T Series

B Type RCCB ETL1-63B

Residual Current Circuit Breaker

- Voltage: 240/415V AC systems (50/60Hz)
- Electro-magnetic type
- Current Range: 16A to 63A
- B type
- Rated residual current: 30, 100, 300mA
- Bidirectional Wiring Capability
- Breaking Capacity: 10kA
- Contact position indication
- Protects against leakage faults
- RCCB according to IEC/EN 61008-1, IEC/EN 62423

Applications

EV Charging Stations

Photovoltaic (PV) Systems

UPS Systems

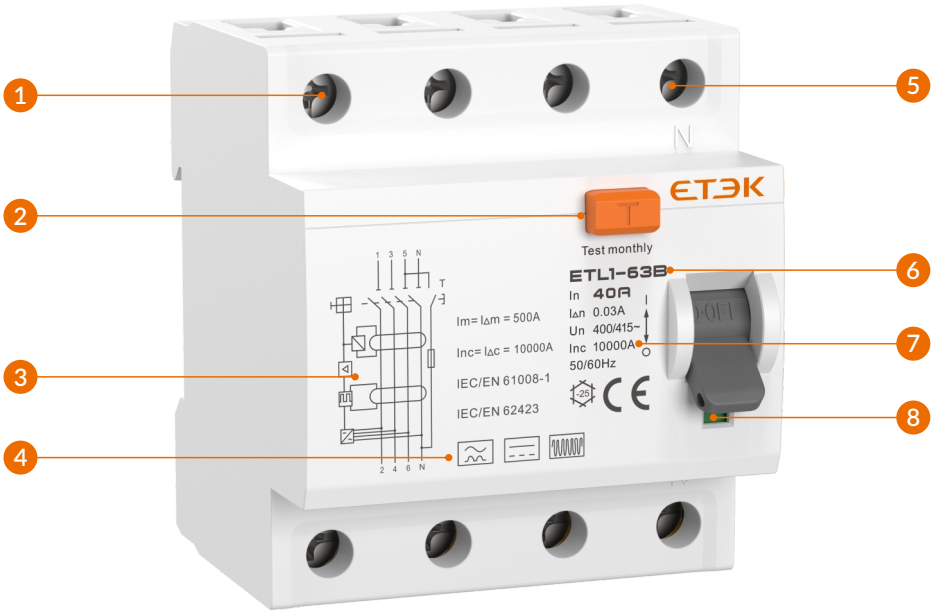
Industrial Welding Equipment

Overview

ETL1-63B Type B Residual Current Circuit Breaker (RCCB) suitable for 230/240V (1P+N) or 400/415V (3P+N) power systems, with a rated current up to 63A. Designed to detect AC leakage currents, pulsating DC leakage currents, smooth DC leakage currents, composite waveform leakage currents, and high-frequency leakage currents up to 1kHz.

When human electric shock occurs or circuit leakage current exceeds specified values, the circuit breaker instantaneously disconnects the faulty power supply to protect personnel and electrical equipment. It can also serve for infrequent circuit switching operations under normal conditions.

Product Tips



1. Live line interface
2. Test button
3. Wiring Diagram
4. Sensitivity to residual current B
5. Neutral line interface
6. Product model ETL1-63B
7. Rated short circuit breaking capacity 10kA
8. Contacts position indication window

Technical Data

Standard	IEC/EN 61008-1, IEC/EN 62423
Protection	Ground fault
Type of trip	Thermo-magnetic
Residual current type	B Type - residual AC, pulsating and smooth DC current, high frequency (≤1kHz)
Time characteristic	Insensitivity
No. of poles	1P+N, 3P+N, N Pole on the right
Insulation voltage (Ui)	500V
Rated voltage (Ue)	1P+N:230/240V~; 3P+N:400/415V~
Rated currents (In)	16,25,32,40,63A
Rated sensitivity currents (I∆n)	30,100,300mA
Residual current off-time under (I∆n)	≤0.1s
Rated residual making and breaking capacity (I∆m)	500A (In≤50A)
	10In (In>50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	10kA
Rated conditional residual short-circuit current (I∆c)	10kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz,1 min.)
Fire resistance (glow-wire test)	960±15°C (Enclosure)
	650±10°C (Handle)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C ~ +40°C
Storage temperature	-30°C ~ +70°C
Terminal connection type	Cable/ Pin-type/ Fork-type busbar
Max. terminal size for cable	16mm² flexible/ 25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-directional

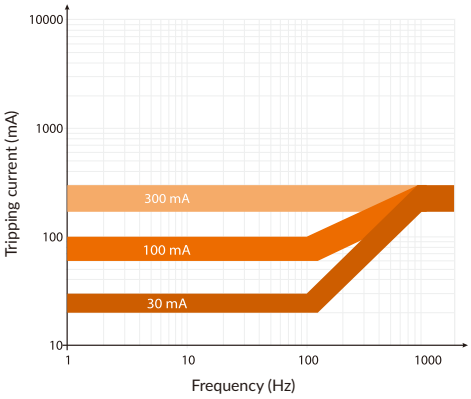
Tripping Characteristic

Type B RCDs - Standard values of break time and non-actuating time for residual direct currents which result from rectifying circuits and for residual smooth direct current.

Tripping times					
Type	Fault currents	Tripping time at			
	Alternating currents	1×IΔn	2×IΔn	5×IΔn	500A
	Pulsating DC currents	1.4×IΔn	2×1.4×IΔn	5×1.4×IΔn	500A
	Smooth DC currents	2×IΔn	2×2×IΔn	5×2×IΔn	500A
Standard		Max. 0.3s	Max. 0.15s	Max. 0.04s	Max. 0.04s

Type B RCDs - Residual non-operating and operating current according to frequencies which differ from the rated frequency 50/60 Hz

Frequency (Hz)	Residual non-operating current (IΔn)	Residual operating current (IΔn)
150	0.5 IΔn	2.4 IΔn
400	0.5 IΔn	6 IΔn
1000	IΔn	14 IΔn



Tripping Sensitivity

- 30mA: This is the most commonly used protection level in homes and commercial buildings, and is suitable for socket protection in general residential environments, offices and commercial places.
- 100mA: Usually used in situations where personal protection requirements are not as strict as 30mA, or for equipment protection, such as air conditioning systems, industrial equipment, etc.
- 300mA: Mainly used for fire protection, such as distribution boards and general protection of large electrical equipment.

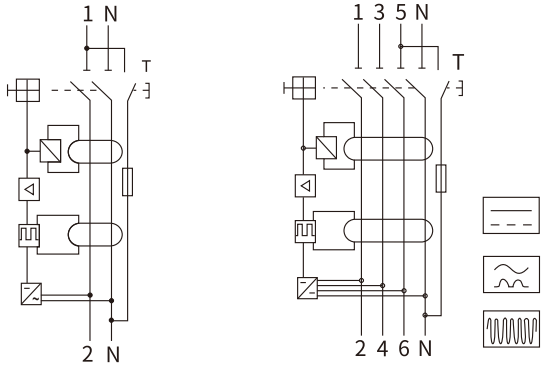
RCD Type

AC	Only sinusoidal alternating current (AC) leakage current can be detected. Suitable for environments where DC leakage does not occur, such as homes and general offices.
A	Able to detect alternating current (AC) leakage current and pulsed DC leakage current. It is suitable for environments where DC leakage may occur, including places where modern electrical equipment such as inverters, UPS (uninterruptible power supply systems), and LED lighting are used.
B	Able to detect alternating current (AC), pulsed DC leakage current, and smooth DC leakage current. Type B RCDs provide the most comprehensive protection and can detect all types of leakage currents. Suitable for special applications, such as electric vehicle charging stations, photovoltaic systems, medical equipment, etc., where a large amount of DC component leakage current may be generated.

Wiring Capacity

Rated current In (A)	Cross section area s (mm²)	Tightening torque (N.m)
16	2.5	2.5
25	4	2.5
32	6	2.5
40	10	2.5
63	16	2.5

Wiring Diagram



1P+N 3P+N

Dimension (mm)