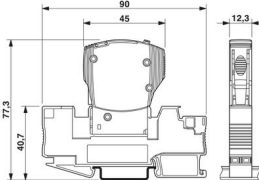
## Auxiliary contact

|                                        |       |
|----------------------------------------|-------|
| 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 |
|-----------------|----|

## Environmental and real-life conditions

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## Ambient conditions

|                                         |                               |
|-----------------------------------------|-------------------------------|
| 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 (IEC 60068-2-27, Test Ea) |
| Vibration (operation)                   | 5g (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

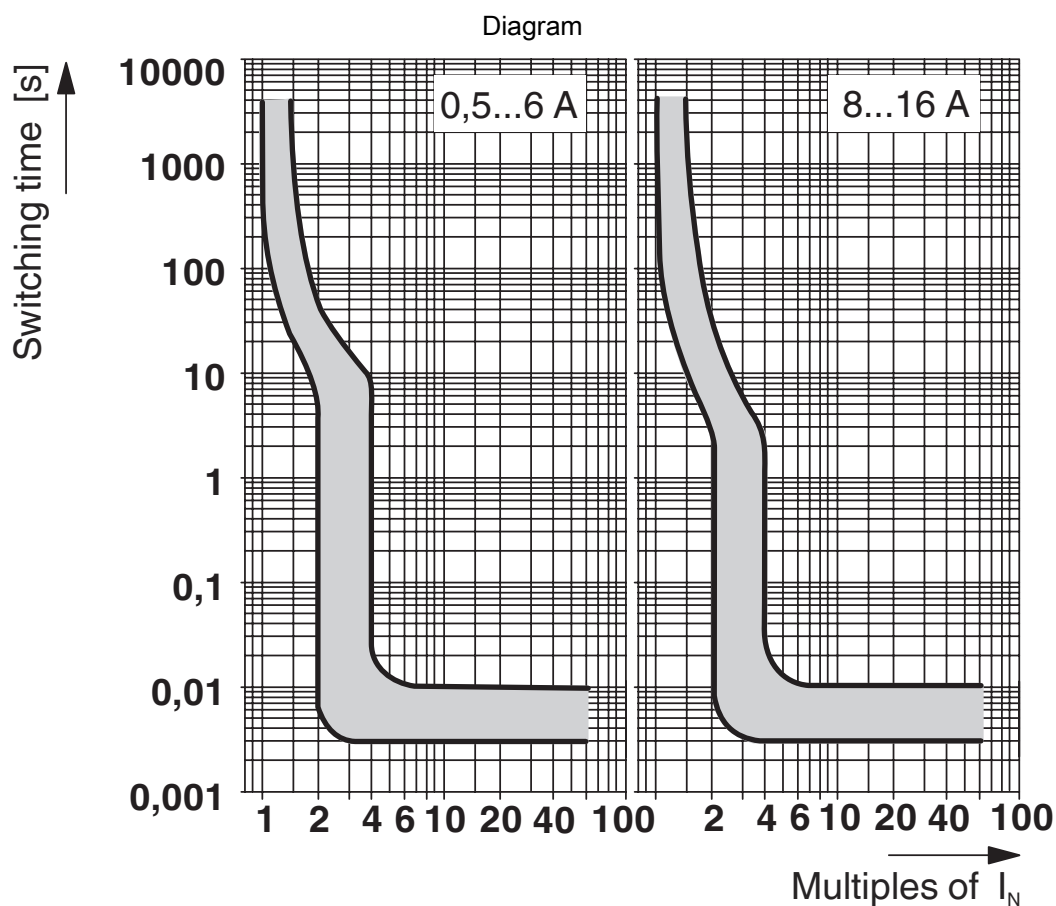
|                   |                 |
|-------------------|-----------------|
| Mounting type     | on base element |
| Connection method | pluggable       |

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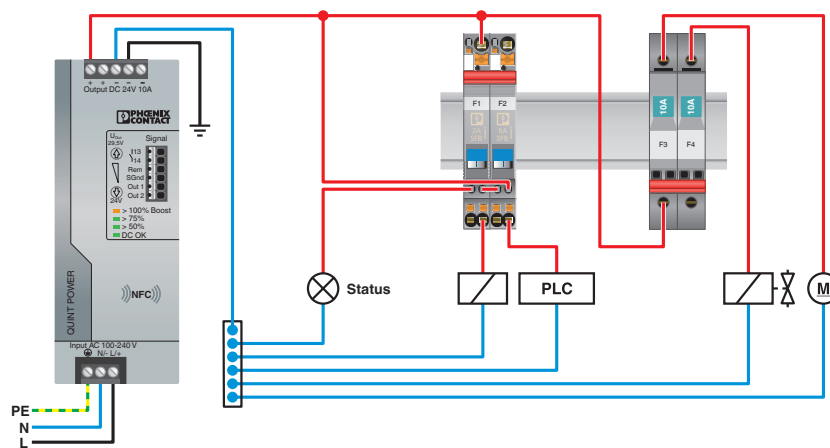
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## Drawings



Trigger characteristic in the DC range

## Application drawing

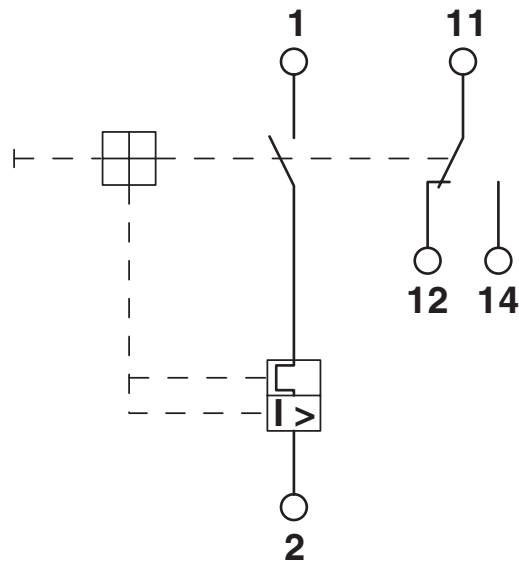


# CB TM1 12A F1 P - Thermomagnetic device circuit breaker

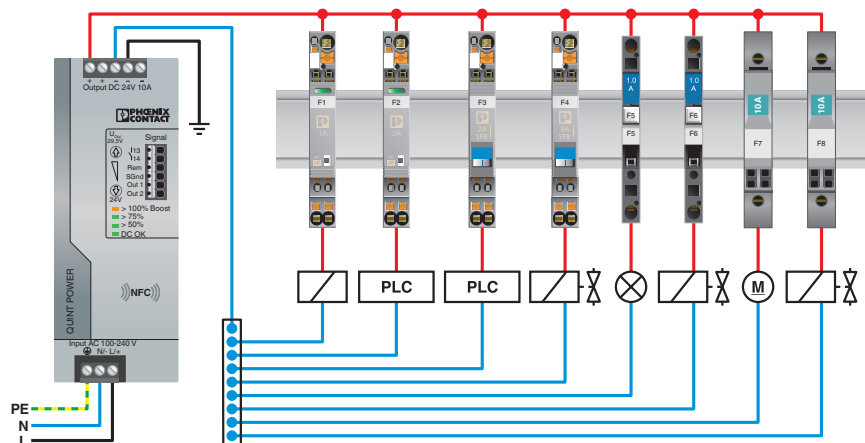
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Circuit diagram



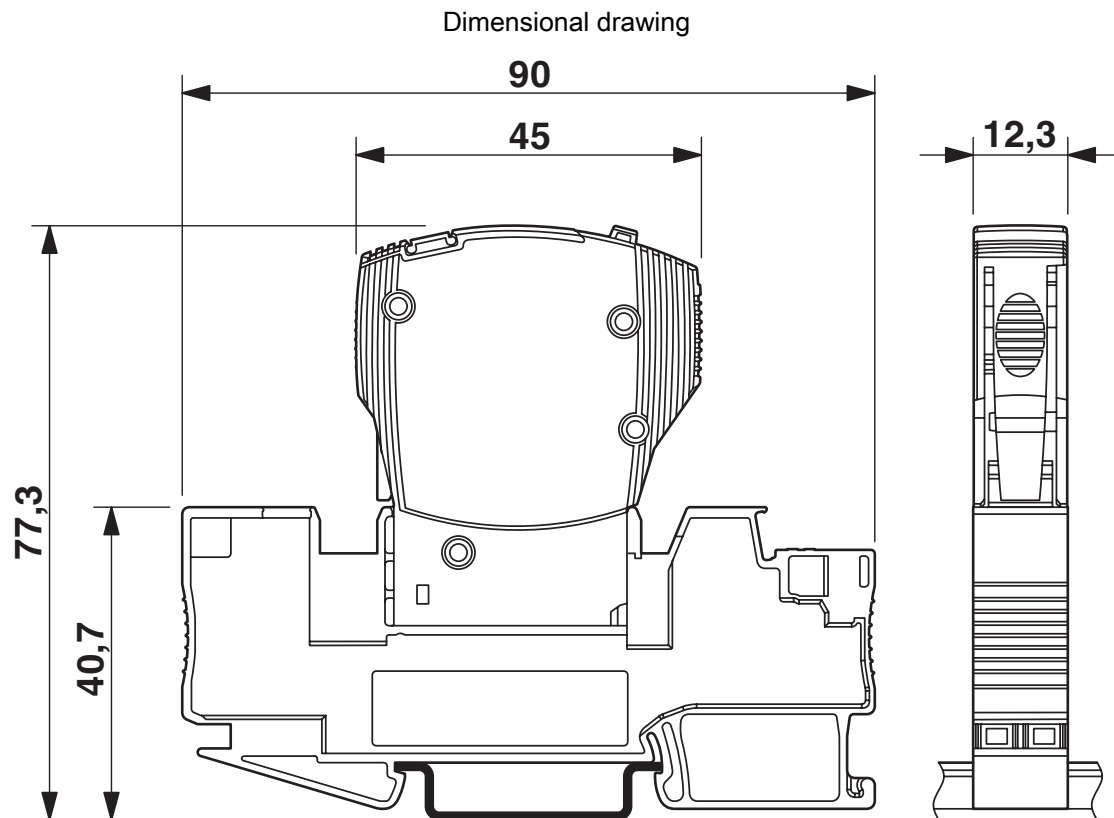
Application drawing



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

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/2800866>



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



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



**EAC**  
Approval ID: RU C-DE.\*09.B.00169



**DNV GL**  
Approval ID: TAE00003C7



**VDE Zeichengenehmigung**  
Approval ID: 40034683



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



**CCC**  
Approval ID: 2019010307158887



**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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**cULus Recognized**

**cULus Listed**

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27140401 |
| ECLASS-12.0 | 27140401 |
| ECLASS-13.0 | 27140401 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC003538 |
|----------|----------|

### UNSPSC

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

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## Environmental product compliance

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

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