

Usage Manual



EKR3(L) Series Smart Circuit Breaker (Built-in automatic reclosing)

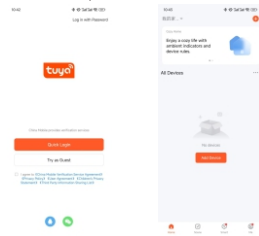
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1. Networking

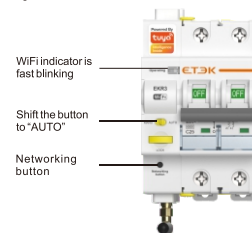
① Download APP

Search "TuyaSmart" or "SmartLife" in APP store and download APP, register an account and create family

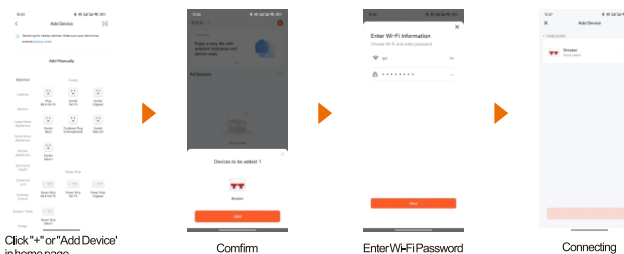


② Connection

Press shifts the button to "Auto" until the Green LED light blinks fast. Press the Configure Network button for 3 seconds if the indicator light does not respond for an extended period, This will allow you to enter the Configure Network mode.



③ Add New Device



2. Product description

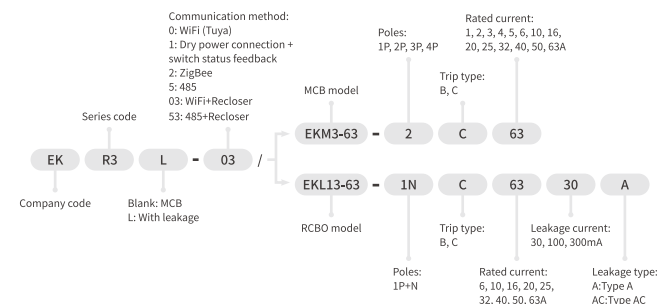
EKR3(L) smart circuit breaker is suitable for lines with AC 50Hz, rated voltage of 230V/400V, and rated current up to 63A. It provides protection against overload, short circuits, and isolation or earth leakage.

The EKR3(L) circuit breaker equipment can be controlled through the Tuya APP, Smart Life App, or a platform connected to RS485, allowing for remote control, timing on or breaker circuit of the mobile phone.

Additionally, this series of smart circuit breakers can provide an automatic reclosing function. In the event of a temporary power system failure, the product will automatically reclose after tripping to improve the reliability of the circuit power supply.

Applications include remote intelligent control for homes, student dormitories, enterprises, municipal projects, streetlamps, farms, rental houses, pumps, floor heating, water heaters, and more.

3. Instruction of Type code



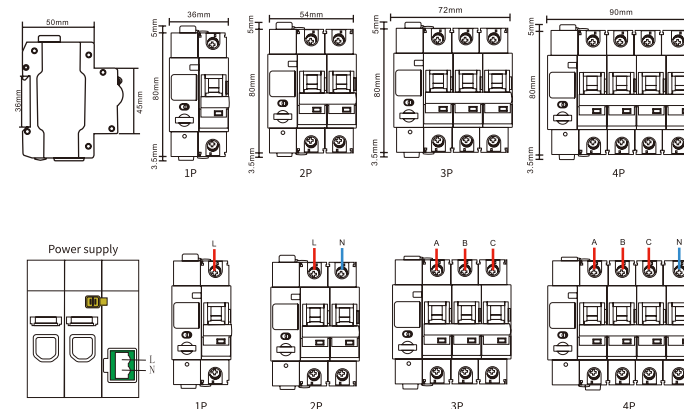
4.1. Main technical parameters

Model	EKR3(L)-WiFi	EKR3(L)-RS485
Communication method	WiFi, ZigBee	Rs485
Supply terminals	L-N	
Rated voltage (Ue)	AC 230V	
Power consumption	AC max.1VA (standby), max.20VA (action)	
Supply voltage tolerance	±10%	
Status Indicator	Green LED	Red, green and yellow tri-color LED
Trip time	≤1s	
Reclosing times	3 times (customizable)	5 times
Reset reclosing times	No more tripping or manual reset within 15 minutes after successful closing	No tripping or manual reset within 60 seconds after successful closing. Adjustable time setting range: 5-600 seconds.
Mechanical life	10000 Cycles	
Electrical life	4000 Cycles	
Ambient temperature	-20°C to +55°C	
Storage temperature	-35°C to +75°C	
Installation	Mounting on 35mm DIN rail	
Pollution degree	IP20	
Supply terminal size for cable	Max. 2.5mm ²	
Dimensions	91×18×61mm	

4.2. EKR3 Smart MCB Technical Parameters

Standard	IEC/EN60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P, 2P, 3P, 4P
Rated currents (In)	1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63A
Rated voltage (Ue)	240/415V~
Rated frequency	50/60Hz
Rated breaking capacity	6,000A
Thermal release characteristic	(1.13-1.45) x In
Magnetic release characteristic	B: (3-5) x In, C: (5-10) x In
Electrical life	8,000 Cycles
Mechanical life	20,000 Cycles
Ambient temperature	-5°C to +40°C Max.95%humidity
Terminal connection type	Cable/Pin-type busbar
Max.terminal size for cable	25mm ²
Max.tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Connection	From top and bottom

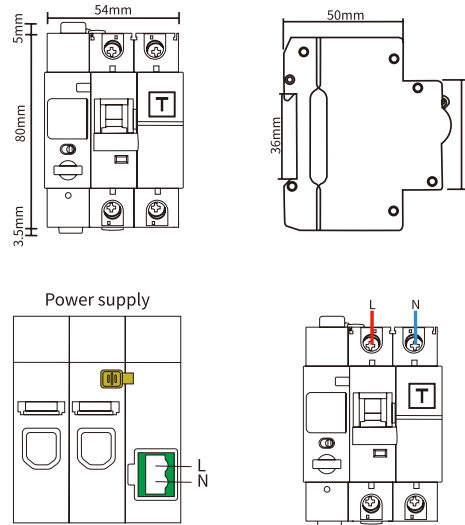
4.2. EKR3 Smart MCB Product Size and Wiring Method



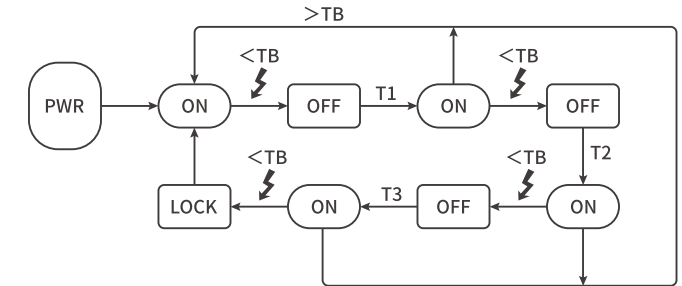
4.3. EKR3L Smart RCBO Technical Parameters

Standard	IEC/EN61009-1
Protection	Ground fault, Overcurrent and short circuit
Type of protection (electric leakage)	AC,A
No.of poles	1P+N 2module, N line with disconnected
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 voltage (Ue)	230/240V~
Rated frequency	50/60Hz
Rated breaking capacity	6,000A
Thermal release characteristic	(1.13-1.45) x In
Magnetic release characteristic	B: (3-5) x In, C: (5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Ambient temperature	-25°C to +40°C , Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max.terminal size for cable	25mm ²
Max.tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Connection	From top and bottom

4.3. EKR3L Smart RCBO Product Size and Wiring Method

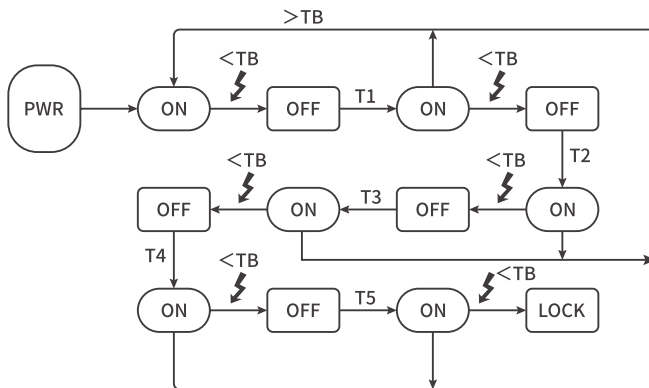


4.4. Reclosing Function Diagram for WiFi



Green light flashes for 100ms	Connect to cloud server
Type of protection (electric leakage)	Mechanism failure
Green light flashes on for 100ms and off for 900ms	Manual, Padlock mode
Green light flashes for 500ms	Configuration network
Green light flashes for 5000ms	Connect to router
Green light flashing 100ms off 900ms on	Within the time TB
Green light flashing 1700ms off 100ms on 100ms off 100ms on	Automatic reclose waiting time T (T2, T3)

4.5. Reclosing Function Diagram for RS485



Red light is always on	Auto Mode Trip
Red light flashes for 100ms	Auto Mode - Motor Reset Failed or Cycle Close Failed
Red light flashes for 500ms	Auto mode overvoltage and undervoltage trip
Green light is always on	Auto mode closing, remote opening, signal opening
Green light flashes for 100ms	Automatic reclose waiting time
Yellow light is always on	Manual mode opening, closing

5. Fault Description

1. The Device Cannot be Closed Remotely?

Check whether the remote lock is turned on in the APP.
Check whether manual opening has been carried out First, manually close and then operate the APP to check if it can be closed and opened.
Whether the mechanical padlock is pulled out or not.

2. 485 Device cannot communicate, send opening/closing command, no action?
Please ensure that the device is in normal operation, and then check whether A and B of the RS485 line are reversed, whether the communication baud rate is set correctly, and whether there is any abnormality in the communication connection.

3. Operation Without Feedback?

Check whether the product terminals have been tightened.
Check the APP settings, notification type and whether the message notification is enabled.

4. After Power On, The Indicator Light Does Not Light Up?

Check whether the power interface is reversed, whether the switching power supply output has power or not.

5. LED light status description (Without reclosing)

WiFi, ZIGBEE	
Green light is always on	Connect to cloud server
Green light flashes for 100ms	Mechanism failure
Green light flashes for 100ms	Padlock mode
Green light flashes for 500ms	Configuration network
Green light flashes for 5000ms	Connect to router

RS485, Dry contact	
Red light is always on	Auto Mode Trip
Red light flashes for 100ms	Auto Mode - Motor Reset Failed or Cycle Close Failed
Red light flashes for 500ms	Auto mode overvoltage and undervoltage trip
Green light is always on	Auto mode closing, remote opening, signal opening
Green light flashes for 100ms	Automatic reclose waiting time
Yellow light is always on	Manual mode opening, closing