ETL2-63(H)

Residual Current Circuit Breaker with Overcurrent Protection





- Voltage: 240/415V AC systems (50/60Hz)
- Current range: 6A to 63A
- Rated residual current: 10, 30, 100, 300mA
- Tripping curves: Type B/C/D available
- Breaking capacity: 6kA, 10kA
- Electronic type
- Bidirectional wiring capability
- AC and A types
- Transparent trip status observation port
- RCBO according to IEC/EN 61009-1

Applications



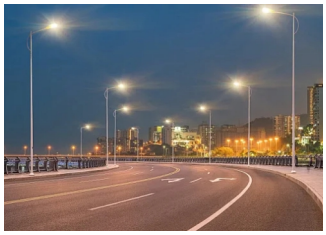
Main circuit protection in residential distribution systems



Lighting circuit control in commercial buildings



Power supply line protection for industrial equipment



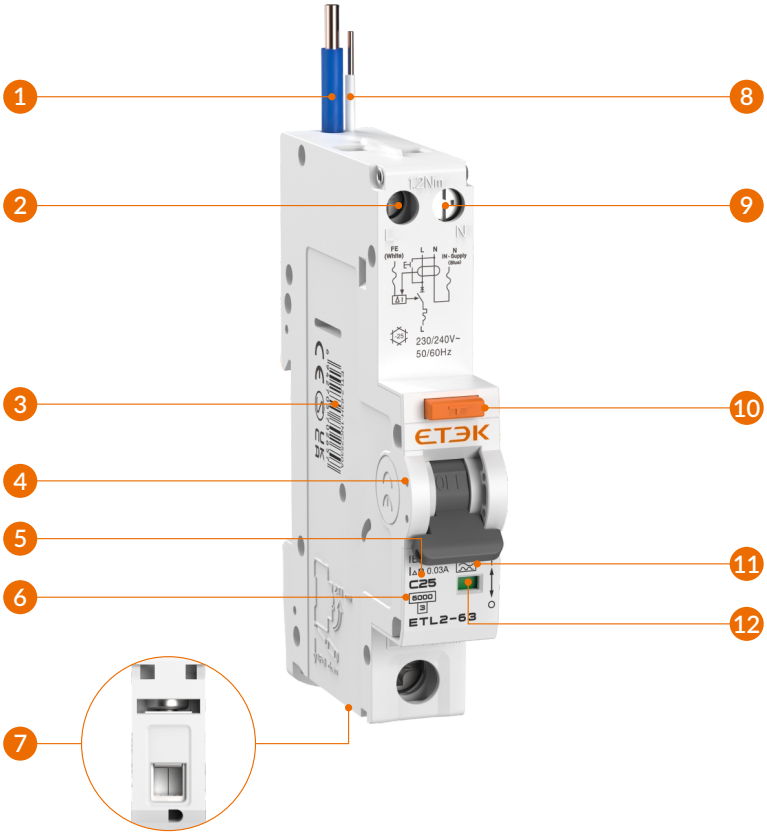
Electrical safety assurance in public facilities

Overview

ETL2-63 Series Residual Current Circuit Breaker with Overcurrent Protection (RCBO) provides comprehensive protection against overloads, short-circuits, and earth faults in residential, commercial, and industrial distribution boards. Fully compliant with IEC/EN 61009-1, the series features bidirectional wiring capability (Line/Load interchangeable) and offers breaking capacities of 6kA and 10kA rated up to 63A.

- **1P+N (18mm, 230/240V~):** Compact 1-module design equipped with a blue neutral flying lead. An optional functional earth cable (FE, white) ensures continued protection even upon neutral loss.
- **3P+N (54mm, 400/415V~):** Space-saving 3-module design optimized for three-phase installations.

Product Tips



1. Neutral incoming cable
2. Live line interface
3. EAN-13 barcodes
4. The position of handle
5. Tripping characteristics B, C, D (D only 3P+N)
6. Rated short circuit breaking capacity 6kA, 10kA
7. PIN/ Fork busbar
8. Functional earth cable (optional) (only 1P+N)
9. Neutral line interface
10. Test button
11. Sensitivity to residual current AC, A
12. 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 type - AC residual current	
		A type - residual AC and pulsating DC current	
No. of poles		1P+N, Neutral line is unswitched	3P+N, Neutral line is unswitched
Insulation voltage (Ui)		500V	
Rated voltage (Ue)		230/240V~	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)		ETL2-63: 6kA; ETL2-63H: 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	B: 3In-5In; C: 5In-10In; D: 10In-20In
Electrical life		4,000 Cycles	
Mechanical life		8,000 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	Top terminals	Cable/ Pin-type busbar	
	Bottom terminals	Cable/ Pin-type/ Fork-type busbar	
Max. terminal size for cable	Top terminals	16mm²	25mm²
	Bottom terminals	25mm²	
Max. tightening torque	Top	1.2N.m	2.0N.m
	Bottom	2.5N.m	
Neutral load cable		Blue, 455mm length, 4mm² (Other lengths available upon request)	
Functional earth cable (optional)		White, 455mm length, 0.6mm² (Other lengths available upon request)	-
Installation		Mounting on 35mm DIN rail	
Wiring method		Bi-Directional	

Auxiliary for remote tripping or signaling	
Auxiliary Contact	Yes
Auxiliary & Alarm Contact	Yes
Shunt Release	Yes
Shunt Release & Auxiliary Contact	Yes
Voltage Loss Release	Yes
Over-voltage Release	Yes
Undervoltage Release	Yes
Over-undervoltage Release	Yes

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.

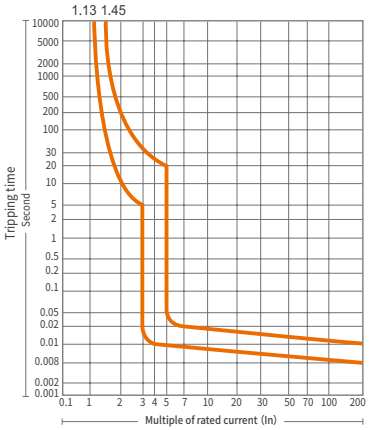
Tripping Sensitivity

10mA	Provides a higher level of protection for the human body and is used in certain situations with very high requirements for electric shock protection, such as children's facilities, swimming pools, bathrooms and other humid environments.
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 Characteristics

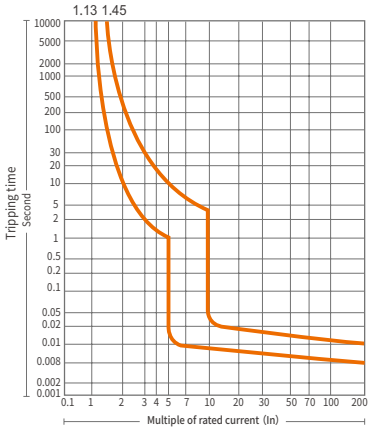
Curve	Rated current	Thermal release				Magnetic release		
		Non-trip	Trip	Non-trip time	Trip time	Hold current	Trip current	Trip time
B	6-63A	1.13In		≤1h		3In		≥0.1
			1.45In		<1h		5In	<0.1
C	6-63A	1.13In		≤1h		5In		≥0.1
			1.45In		<1h		10In	<0.1
D	6-63A	1.13In		≤1h		10In		≥0.1
			1.45In		<1h		20In	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

B curve



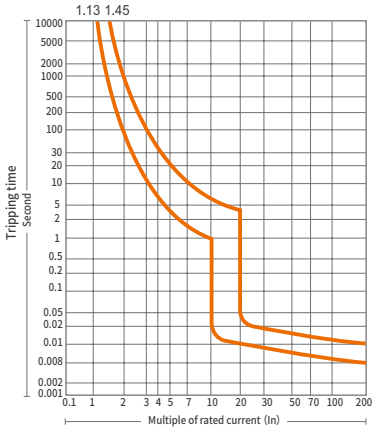
Universal use
- socket outlet, lighting device

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

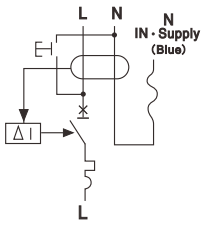
Breaking Time of Residual Current

In(A)	IΔn(mA)	Max. breaking time			
		IΔn	2IΔn	5IΔn	5,10,20,50,100,200,500A
6,10,16,20,25,32,40,50,63	10, 30, 100, 300	0.1s	0.08s	0.04s	0.04s

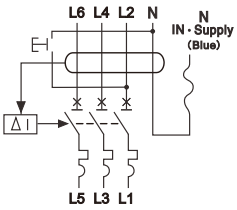
Temperature Derating Table

Rated current (A)	Correction factor for ambient temperature											
	-40°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
6	8	7.7	7.5	7.2	6.9	6.6	6.3	6	5.7	5.3	4.9	4.5
10	13.3	12.9	12.5	12	11.5	11.1	10.5	10	9.4	8.8	8.2	7.5
16	21.3	20.7	20	19.2	18.5	17.7	16.9	16	15.1	14.1	13.1	11.9
20	26.7	25.8	24.9	24	23.1	22.1	21.1	20	18.9	17.6	16.3	14.9
25	33.3	32.3	31.2	30	28.9	27.6	26.4	25	23.6	22	20.4	18.6
32	42.7	41.3	39.9	38.5	37	35.4	33.7	32	30.2	28.2	26.1	23.9
40	53.3	51.6	49.9	48.1	46.2	44.2	42.2	40	37.7	35.3	32.7	29.8
50	66.7	64.5	62.4	60.1	57.7	55.3	52.7	50	47.1	44.1	40.8	37.3
63	84	81.3	78.6	75.7	72.7	69.6	66.4	63	59.4	55.6	51.4	47

Wiring Diagram

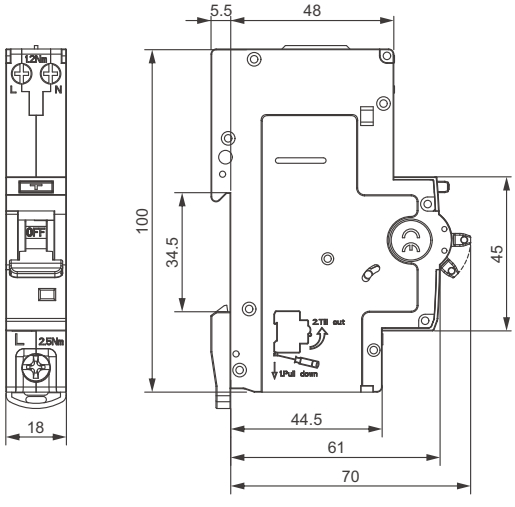


1P+N

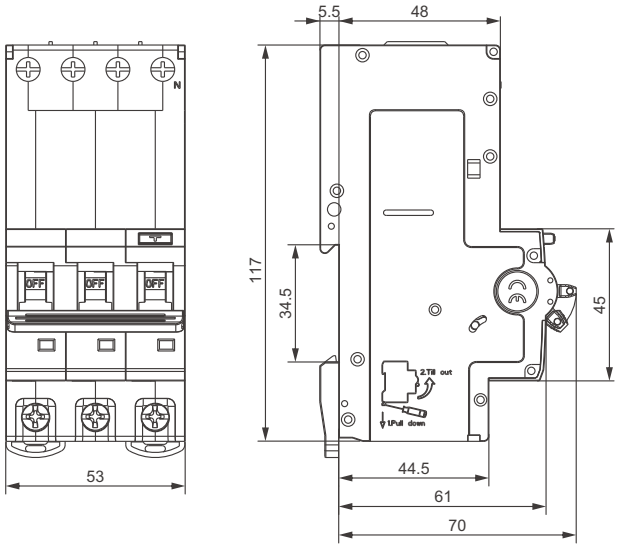


3P+N

Dimension (mm)



1P+N



3P+N