

# TMC 81D 50A - Miniature Circuit Breaker



2907646

<https://www.phoenixcontact.com/us/products/2907646>

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Thermal-magnetic Miniature Circuit Breaker, 1-position, use: Branch Circuit Protection (UL 489), for protection against overload with a breaking capacity of 10 kA, tripping characteristic: D, mounting type: NS 35/..., rated current: 50 A

## Product description

CCC marking on the product is only present on products purchased from Phoenix Contact China.

## Your advantages

- Can be used worldwide due to international approvals
- Suitable for various grid types, as it is available in 1-, 2-, 3-pos. versions
- Ideally coordinated protection due to various tripping characteristics and a wide selection of nominal currents
- Reduced inventory because of suitability for AC and DC applications
- Optional accessories enable remote control and monitoring

## Commercial data

Item number	2907646
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL08
Product key	CLA125
GTIN	4055626215013
Weight per piece (including packing)	222.222 g
Weight per piece (excluding packing)	131 g
Customs tariff number	85362010
Country of origin	CN

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## Technical data

### Product properties

Product type	Circuit breakers
Product family	TMC 8
Type	DIN rail module, one-piece
Number of positions	1
Mechanical service life	20000
Special properties	Branch Circuit Protection (UL 489), for protection against overload with a breaking capacity of 10 kA Thermal-magnetic

### Electrical properties

Service life electrical	6000
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### General

Operating voltage	120 V AC
	60 V DC
Rated current $I_N$	50 A
Tripping method	TM (thermal-magnetic)
Rated short-circuit switching capacity $I_{cn}$	10 kA (IC)
Fuse	D
Contact switching type	none

### Connection data

Conductor cross-section rigid	1 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Cross section AWG	18 ... 2 (converted acc. to IEC)
Conductor cross-section flexible	1 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Connection method	Screw connection
Tightening torque, min	2 Nm
Tightening torque	2 Nm
Conductor cross-section flexible max.	35 mm <sup>2</sup>
Conductor cross-section, rigid max.	35 mm <sup>2</sup>
Conductor cross-section flexible	1 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross-section rigid	1 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross-section AWG	18 ... 2

### Dimensions

Dimensional drawing	
Width	17.6 mm
Height	116 mm
Depth	75.9 mm (incl. DIN rail 7.5 mm)

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## Material specifications

Color	light gray (RAL 7035)
	gray (RAL 7042)

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-35 °C ... 70 °C
Humidity test	48 h, 95% RH, 40°C (IEC 60068-2-78)
Shock (operation)	30g (11 ms) (IEC 60068-2-11)
Vibration (operation)	±0,38 mm (10 Hz ... 57 Hz), 5g (57 Hz ... 500 Hz) (IEC 60068-2-6, Fc, sine)

## Standards and regulations

Standards/specifications	UL 489
	IEC 60947-2

## Mounting

Mounting type	NS 35/...
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## Drawings



Diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2907646>



**UL Listed**

Approval ID: FILE E 320373



**cUL Listed**

Approval ID: FILE E 320373



**TÜV Rheinland**

Approval ID: R 50531587



**CCC**

Approval ID: 2024010307673885

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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	39121410
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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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