

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Thermal-magnetic device circuit breaker, 1-position, tripping characteristic: F2, mounting type: With base element on 35 mm DIN rail in accordance with EN 60715, rated current: 6 A

## Your advantages

- More space in the control cabinet: protection and signaling in an overall width of just 8 mm
- Easy to set up applications thanks to flexible use of connectors with fixed nominal currents
- Transparency of load and switching status thanks to integrated remote signaling
- Easy handling from commissioning right through to maintenance due to clear functionality and switching state at all times

## Commercial data

Item number	1509529
Packing unit	4 pc
Minimum order quantity	4 pc
Sales key	CL10
Product key	CLA127
GTIN	4063151971540
Weight per piece (including packing)	27.05 g
Weight per piece (excluding packing)	27.05 g
Customs tariff number	85362010
Country of origin	DE

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

## Technical data

### Product properties

Product type	Thermomagnetic device circuit breakers
Product family	PTCB TM
Number of positions	1
No. of channels	1
Mechanical service life	25 insertion cycles

### Insulation characteristics

Protection class	II (according to EN 61140 for the actuation area)
Overvoltage category	II (250 V AC / IEC 60934)
	III (UL 1077)
	III (80 V DC / IEC 60934)
Pollution degree	2 (250 V AC / IEC 60934)
	3 (UL 1077)
	2 (80 V DC / IEC 60934)

### Electrical properties

#### General

Operating voltage	10 V AC ... 277 V AC (UL 1077)
	10 V AC ... 240 V AC (IEC 60934)
	10 V DC ... 56 V DC
Rated voltage	240 V AC (IEC 60934)
	277 V AC (UL 1077)
	56 V DC (IEC 60934)
Rated insulation voltage $U_i$	56 V DC (UL 1077)
	250 V AC (IEC 60934)
	80 V DC (IEC 60934)
Rated current $I_N$	277 V AC (UL 1077)
	6 A
Rated surge voltage	2.5 kV (IEC 60934, reinforced insulation between load/auxiliary circuit and in the actuation area)
Insulation resistance $R_{iso}$	> 100 M $\Omega$ (500 V DC)
Type of actuation	S type
Tripping method	TM (thermal-magnetic)
Tripping level	Trip-free mechanism (positive)
Device resistance	39 m $\Omega$
Required backup fuse	20 A ( $I > I_{cn}$ , RK5 (UL 1077), type gG (IEC 60934))
Rated short-circuit switching capacity $I_{cn}$	300 A (240 V AC / IEC 60934)
	600 A (56 V DC/IEC 60934)
Short-circuit switching capacity	1000 A (277 V AC C1 / UL 1077)

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

	1000 A (56 V DC C1 / UL 1077)
Dielectric strength	3000 V AC (Actuation area)
	3000 V AC (between load and auxiliary circuits in accordance with IEC 60934)
	1554 V AC (between open contacts in accordance with UL 1077)
Switching cycles, max.	6000 (low-induction, UL 1077)
	3000 (IEC 60934, 240 V AC/56 V DC, inductive, -5°C ... +60°C)
	1000 (IEC 60934, 240 V AC/56 V DC, inductive, -30°C ... +60°C)
Fuse	F2
Power dissipation	0 W (No-load operation)
	1.4 W (Nominal operation)
Voltage drop	0.23 V (at 1 x I <sub>n</sub> )

## Indicator/remote signaling

Connection name	Connection 3 / 4
Switching function	N/O contact
Operating voltage	10 V AC ... 277 V AC
	10 V DC ... 56 V DC
Operating current	10 mA AC ... 200 mA AC
	10 mA DC ... 200 mA DC

## Dimensions

Dimensional drawing	
Width	8.2 mm
Height	52.3 mm
Depth	63.7 mm

## Material specifications

Color	light gray (RAL 7035)
Material	PA
Flammability rating according to UL 94	V-0
Insulating material group	I
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 3
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 3

## Mechanical properties

### Mechanical data

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Open side panel	No
-----------------	----

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20 (Connection area) IP30 (Actuation area)
Ambient temperature (operation)	-30 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (250 V AC / IEC 60934)
Humidity test	96 h, 95 % RH, 40 °C
Shock (operation)	30g (IEC 60068-2-27, Test Ea) Category 1, Class B (DIN EN 61373)
Vibration (operation)	10 Hz ... 150 Hz, 20 cycles (IEC 60068-2-6, Test Fc) 10 Hz ... 75 Hz (Amplitude ±0.35 mm; in accordance with IEC 60068-2-6, Test Fc) 75 Hz ... 150 Hz (8g) Category 1, Class B (DIN EN 61373)

## Approvals

### UL approval

Identification	UL Recognized UL 1077
----------------	-----------------------

### CSA, Canada

Identification	CSA C22.2 No. 235-04
----------------	----------------------

## Standards and regulations

Standards/specifications	IEC 60934
Note	2019
Standards/specifications	UL 1077
Note	Additional protective devices for use in electrical equipment
Standards/specifications	CSA C22.2 No. 235-04
Note	2017
Standards/specifications	IEC 60068-2-6
Note	Environmental influences – Vibrations (sinusoidal)
Standards/specifications	IEC 60068-2-11
Note	Environmental influences - corrosion resistance/salt spray, test Ka
Standards/specifications	EN 60068-2-27
Note	Environmental influences – Shocks
Standards/specifications	EN 60068-2-78
Note	Environmental influences – Moisture and heat, constant
Standards/specifications	DIN EN 50274
Note	Touch protection and back-of-hand safety

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Standards/specifications	IEC 60529
Note	2019
Standards/specifications	EN 61373
Note	Railway applications - Rolling stock equipment - Shock and vibration tests
Standards/specifications	EN 45545-2
Note	Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behavior of materials and components

## Mounting

Mounting type	With base element on 35 mm DIN rail in accordance with EN 60715
---------------	---

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker

1509529

<https://www.phoenixcontact.com/us/products/1509529>

## Drawings

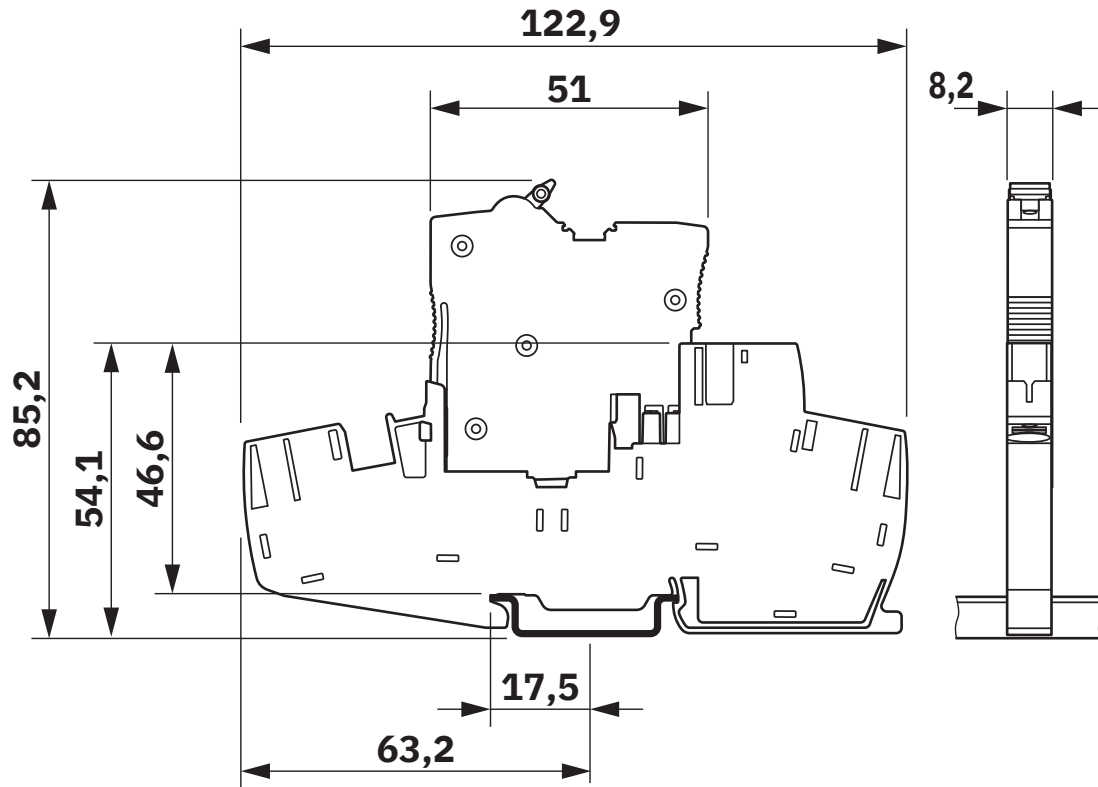


# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker

1509529

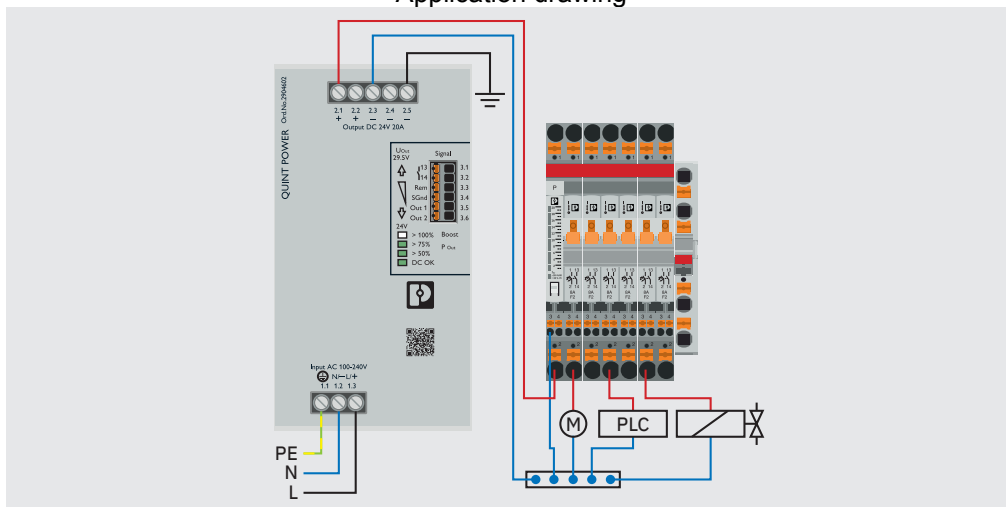
<https://www.phoenixcontact.com/us/products/1509529>

Dimensional drawing



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

Application drawing



System and energy monitoring

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Connection diagram

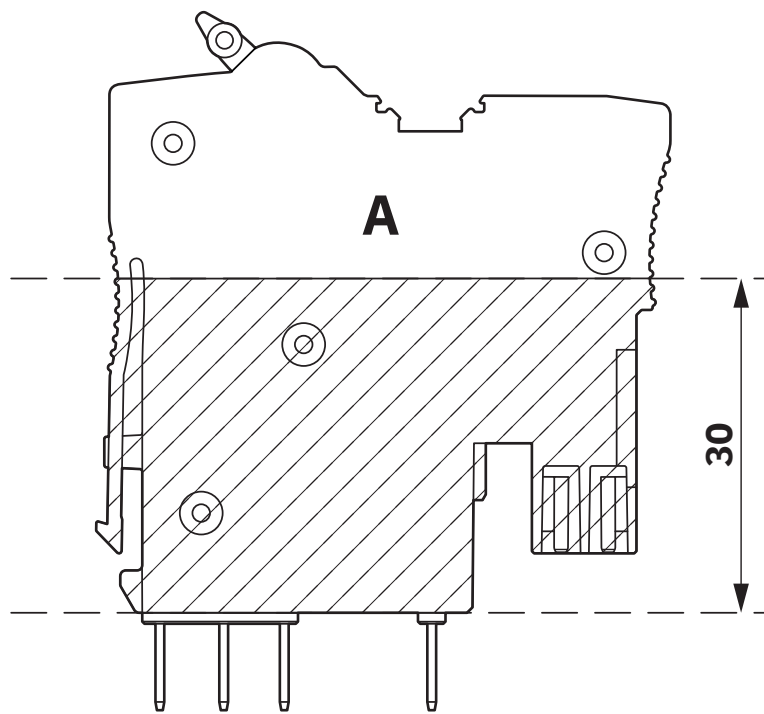


# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker

1509529

<https://www.phoenixcontact.com/us/products/1509529>

Schematic diagram



Actuation area A

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Diagram



Tripping characteristic in the AC range

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Diagram



Trigger characteristic in the DC range

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Diagram



Operating current correction factor

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Circuit diagram



Graphic symbol

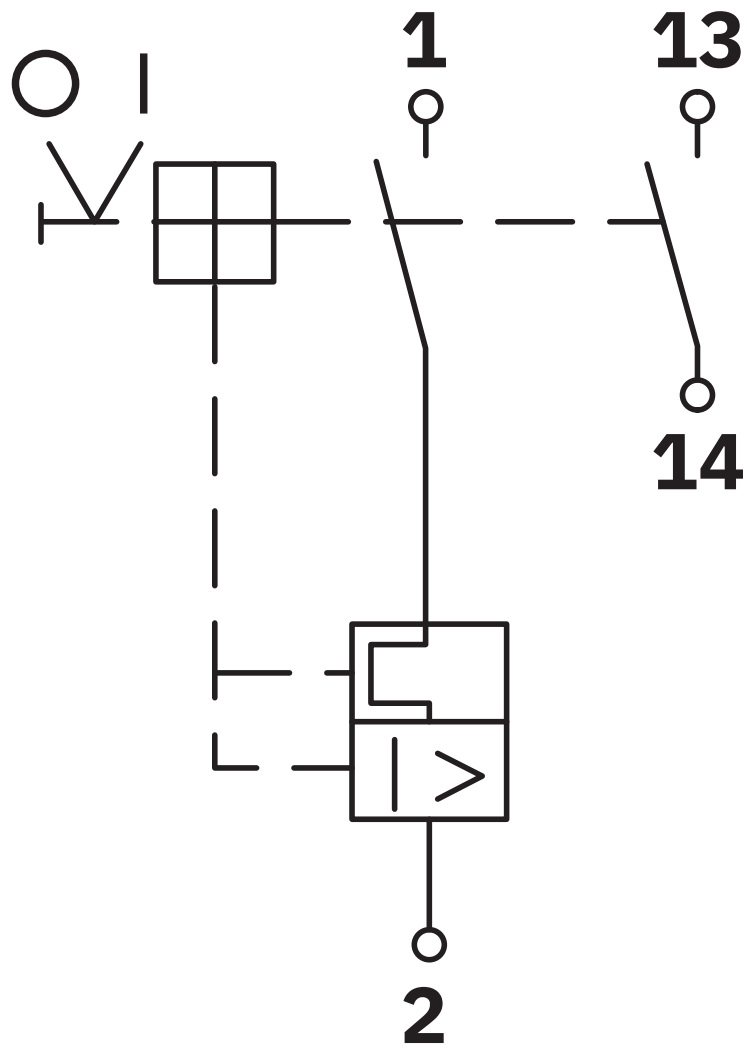
# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

Circuit diagram



Graphic symbol

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>



# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1509529>



**IECEE CB Scheme**  
Approval ID: DE1-69241



**cULus Recognized**  
Approval ID: E140459



**CSA**  
Approval ID: 80247832



**VDE Zeichengenehmigung**  
Approval ID: 40060968

**CCA**

Approval ID: CCA/DE1 35015

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

## Classifications

### ECLASS

ECLASS-13.0	27140401
ECLASS-15.0	27140401

### ETIM

ETIM 10.0	EC003538
-----------	----------

### UNSPSC

UNSPSC 21.0	39121410
-------------	----------

# PTCB TM1 6A F2 NO P - Thermal-magnetic device circuit breaker



1509529

<https://www.phoenixcontact.com/us/products/1509529>

## 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%
-------------------------------------	----------------------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

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