ETEK®

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AC-DC Sensitive

Residual Current Device

—

Type B, Type B HP, Type B+, and Type EV RCD

ZHEJIANG ETEK ELECTRICAL TECHNOLOGY CO.,LTD.

COMPANY INTRODUCTION

Zhejinag Wenzhou Factory

Zhejiang ETEK Electrical Technology Co., Ltd. is a professional manufacturing company specializing in the research, development, production, and sales of low-voltage electrical appliances. Established in 2011 and headquartered in Wenzhou, Zhejiang Province, ETEK Electric operates two modern manufacturing bases in Wenzhou and Wuhu, covering an area of 40,000 square meters. The company employs over 500 staff, including more than 20 R&D and technical professionals.

ETEK Electric has multiple production workshops for mold design, parts manufacturing, welding, and assembly. Additionally, it operates multiple automated production lines for MCB and RCCB. Its product portfolio includes MCB, RCCB, RCBO, AFDD, MCCB, ACB, EV Chargers, and Photovoltaic DC products, which are widely used in residential, commercial, and industrial sectors.

ETEK Electric has established its own low-voltage electrical testing center, where testing projects meet international IEC standards. The company has obtained ISO9001, ISO14001, and ISO45001 certifications, and its products are certified by international standards such as CB, TUV, VDE, CE, RoHS, among others.

40k+ m^2
Floor Area

100+
Export Countries

30+
Brand Agents

15+ Years
Industry Experience

20 Mio+ Poles
Annual Production

≥50%
Automation Rate

Anhui Wuhu Factory

With over 100 national patents, ETEK Electric continues to master core technologies in circuit breakers and remains committed to building its independent brand. The "ETEK" trademark is registered in over 80 countries, with products exported to more than 100 regions, including Europe, South America, the Middle East, Africa, and Southeast Asia.

Additionally, ETEK Electric supports OEM, ODM, OBM, SKD, CKD, and other business cooperation models, offering a complete suite of services including market cultivation, technical training, and assistance with factory construction.

Looking to the future, ETEK Electric is committed to becoming a globally renowned manufacturer in the power distribution and electrical industry, safeguarding the power safety of its customers around the world and contributing to the development of green and digital energy.

Values

- Integrity
- Innovation
- Focus
- Win-win

Vision

Dedicated to becoming a globally renowned manufacturer in the power distribution equipment industry.

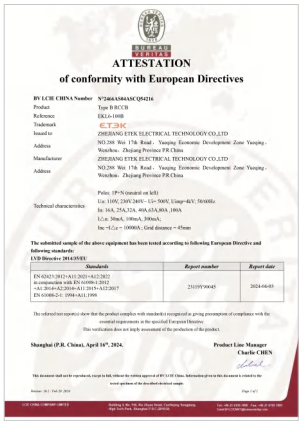
Mission

Manufacturing safer and smarter distribution electrical products to support the development of green and digital energy

QUALITY ASSURANCE

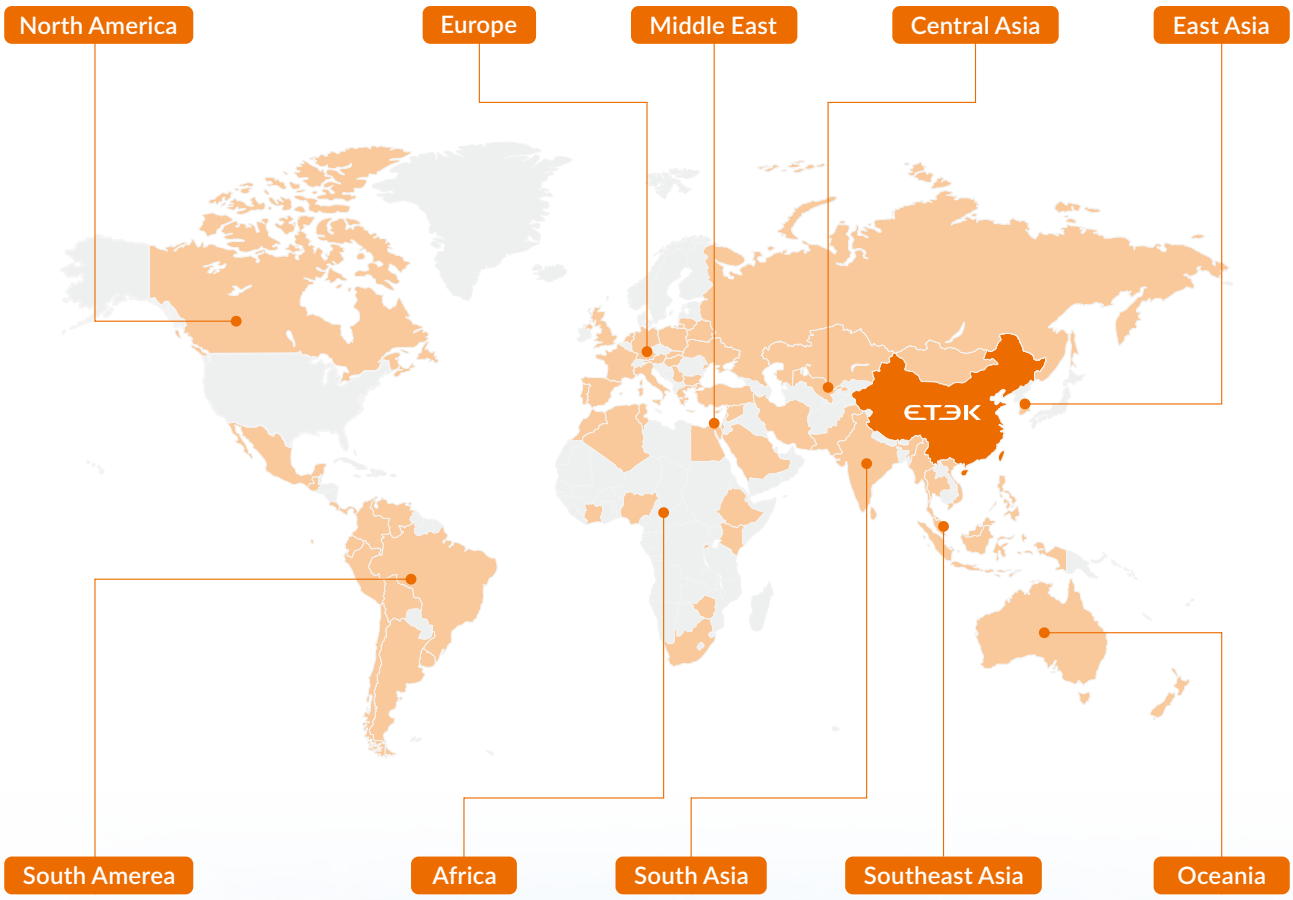
System Certificate

Product Certificate



GLOBAL REACH

- "ETEK" registered in 80+ countries
- Exports to 100+ countries
- Supports OEM, ODM, OBM, SKD, and CKD partnerships



CONTENTS

B Type | Electro-magnetic Type | RCCB | 10kA

EKL1-63B

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

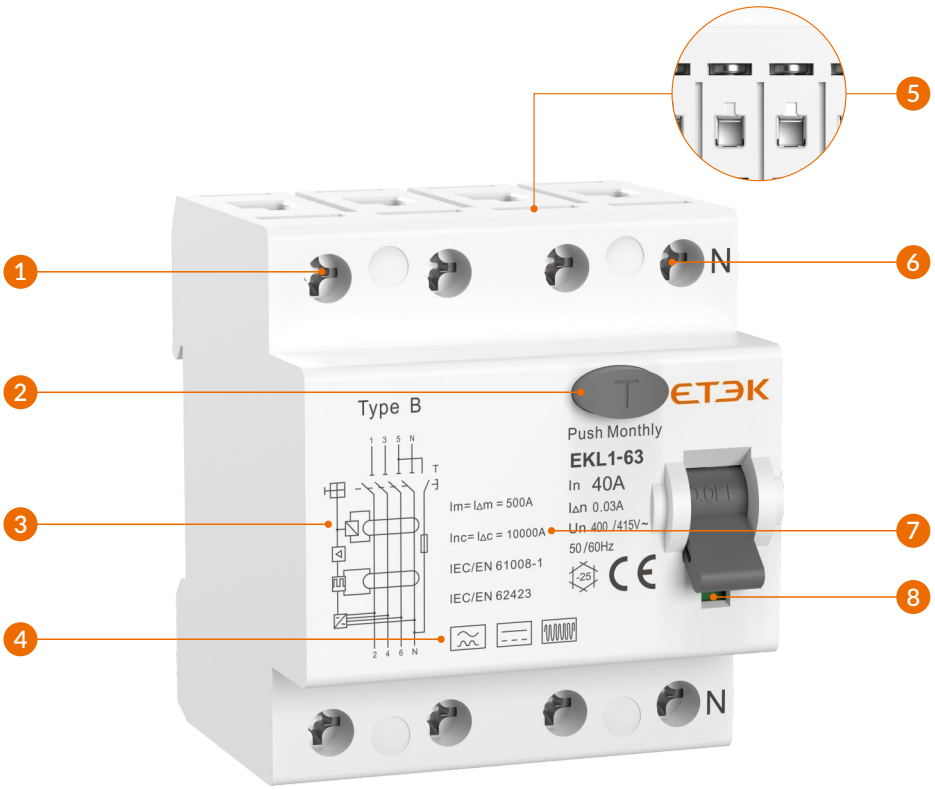
Industrial Welding Equipment

Overview

EKL1-63B 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. PIN/ Fork busbar
6. Neutral line interface
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	Electro-magnetic
Residual current type	B Type - residual AC, pulsating and smooth DC current, high frequency (≤1kHz)
Time characteristic	Instantaneous
No. of poles	1P+N, 3P+N
Neutral	Switched, N pole on the right
Insulation voltage (Ui)	500V
Rated voltage (Ue)	1P+N: 230/240V~; 3P+N: 400/415V~
Rated currents (In)	16, 20, 25, 32, 40, 63A
Rated sensitivity currents (IΔn)	30, 100, 300mA
Residual current off-time under (IΔn)	≤0.1s
Rated residual making and breaking capacity (IΔm)	500A (In≤50A), 10In (In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc=IΔc)	10kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2.5kV (50/60Hz,1 min.)
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, Max.95% humidity
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

RCD Type

Type AC RCDs detect slowly increasing sinusoidal AC residual currents.

Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

Type B RCDs detect sinusoidal AC, pulsating DC, multi-frequency composite, and smooth DC residual currents. They are designed to trip at frequencies ranging from 50Hz to 1kHz.

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.

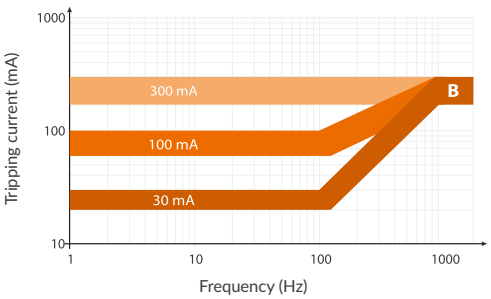
Tripping Characteristic

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

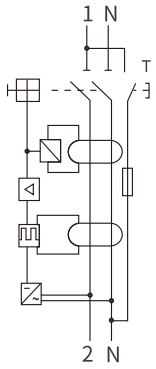
Frequency (Hz)	Residual non-operating current (IΔn)	Residual operating current (IΔn)
150	0.5 IΔn	2.4 IΔn
400	0.5 IΔn	6 IΔn
1000	IΔn	14 IΔn



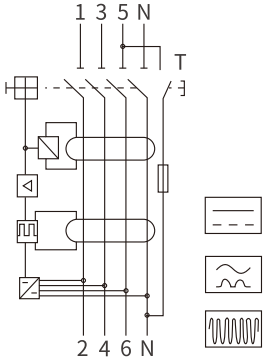
Wiring Capacity

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

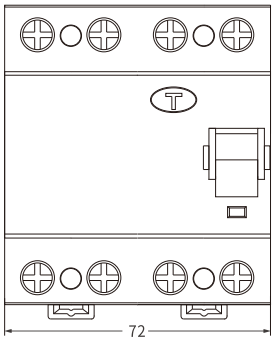


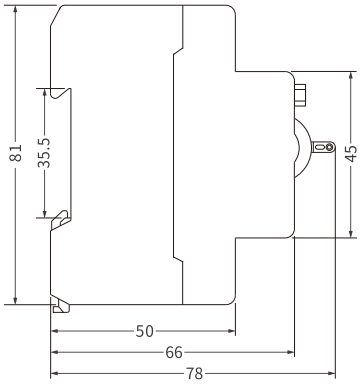
1P+N



3P+N

Dimension (mm)





B Type | Electro-magnetic Type | RCCB | 10kA

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. PIN/ Fork busbar
6. Neutral line interface
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	Electro-magnetic
Residual current type	B Type - residual AC, pulsating and smooth DC current, high frequency (≤1kHz)
Time characteristic	Instantaneous
No. of poles	1P+N, 3P+N
Neutral	Switched, 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 (IΔn)	30, 100, 300mA
Residual current off-time under (IΔn)	≤0.1s
Rated residual making and breaking capacity (IΔm)	500A (In≤50A), 10In (In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc=IΔc)	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

RCD Type

Type AC RCDs detect slowly increasing sinusoidal AC residual currents.

Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

Type B RCDs detect sinusoidal AC, pulsating DC, multi-frequency composite, and smooth DC residual currents. They are designed to trip at frequencies ranging from 50Hz to 1kHz.

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.

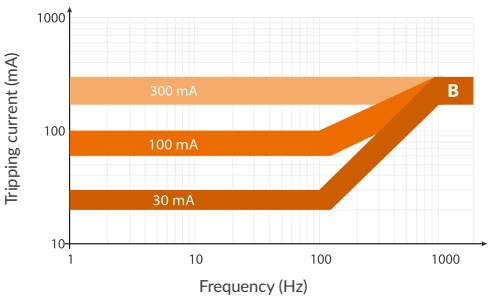
Tripping Characteristic

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

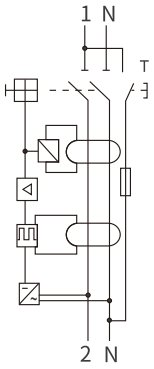
Frequency (Hz)	Residual non-operating current (IΔn)	Residual operating current (IΔn)
150	0.5 IΔn	2.4 IΔn
400	0.5 IΔn	6 IΔn
1000	IΔn	14 IΔn



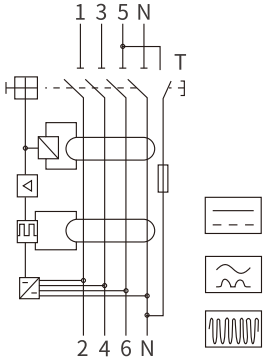
Wiring Capacity

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

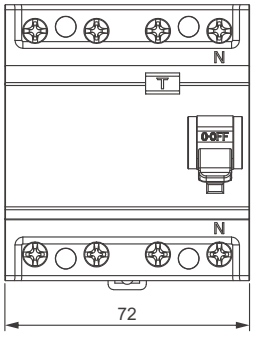


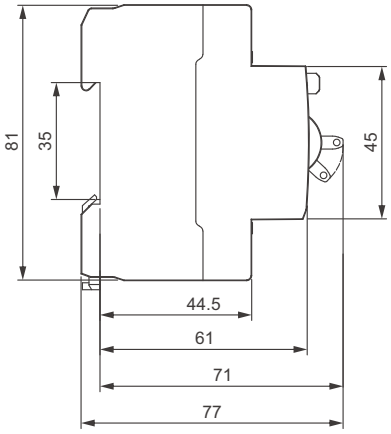
1P+N



3P+N

Dimension (mm)





EKL6-100B

Residual Current Circuit Breaker

- Voltage: 240/415V AC systems (50/60Hz)
- Electro-magnetic type
- Current range: 16A to 100A
- B type
- Rated residual current: 30, 100, 300mA
- Bidirectional wiring capability
- Breaking capacity: 10kA
- Ground fault indication
- Protects against leakage faults
- RCCB according to IEC/EN 61008-1, IEC/EN 62423

Applications

EV Charging Stations

Photovoltaic (PV) Systems

UPS Systems

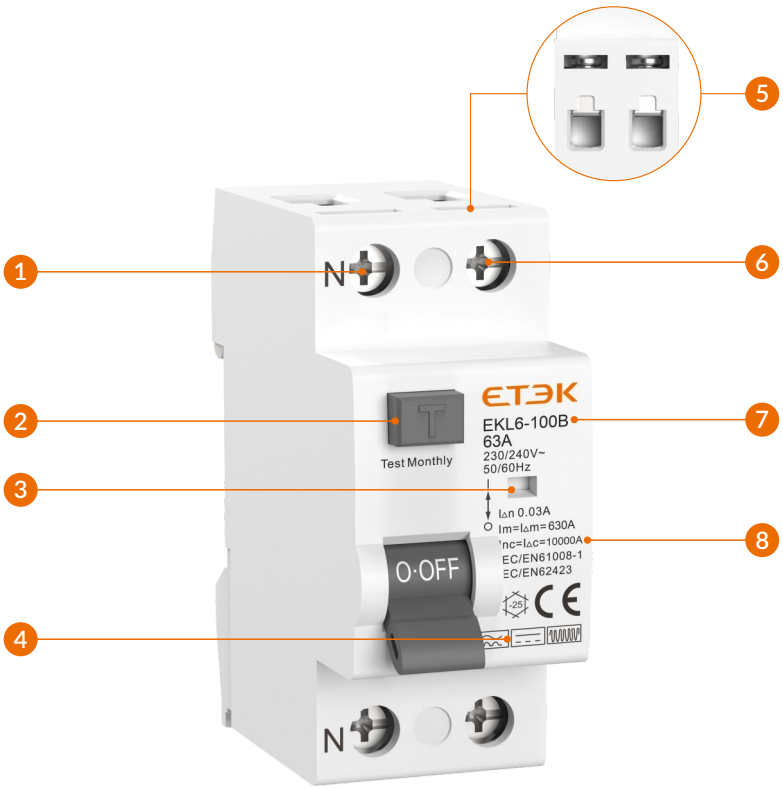
Industrial Welding Equipment

Overview

EKL6-100B Type B Residual Current Circuit Breaker (RCCB) suitable for 110/230/240V (1P+N) or 240/400/415V (3P+N) power systems, with a rated current up to 100A. 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. Neutral line interface
2. Test button
3. Ground fault indicator window
4. Sensitivity to residual current B
5. PIN/ Fork busbar
6. Live line interface
7. Product model EKL6-100B
8. Rated conditional short-circuit current 10kA

Technical Data

Standard	IEC/EN 61008-1, IEC/EN 62423
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	B Type - residual AC, pulsating and smooth DC current, high frequency (≤1kHz)
Time characteristic	Instantaneous
No. of poles	1P+N, 3P+N
Neutral	Switched, N pole on the left
Insulation voltage (Ui)	500V
Rated voltage (Ue)	1P+N: 110/230/240V~; 3P+N: 240/400/415V~
Rated currents (In)	1P+N: 16, 25, 40, 63A (80, 100A (3 modules)); 3P+N: 16, 25, 40, 63, 80, 100A
Rated sensitivity currents (IΔn)	30, 100, 300mA
Residual current off-time under (IΔn)	≤0.1s
Rated residual making and breaking capacity (IΔm)	500A (In≤50A), 10In (In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc=IΔc)	10kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2.5kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF/ red ON
Ground fault indicator	White: Normal; Red: Leakage fault
Protection degree	IP20
Ambient temperature	-25°C ~ +40°C, Max.95% humidity
Terminal connection type	Cable/ Pin-type/ Fork-type busbar
Max. terminal size for cable	35mm²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-directional

RCD Type

Type AC RCDs detect slowly increasing sinusoidal AC residual currents.

Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

Type B RCDs detect sinusoidal AC, pulsating DC, multi-frequency composite, and smooth DC residual currents. They are designed to trip at frequencies ranging from 50Hz to 1kHz.

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.

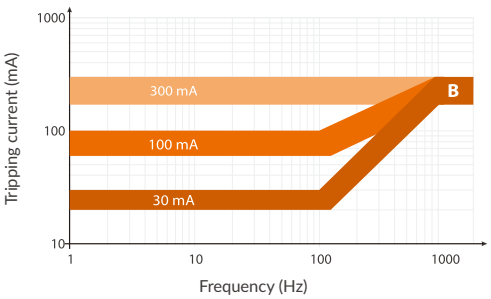
Tripping Characteristic

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

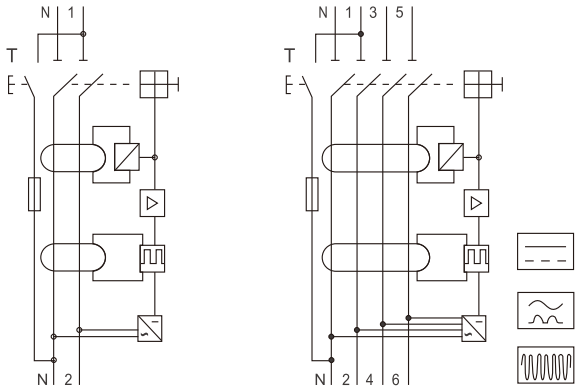
Frequency (Hz)	Residual non-operating current (IΔn)	Residual operating current (IΔn)
150	0.5 IΔn	2.4 IΔn
400	0.5 IΔn	6 IΔn
1000	IΔn	14 IΔn



Wiring Capacity

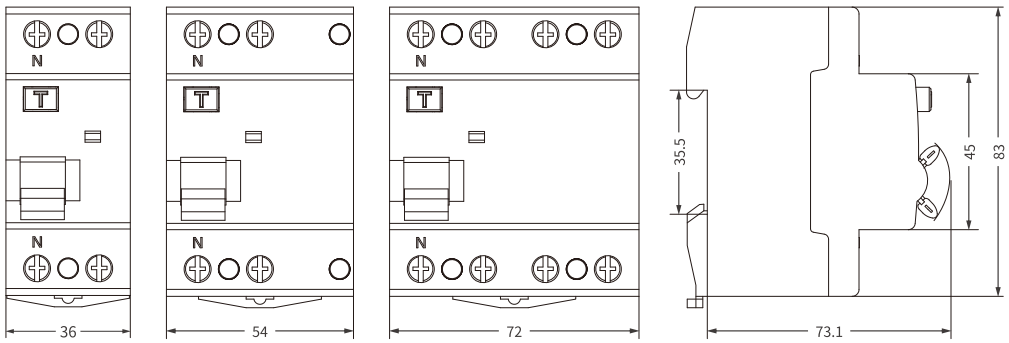
Rated current In (A)	Cross section area s (mm²)	Tightening torque (N.m)
16	2.5	2.5
25	4	2.5
32	6	2.5
40	10	2.5
63	16	2.5
80	25	2.5
100	35	2.5

Wiring Diagram



1P+N 3P+N

Dimension (mm)



EKL6-100BHP

Residual Current Circuit Breaker

CE

- Voltage: 240/415V AC systems (50/60Hz)
- Electro-magnetic type
- Current range: 16A to 100A
- B HP type
- Rated residual current: 30, 100, 300mA
- Bidirectional wiring capability
- Breaking capacity: 10kA
- Ground fault indication
- Protects against leakage faults
- RCCB according to IEC/EN 62423, IEC/EN 61008-1, BS 7671

Applications

Heat Pump

UPS Systems

EV Charging Stations

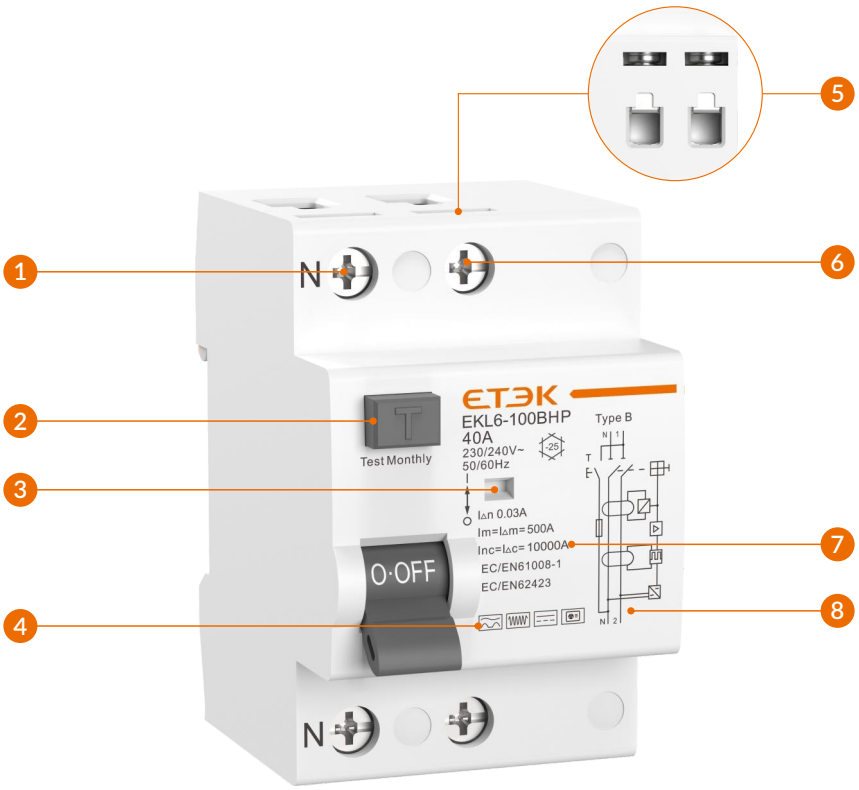
Photovoltaic (PV) Systems

Overview

EKL6-100BHP is a Type B HP Residual Current Device(RCD) for heat pumps, available in 1P+N and 3P+N up to 100 A. It detects AC, pulsating DC, and smooth DC, and is specially optimized for high-frequency leakage from inverter compressors. It operates beyond 20 kHz, with a raised 150 mA trip threshold above 1 kHz, reducing nuisance tripping. Tolerance to DC prevents RCD "blinding" and ensures reliable fault detection.

Compliant with BS 7671 for heat pump installs, EKL6-100BHP is a robust, recognized alternative to "B+" RCDs. Its high-frequency and heat pump tuning makes it ideal not only for heat pumps, but also for PV, EV charging, and variable-speed drives.

Product Tips



1. Neutral line interface
2. Test button
3. Ground fault indicator window
4. Sensitivity to residual current BHP
5. PIN/ Fork busbar
6. Live line interface
7. Rated conditional short-circuit current 10kA
8. Wiring diagram

Technical Data

Standard	IEC/EN 62423 (Type B) + IEC/EN 61008-1; Compliant with BS 7671 for heat pump use
Protection	Ground fault (residual current)
Type of trip	Electro-magnetic (RCD)
Residual current type	**Type B HP** - residual AC, pulsating DC and smooth DC; high-frequency immunity for inverter/heat-pump leakage
HF behavior (Type B HP)	Designed to tolerate switching noise ≥20kHz; for f≥1kHz uses a raised minimum tripping threshold, typically ≥150mA to reduce nuisance tripping
Time characteristic	Instantaneous
No. of poles	1P+N, 3P+N
Neutral	Switched, N pole on the left
Insulation voltage (Ui)	500V
Rated voltage (Ue)	1P+N: 230/240V~; 3P+N: 400/415V~
Rated currents (In)	16, 25, 40, 63, 80, **100A**
Rated sensitivity currents (IΔn)	30, 100, 300mA
Residual current off-time under (IΔn)	≤0.1s
Rated residual making and breaking capacity (IΔm)	500A (In≤50A), 10In (In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc=IΔc)	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
Ground fault indicator	White: Normal; Red: Leakage fault
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	35mm²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-directional

RCD Type

	Type AC RCDs detect slowly increasing sinusoidal AC residual currents.
	Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.
	Type B HP RCDs capable of detecting and tripping under smooth DC faults at any level. Tested to handle frequencies greater than 20kHz, ensuring a minimum tripping threshold of 150mA for frequencies above 1kHz.

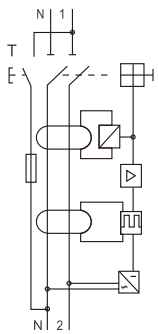
Tripping Sensitivity

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.

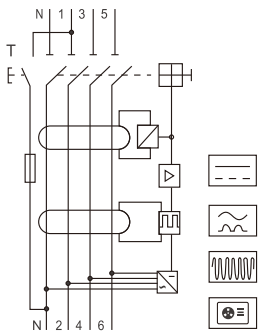
Wiring Capacity

Rated current In (A)	Cross section area s (mm^2)	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
80	25	2.5
100	35	2.5

Wiring Diagram

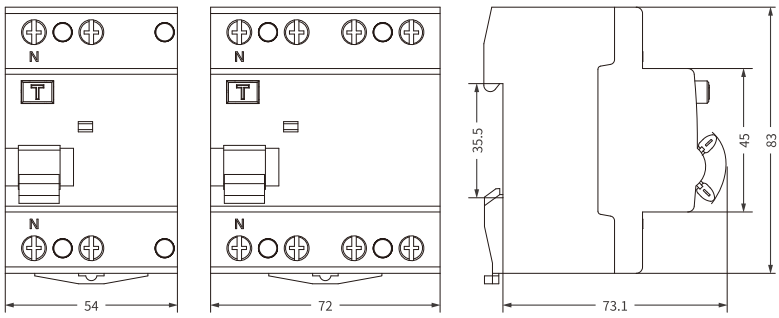


1P+N



3P+N

Dimension (mm)



B+ Type | Electro-magnetic Type | RCCB | 10kA

EKL6-100B+

Residual Current Circuit Breaker

- Voltage: 240/415V AC systems (50/60Hz)
- Electro-magnetic type
- Current range: 16A to 100A
- B+ type
- Rated residual current: 30, 100, 300mA
- Bidirectional wiring capability
- Breaking capacity: 10kA
- Ground fault indication
- Protects against leakage faults
- RCCB according to IEC/EN 61008-1, VDE 0064-400

Applications

EV Charging Stations

Photovoltaic (PV) Systems

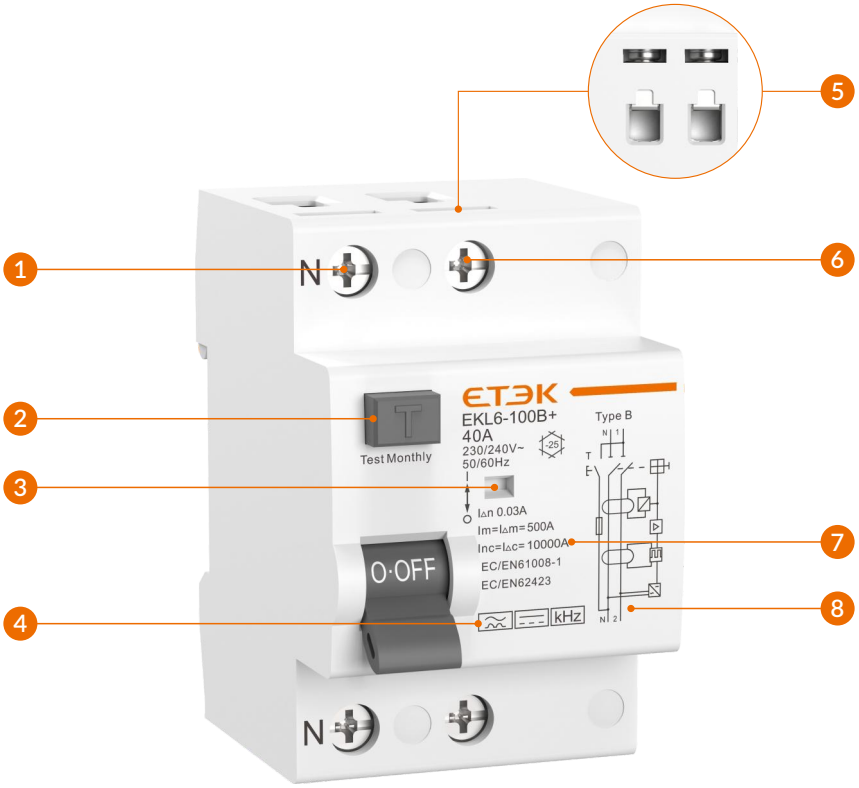
UPS Systems

Industrial Welding Equipment

Overview

EKL6-100B+ 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 100A. 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 20 kHz with a maximum tripping threshold of 420 mA. The switches therefore provide better fire protection.

Product Tips



1. Neutral line interface
2. Test button
3. Ground fault indicator window
4. Sensitivity to residual current B+
5. PIN/ Fork busbar
6. Live line interface
7. Rated conditional short-circuit current 10kA
8. Wiring diagram

Technical Data

Standard	IEC/EN 61008-1, VDE 0064-400
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	B+ Type - residual AC, pulsating and smooth DC current, high frequency (≤20kHz)
Time characteristic	Instantaneous
No. of poles	1P+N, 3P+N
Neutral	Switched, N pole on the left
Insulation voltage (Ui)	500V
Rated voltage (Ue)	1P+N: 230/240V~; 3P+N: 400/415V~
Rated currents (In)	16, 25, 40, 63, 80, 100A
Rated sensitivity currents (IΔn)	30, 100, 300mA
Residual current off-time under (IΔn)	≤0.1s
Rated residual making and breaking capacity (IΔm)	500A (In≤50A), 10In (In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc=IΔc)	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
Ground fault indicator	White: Normal; Red: Leakage fault
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	35mm²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-directional

RCD Type

Type AC RCDs detect slowly increasing sinusoidal AC residual currents.

Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

Type B+ RCDs detect all types of residual current - AC, DC, mixed, and smooth - at frequencies up to 20kHz and trip at a maximum of 420mA, offering superior fire protection.

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.

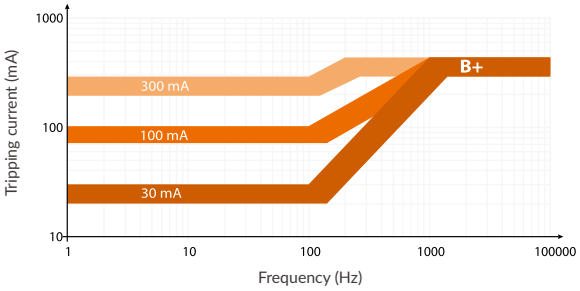
Tripping Characteristic

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

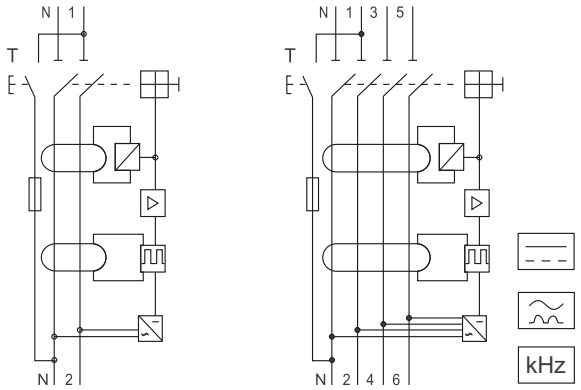
Frequency (Hz)	Residual non-operating current (IΔn)	Residual operating current (IΔn)
150	0.5 IΔn	2.4 IΔn
400	0.5 IΔn	6 IΔn
1000	IΔn	14 IΔn



Wiring Capacity

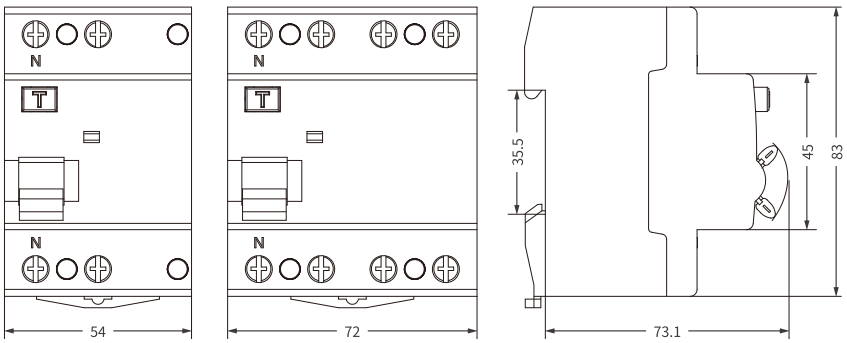
Rated current In (A)	Cross section area s (mm²)	Tightening torque (N.m)
16	2.5	2.5
25	4	2.5
32	6	2.5
40	10	2.5
63	16	2.5
80	25	2.5
100	35	2.5

Wiring Diagram



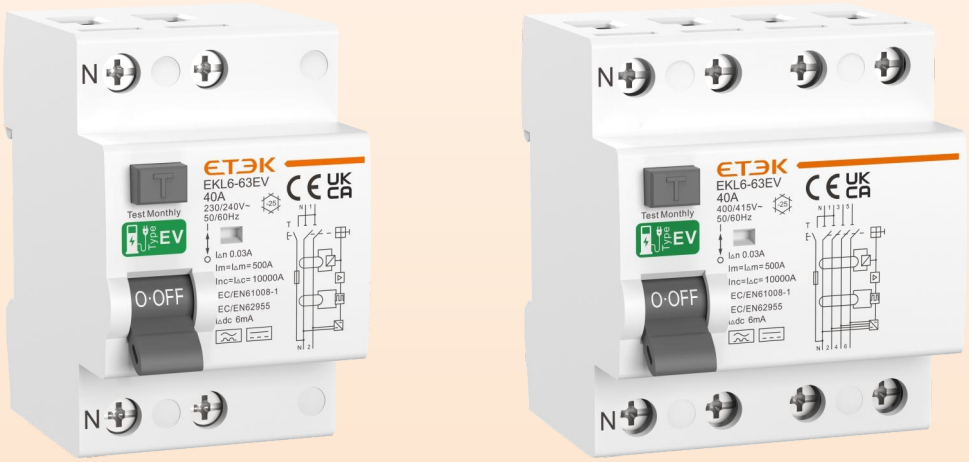
1P+N 3P+N

Dimension (mm)



EKL6-63EV

Residual Current Circuit Breaker



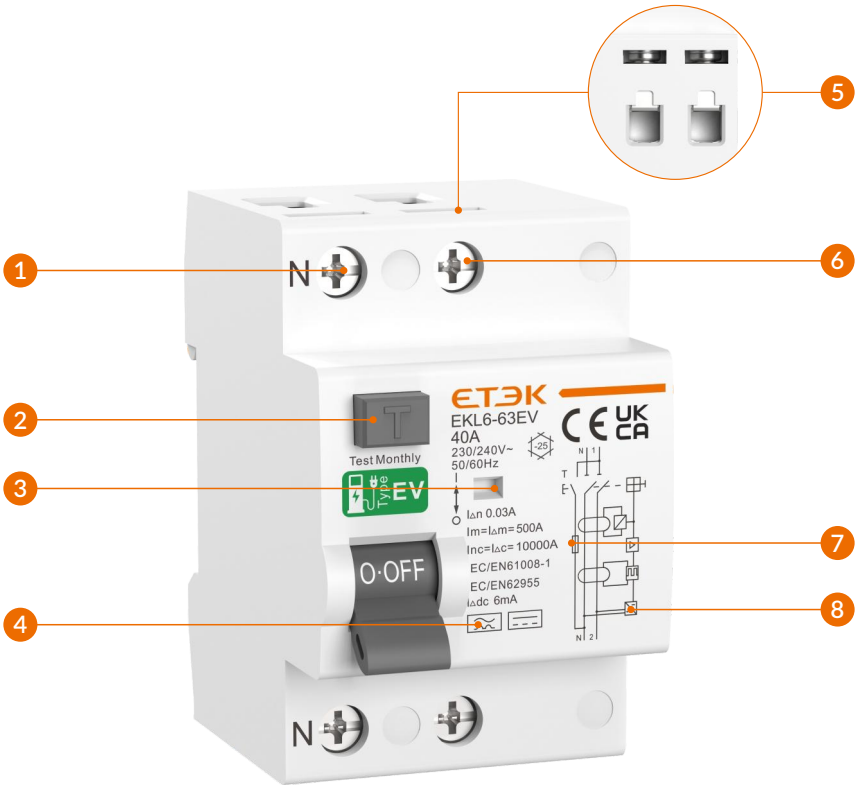
- Voltage: 240/415V AC systems (50/60Hz)
- Current range: 16A to 63A
- Rated residual current: 30mA
- Breaking capacity: 10kA
- Protects against leakage faults
- Electro-magnetic type
- EV type (type A + DC 6mA)
- Bidirectional wiring capability
- Ground fault indication
- RCCB according to IEC/EN 61008-1, IEC/EN 62955

Overview

EKL6-63EV Type EV RCD (RDC-PD) is a specialized residual current device designed specifically for electric vehicle charging systems, combining Type A RCCB functionality with 6mA DC residual current detection capability. This device complies with IEC 61008-1 and IEC 62955 standards, providing dual protection: 30mA AC (Type A) and 6mA DC residual current protection.

The EKL6-63EV provides protection up to 63A, supports single-phase 230/240V and three-phase 400/415V operation, with a rated breaking capacity of 10kA. It must only be used for EV charging applications and is not suitable for any other purposes. Under no circumstances may this device be used as a replacement for Type B RCDs.

Product Tips



1. Neutral line interface
2. Test button
3. Ground fault indicator window
4. Sensitivity to residual current EV
5. PIN/ Fork busbar
6. Live line interface
7. Rated conditional short-circuit current 10kA
8. Wiring diagram

Technical Data

Standard	IEC/EN 61008-1, IEC/EN 62955
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	Type A + DC 6mA
Classification of RDC-DD	RDC-PD
No. of poles	1P+N, 3P+N
Neutral	Switched, N pole on the left
Insulation voltage (Ui)	500V
Rated voltage (Ue)	1P+N: 240V~; 3P+N: 415V~
Rated currents (In)	16, 25, 32, 40, 63A
Rated sensitivity currents (IΔn)	30mA
Rated residual operating current (IΔdc)	6mA
Residual current off-time under (IΔn)	≤0.1s
Rated residual making and breaking capacity (IΔm)	500A (In≤50A), 10In (In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc=IΔc)	10kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2.5kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF/ red ON
Ground fault indicator	White: Normal; Red: Leakage fault
Protection degree	IP20
Ambient temperature	-25°C ~ +55°C, Max.95% humidity
Terminal connection type	Cable/ Pin-type/ Fork-type busbar
Max. terminal size for cable	35mm²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-directional

RCD Type

	**Type A** RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

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.
DC 6mA	Designed to detect DC leakage currents of 6 mA or greater. When such a leakage current is detected, the protection device will interrupt the circuit to prevent potential hazards such as electric shock or fire.

Tripping Characteristic

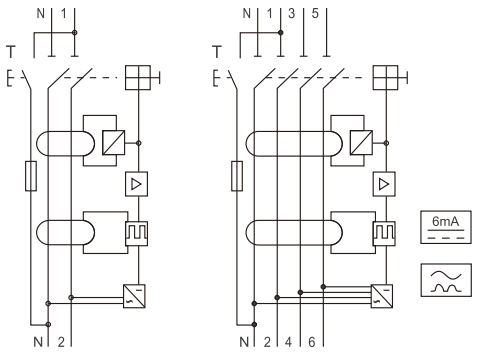
Maximum values of break times for residual direct currents

Standard values of maximum break time at a residual direct current equal to (s)		
6mA	60mA	200mA
10,0	0,3	0,1

Minimum values of non-operating time for alternating residual currents (RMS values)

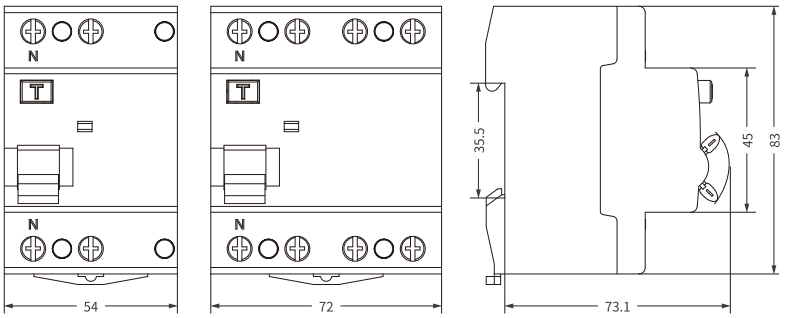
Minimum values of non-operating time (s) in event of alternating residual currents (RMS values) equal to			
up to 30mA	60mA	150mA	5A
no tripping	0,3	0,08	0,08

Wiring Diagram



1P+N 3P+N

Dimension (mm)



B Type | Electronic Type | RCBO | 10kA

EKL5-63B

Residual Current Circuit Breaker with Overcurrent Protection

- Voltage: 240/415V AC systems (50/60Hz)
- Etectronic type
- Current range: 6A to 63A
- B types
- Rated residual current: 30, 100, 300mA
- Top incoming wiring
- Tripping curves: Type B/C/D available
- Transparent trip status observation port
- Breaking capacity: 10kA
- RCBO according to IEC/EN 61009-1, IEC/EN 62423
- Protects against overload, short circuit, and leakage faults

Applications

EV Charging Stations

Photovoltaic (PV) Systems

UPS Systems

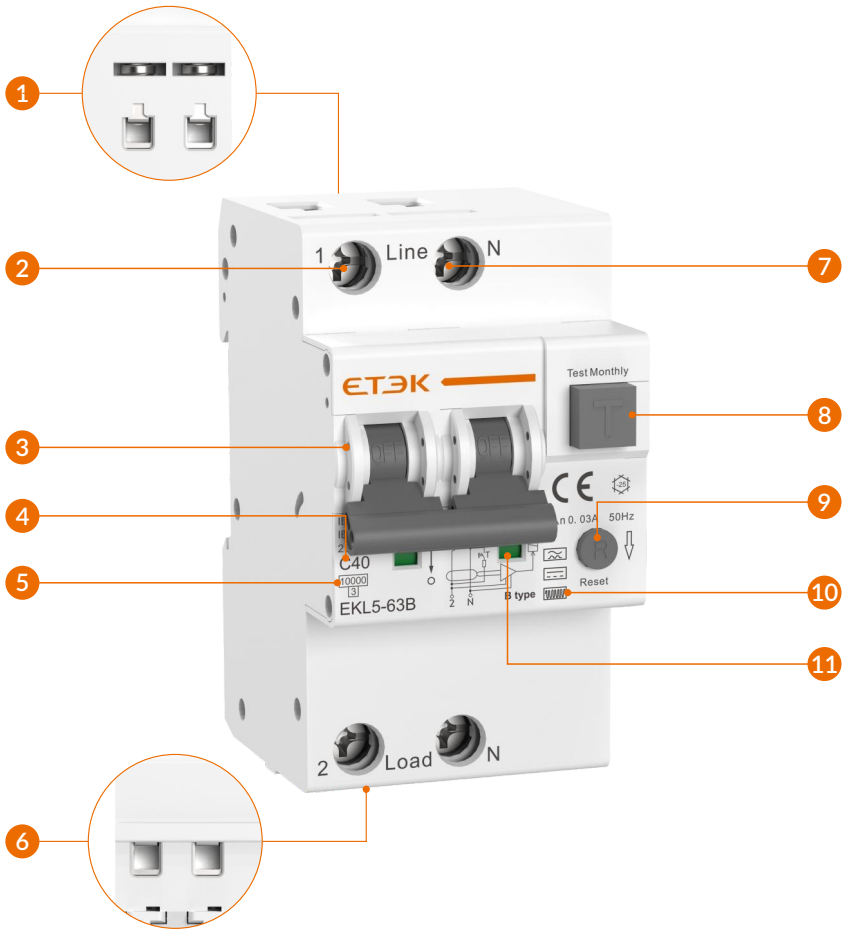
Industrial Welding Equipment

Overview

EKL5-63B Type B RCBO (Residual Current Circuit Breaker with Overcurrent protection) is a combined protective device that integrates residual current protection (RCD) and overcurrent protection (MCB), with a rated current up to 63A. It supports single-phase 230/240V and three-phase 400/415V systems, features a 10kA breaking capacity, and meets IEC61009-1 and IEC62423 standards.

Type B RCBOs are specifically designed to detect smooth DC residual currents, as well as AC and pulsating DC currents. This makes them ideal for applications such as industrial environments with variable speed drives, solar panel systems, EV charging stations, commercial distribution boards, and residential installations where enhanced earth leakage protection is required.

Product Tips



1. PIN/ Fork busbar
2. Live line interface
3. The position of handle Lock
4. Tripping characteristics B, C, D
5. Rated short-circuit capacity 10kA
6. PIN busbar
7. Neutral line interface
8. Test button
9. Reset button
10. Sensitivity to residual current B
11. Contacts position indication window

Technical Data

Standard		IEC/EN 61009-1, IEC/EN 62423
Protection		Ground fault, Overcurrent and short circuit
Type of trip		Ground fault: Electronic
		Overload and short circuit: Thermo-magnetic
Residual current type		B Type - residual AC, pulsating and smooth DC current, high frequency (≤1kHz)
No. of poles		1P+N, 3P+N
Neutral		Switched, N pole on the right
Insulation voltage (Ui)		500V
Rated voltage (Ue)		1P+N: 230/240V~; 3P+N: 400/415V~
Rated currents (In)		6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated sensitivity currents (IΔn)		30, 100, 300mA
Residual current off-time under (IΔn)		≤0.1s
Rated residual making and breaking capacity (IΔm)		500A (In≤50A), 10In (In>50A)
Rated frequency		50/60Hz
Rated short-circuit capacity (Icn)		10kA
Energy limiting class		3
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)
Thermal tripping characteristics		1.13In No tripping within an hour; 1.45In Tripping within an hour
Instantaneous tripping characteristics		B: 3In-5In; C: 5In-10In; D: 10In-20In
Electrical life		4,000 Cycles
Mechanical life		10,000 Cycles
Contact position indicator		green OFF/ red ON
Protection degree		IP20
Ambient temperature		-25°C ~ +55°C, Max.95% humidity
Terminal connection type	Line side terminals	Cable/ Pin-type/ Fork-type busbar
	Load side terminals	Cable/ Pin-type
Max. terminal size for cable		16mm² flexible/ 25mm² rigid
Max. tightening torque		2.5N.m
Installation		Mounting on 35mm DIN rail
Incoming method		From top

RCD Type

Type AC RCDs detect slowly increasing sinusoidal AC residual currents.

Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

Type B RCDs detect sinusoidal AC, pulsating DC, multi-frequency composite, and smooth DC residual currents. They are designed to trip at frequencies ranging from 50Hz to 1kHz.

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.

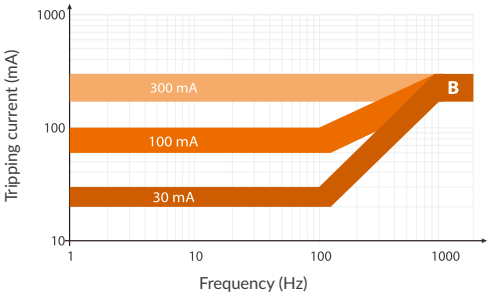
Tripping Characteristic

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

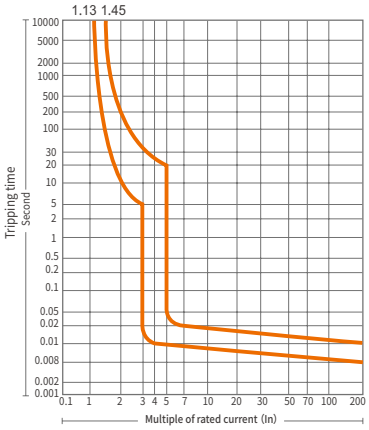
Frequency (Hz)	Residual non-operating current (IΔn)	Residual operating current (IΔn)
150	0.5 IΔn	2.4 IΔn
400	0.5 IΔn	6 IΔn
1000	IΔn	14 IΔn



Tripping Characteristic

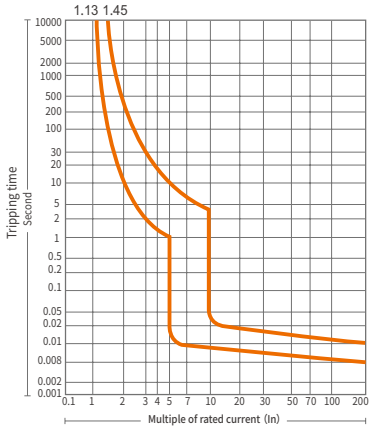
Curve	Rated current	Thermal release					Magnetic release			
		Non-trip	Trip	Non-trip time	Trip time	Ambient temperature	Hold current	Trip current	Trip time	Ambient temperature
B	6-63A	1.13In		≤1h		30°C+5°C	3In		≥0.1	Normal temperature
			1.45In		<1h			5In	<0.1	
C	6-63A	1.13In		≤1h			5In		≥0.1	
			1.45In		<1h			10In	<0.1	
D	6-63A	1.13In		≤1h			10In		≥0.1	
			1.45In		<1h			20In	<0.1	

B curve



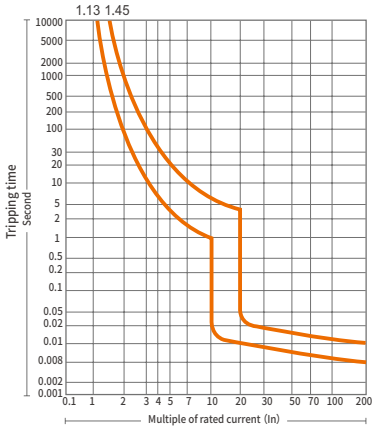
Universal use
- socket outlet, lighting device

C curve



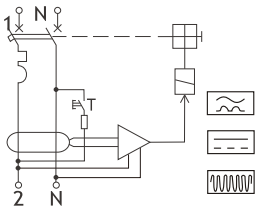
Resistive & inductive loads with low inruch current
- lamp, high starting current motor

D curve

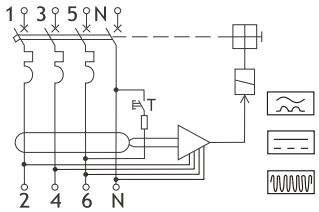


Loads with high inrush current
- transformer, solenoid valve, 2 pole motor

Wiring Diagram

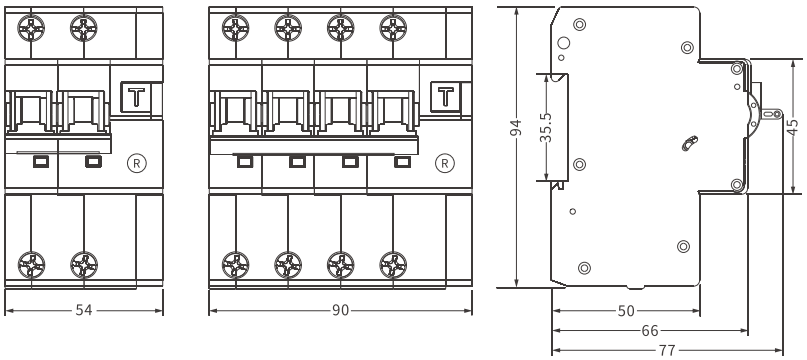


1P+N



3P+N

Dimension (mm)



B Type | Electronic Type | RCBO | 10kA

ETL5-63B

Residual Current Circuit Breaker with Overcurrent Protection

- Voltage: 240/415V AC systems (50/60Hz)
- Etectronic type
- Current range: 6A to 63A
- B types
- Rated residual current: 30, 100, 300mA
- Top incoming wiring
- Tripping curves: Type B/C/D available
- Transparent trip status observation port
- Breaking capacity: 10kA
- RCBO according to IEC/EN 61009-1, IEC/EN 62423
- Protects against overload, short circuit, and leakage faults

Applications

EV Charging Stations

Photovoltaic (PV) Systems

UPS Systems

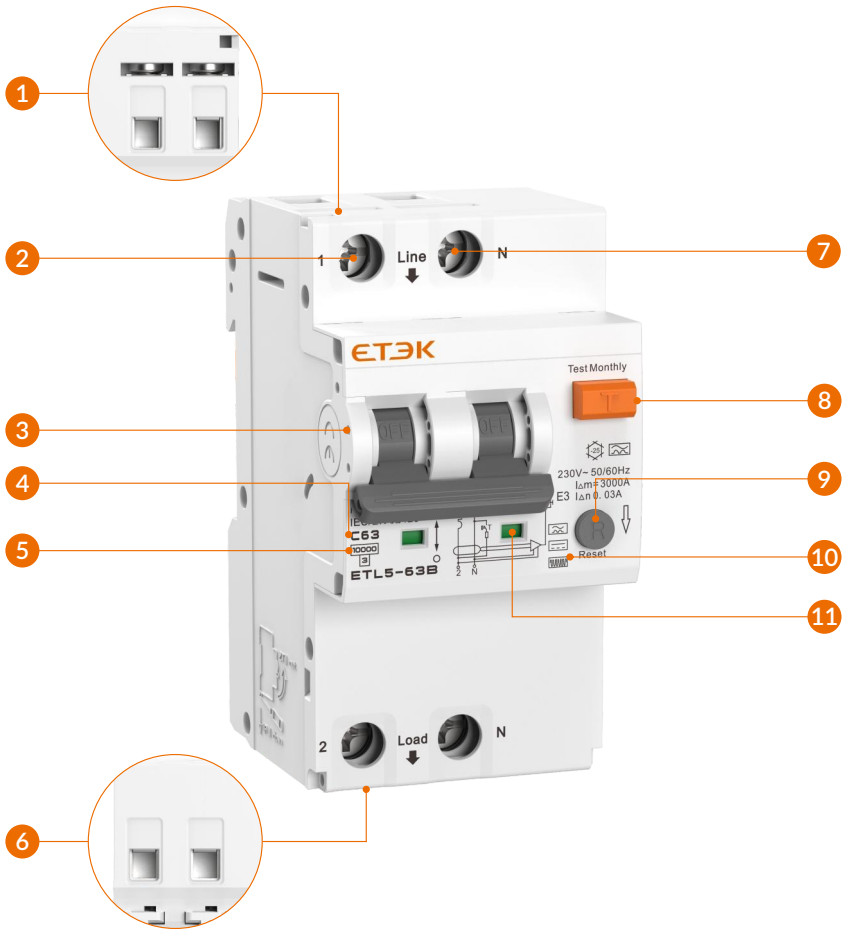
Industrial Welding Equipment

Overview

ETL5-63B Type B RCBO (Residual Current Circuit Breaker with Overcurrent protection) is a combined protective device that integrates residual current protection (RCD) and overcurrent protection (MCB), with a rated current up to 63A. It supports single-phase 230/240V and three-phase 400/415V systems, features a 10kA breaking capacity, and meets IEC61009-1 and IEC62423 standards.

Type B RCBOs are specifically designed to detect smooth DC residual currents, as well as AC and pulsating DC currents. This makes them ideal for applications such as industrial environments with variable speed drives, solar panel systems, EV charging stations, commercial distribution boards, and residential installations where enhanced earth leakage protection is required.

Product Tips



1. PIN/ Fork busbar
2. Live line interface
3. The position of handle Lock
4. Tripping characteristics B, C, D
5. Rated short-circuit capacity 10kA
6. PIN busbar
7. Neutral line interface
8. Test button
9. Reset button
10. Sensitivity to residual current B
11. Contacts position indication window

Technical Data

Standard		IEC/EN 61009-1
Protection		Ground fault, Overcurrent and short circuit
Type of trip		Ground fault: Electronic
		Overload and short circuit: Thermal-magnetic
Residual current type		AC, A
No. of poles		1P+N 3module, 3P+N 5module (with switched neutral)
Insulation voltage (Ui)		500V
Rated voltage (Ue)		1P+N: 230/240V~; 3P+N: 400/415V~
Rated currents (In)		6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated sensitivity currents (IΔn)		10, 30, 100, 300mA
Residual current off-time under (IΔn)		≤0.1s
Rated residual making and breaking capacity (IΔm)		500A (In≤50A)
		10In (In>50A)
Rated frequency		50/60Hz
Rated short-circuit capacity (Icn)		ETL5-63: 6kA
		ETL5-63H: 10kA
Energy limiting class		3
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)
Thermal tripping characteristics		1.13In No tripping within an hour
		1.45In Tripping within an hour
Instantaneous tripping characteristics		B: 3In-5In; C: 5In-10In; D: 10In-20In
Electrical life		4,000 Cycles
Mechanical life		10,000 Cycles
Contact position indicator		green OFF / red ON
Protection degree		IP20
Ambient temperature		-25°C ~ +55°C
Storage temperature		-30°C ~ +70°C
Terminal connection type	Line side terminals	Cable/ Pin-type/ Fork-type busbar
	Load side terminals	Cable/ Pin-type
Max. terminal size for cable		16mm² flexible/ 25mm² rigid
Max. tightening torque		2.5N.m
Installation		Mounting on 35mm DIN rail
Incoming method		From top

RCD Type

Type AC RCDs detect slowly increasing sinusoidal AC residual currents.

Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

Type B RCDs detect sinusoidal AC, pulsating DC, multi-frequency composite, and smooth DC residual currents. They are designed to trip at frequencies ranging from 50Hz to 1kHz.

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.

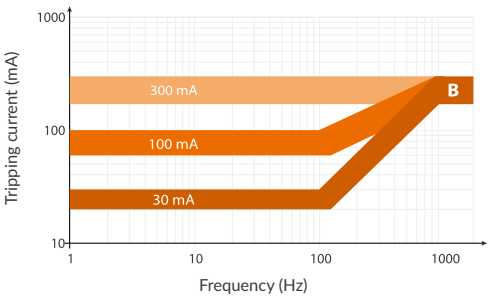
Tripping Characteristic

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

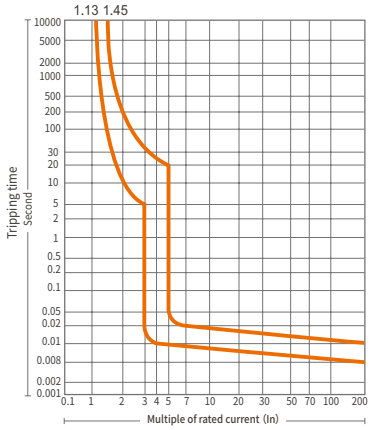
Frequency (Hz)	Residual non-operating current (IΔn)	Residual operating current (IΔn)
150	0.5 IΔn	2.4 IΔn
400	0.5 IΔn	6 IΔn
1000	IΔn	14 IΔn



Tripping Characteristic

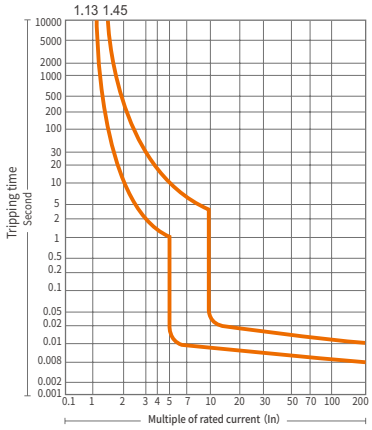
Curve	Rated current	Thermal release					Magnetic release			
		Non-trip	Trip	Non-trip time	Trip time	Ambient temperature	Hold current	Trip current	Trip time	Ambient temperature
B	6-63A	1.13In		≤1h		30°C+5°C	3In		≥0.1	Normal temperature
			1.45In		<1h			5In	<0.1	
C	6-63A	1.13In		≤1h			5In		≥0.1	
			1.45In		<1h			10In	<0.1	
D	6-63A	1.13In		≤1h			10In		≥0.1	
			1.45In		<1h			20In	<0.1	

B curve



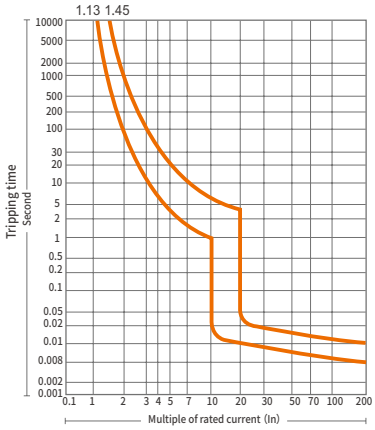
Universal use
- socket outlet, lighting device

C curve



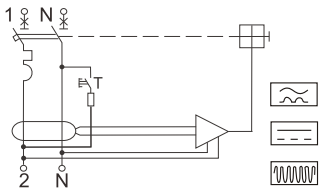
Resistive & inductive loads with low inruch current
- lamp, high starting current motor

D curve

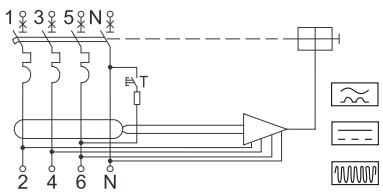


Loads with high inrush current
- transformer, solenoid valve, 2 pole motor

Wiring Diagram



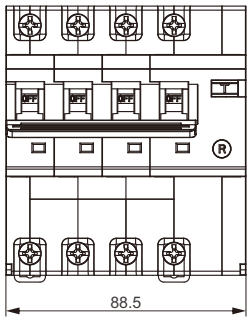
1P+N



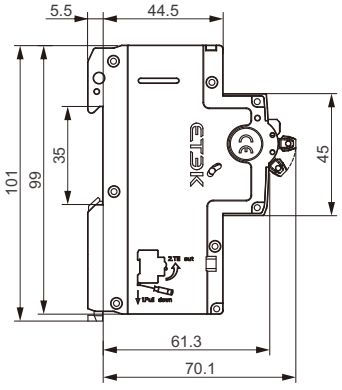
3P+N

Dimension (mm)

1P+N



3P+N



B Type | Electronic Type | RCBO | 10kA

ETL3-63B

Residual Current Circuit Breaker with Overcurrent Protection

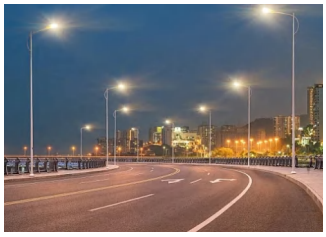
- Voltage: 230/240V AC systems (50/60Hz)
- Current range: 6A to 63A
- Rated residual current: 30mA
- Tripping curves: Type B/C available
- Breaking capacity: 10kA
- Protects against overload, short circuit, and leakage faults
- Etectronic type
- B types
- Bidirectional wiring capability
- Visual leakage fault indication window
- Transparent trip status observation port
- RCBO according to IEC/EN 61009-1, IEC/EN 62423

Applications

Main circuit protection in residential distribution systems

Lighting circuit control in commercial buildings

Power supply line protection for industrial equipment



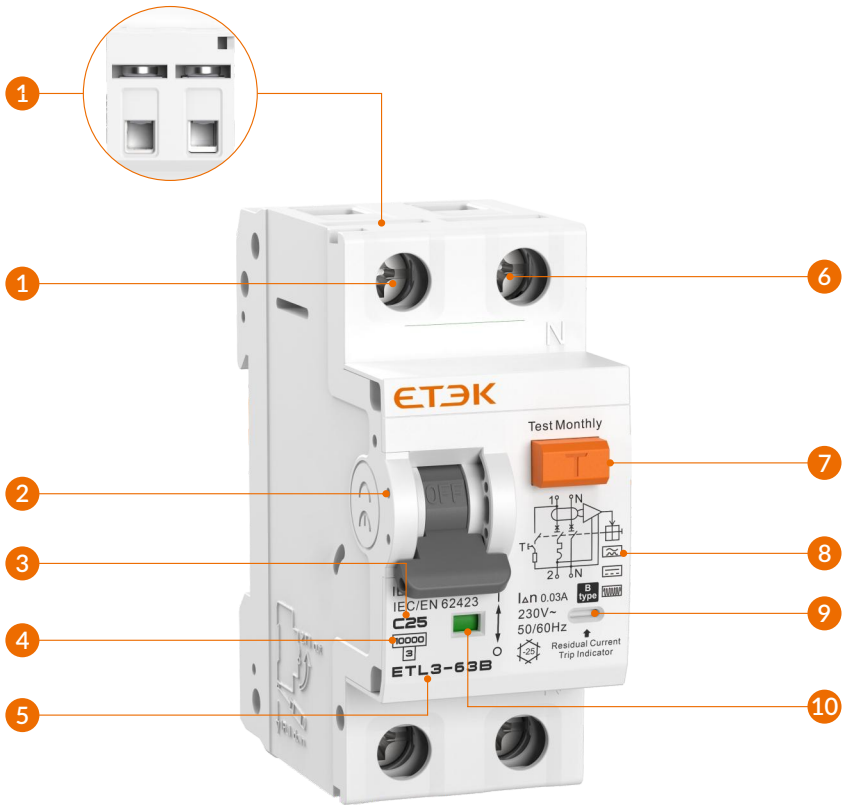
Electrical safety assurance in public facilities

Overview

ETL3-63B is an IP+N Type B RCBO (Residual Current Circuit Breaker with Overcurrent protection) with up to 63A rated current, 230/240V rated voltage, 10kA breaking capacity, and 30mA residual current sensitivity. It features both B and C curve characteristics and provides comprehensive protection against overcurrent, short circuit, and earth leakage, with advanced detection of complex waveforms and smooth DC residual currents.

With its bidirectional power capability, ETL3-63B is especially suited for modern electrical installations and renewable energy applications, ensuring reliable protection for sensitive equipment such as EV chargers, solar panels, and heat pumps.

Product Tips



1. PIN/ Fork busbar
2. Live line interface
3. The position of handle Lock
4. Tripping characteristics B, C
5. Rated short-circuit capacity 10kA
6. Neutral line interface
7. Test button
8. Sensitivity to residual current B
9. Residual current trip indicator
10. Contacts position indication window

Technical Data

Standard	IEC/EN 61009-1, IEC/EN 62423
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Ground fault: Electronic
	Overload and short circuit: Thermo-magnetic
Residual current type	B Type - residual AC, pulsating and smooth DC current, high frequency (≤1kHz)
No. of poles	1P+N
Neutral	Switched, N pole on the right
Insulation voltage (Ui)	500V
Rated voltage (Ue)	230/240V~
Rated currents (In)	6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated sensitivity currents (IΔn)	30mA
Residual current off-time under (IΔn)	≤0.1s
Rated residual making and breaking capacity (IΔm)	500A (In≤50A), 10In (In>50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	10kA
Energy limiting class	3
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)
Thermal tripping characteristics	1.13In No tripping within an hour; 1.45In Tripping within an hour
Instantaneous tripping characteristics	B: 3In-5In; C: 5In-10In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF/ red ON
Ground fault indicator	White: Normal; Blue: Leakage fault
Protection degree	IP20
Ambient temperature	-25°C ~ +55°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

RCD Type

Type AC RCDs detect slowly increasing sinusoidal AC residual currents.

Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

Type B RCDs detect sinusoidal AC, pulsating DC, multi-frequency composite, and smooth DC residual currents. They are designed to trip at frequencies ranging from 50Hz to 1kHz.

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.

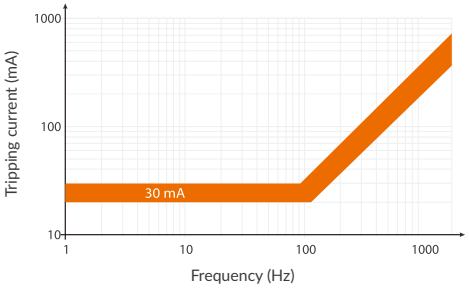
Tripping Characteristic

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

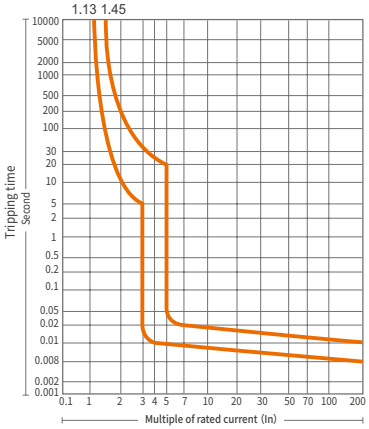
Frequency (Hz)	Residual non-operating current (IΔn)	Residual operating current (IΔn)
150	0.5 IΔn	2.4 IΔn
400	0.5 IΔn	6 IΔn
1000	IΔn	14 IΔn



Tripping Characteristic

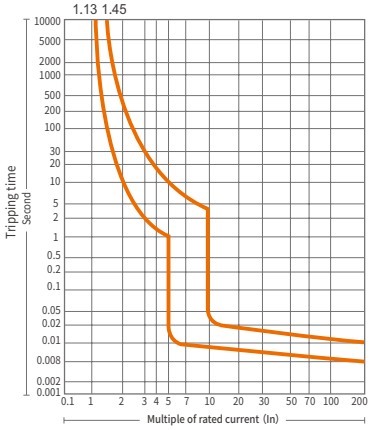
Curve	Rated current	Thermal release					Magnetic release			
		Non-trip	Trip	Non-trip time	Trip time	Ambient temperature	Hold current	Trip current	Trip time	Ambient temperature
B	6-63A	1.13In		≤1h		30°C+5°C	3In		≥0.1	Normal temperature
			1.45In		<1h			5In	<0.1	
C	6-63A	1.13In		≤1h			5In		≥0.1	
			1.45In		<1h			10In	<0.1	

B curve



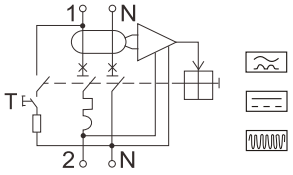
Universal use
- socket outlet, lighting device

C curve

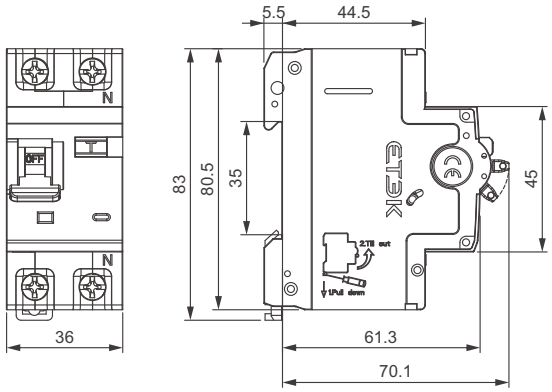


Resistive & inductive loads with low inruch current
- lamp, high starting current motor

Wiring Diagram



Dimension (mm)



B Type | Electronic Type | RCBO | 6kA

EKL19-40B

Residual Current Circuit Breaker with Overcurrent Protection

- Voltage: 230/240V AC systems (50/60Hz)
- Current range: 16A to 40A
- Rated residual current: 30mA
- Tripping curves: Type B/C available
- Breaking capacity: 6kA
- Protects against overload, short circuit, over-voltage
- Etectronic type
- B types
- Transparent trip status observation port
- RCBO according to IEC/EN 61009-1, IEC/EN 62423

Applications


EV Charging Stations


Photovoltaic (PV) Systems


UPS Systems

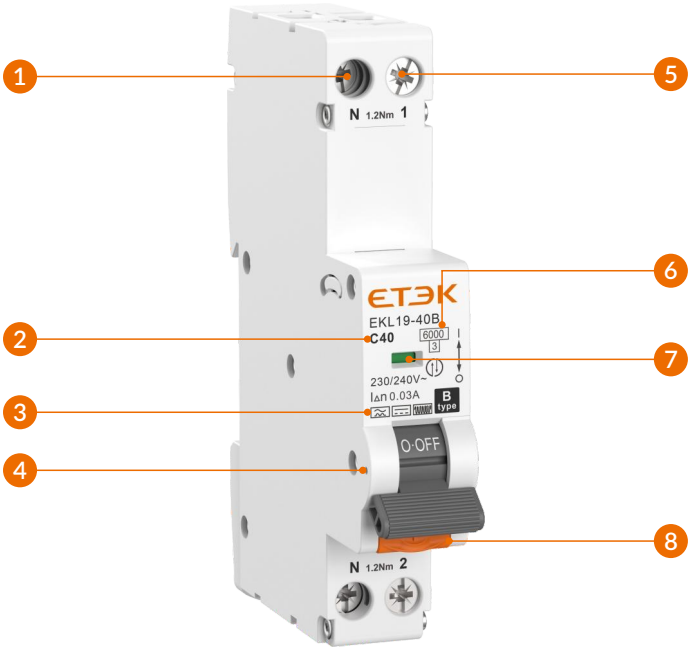

Industrial Welding Equipment

Overview

EKL19-40B is a single-module Type B Residual Current Breaker with Overcurrent Protection (RCBO) introduced by ETEK Electric. This advanced circuit protection device efficiently handles overcurrent, short circuits, and earth fault leakages, while being specifically designed to detect complex waveforms and DC residual currents. The compact single-module design, combined with its bidirectional power capability, makes it an ideal solution for modern electrical installations and the renewable energy sector.

EKL19-40B operates at a rated voltage of 230/240V and supports a maximum current of up to 40A. It features a residual current sensitivity of 30mA and a short-circuit rating of 6kA. Additionally, it offers both B curve and C curve characteristics, making it an ideal solution for safeguarding sensitive electronic equipment like electric vehicle chargers, solar panels, and heat pumps.

Product Tips



1. Neutral line interface
2. Tripping characteristics B, C
3. Sensitivity to residual current B
4. The position of handle Lock
5. Live line interface
6. Rated short-circuit capacity 6kA
7. Contacts position indication window
8. Test button

Technical Data

Standard	IEC/EN 61009-1, IEC/EN 62423
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Groundfault: Electronic
	Overload and short circuit: Thermo-magnetic
Residual current type	B Type - residual AC, pulsating and smooth DC current, high frequency (≤1kHz)
No. of poles	1P+N
Neutral	Switched, N pole on the left
Insulation voltage (Ui)	500V
Rated voltage (Ue)	230/240V~
Rated currents (In)	6, 8, 10, 13, 16, 20, 25, 32, 40A
Rated sensitivity currents (IΔn)	30mA
Residual current off-time under (IΔn)	⩽0.1s
Rated residual making and breaking capacity (IΔm)	500A (In≤50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	6kA
Energy limiting class	3
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)
Thermal tripping characteristics	1.13In No tripping within an hour; 1.45In Tripping within an hour
Instantaneous tripping characteristics	B: 3In-5In; C: 5In-10In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indication	green OFF/ red ON
Protection degree	IP20
Ambient temperature	-25°C ~ +55°C
Storage temperature	-30°C ~ +70°C
Terminal connection type	Cable/ Pin-type busbar
Max. terminal size for cable	16mm²
Max. tightening torque	2.0N.m
Installation	Mounting on 35mm DIN rail
Incomingmethod	Bi-directional

RCD Type

Type AC RCDs detect slowly increasing sinusoidal AC residual currents.

Type A RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.

Type B RCDs detect sinusoidal AC, pulsating DC, multi-frequency composite, and smooth DC residual currents. They are designed to trip at frequencies ranging from 50Hz to 1kHz.

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.

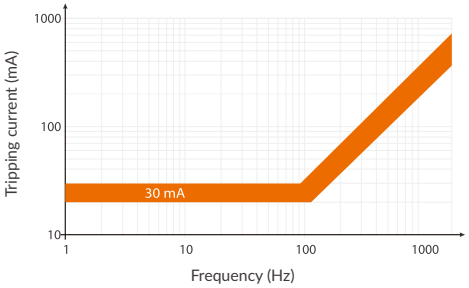
Tripping Characteristic

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

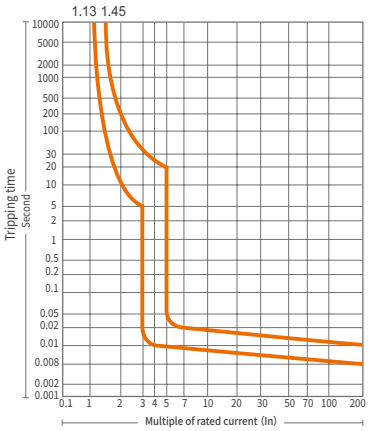
Type B RCDs - Residual non-operating and operating current according to frequencies which differ from the rated frequency 50/60 Hz

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



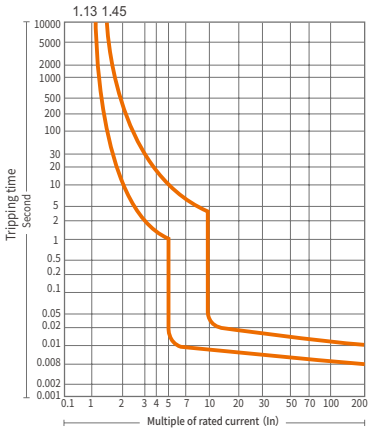
Curve	Rated current	Thermal release					Magnetic release			
		Non-trip	Trip	Non-trip time	Trip time	Ambient temperature	Hold current	Trip current	Trip time	Ambient temperature
B	16-40A	1.13In		≤1h		30°C+5°C	3In		≥0.1	Normal temperature
			1.45In		<1h			5In	<0.1	
C	16-40A	1.13In		≤1h			5In		≥0.1	
			1.45In		<1h			10In	<0.1	

B curve



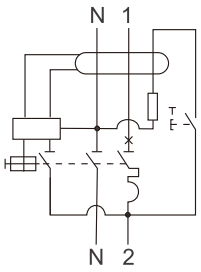
Universal use
- socket outlet, lighting device

C curve

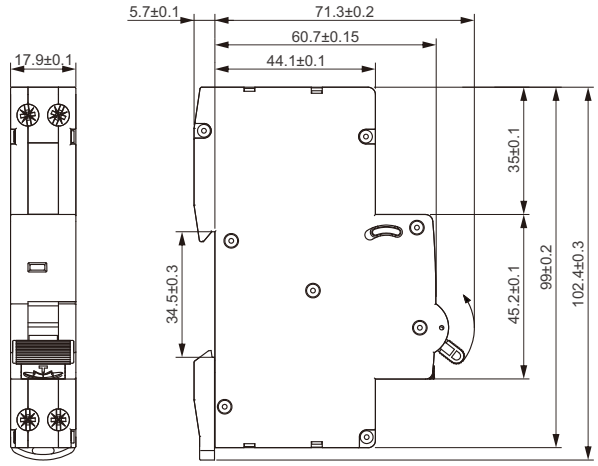


Resistive & inductive loads with low inruch current
- lamp, high starting current motor

Wiring Diagram



Dimension (mm)



The product data referred to in the company shall be subject to material object. Subject to change without notice. The company has the final right to interpret.

Green paper printing.

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Anhui Wuhu Factory

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