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› [Smart-Home](#) /

› [Smart-Home Smart RCBO 30mA Type A & AC Wi-Fi Residual Current Operated Circuit Breaker User Manual](#)

Smart-Home Smart RCBO 30mA Type A & AC

Smart-Home Smart RCBO 30mA Type A & AC Wi-Fi Residual Current Operated Circuit Breaker User Manual

INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your Smart-Home Smart RCBO 30mA Type A & AC Wi-Fi Residual Current Operated Circuit Breaker. Please read this manual thoroughly before installation and use to ensure safe and efficient operation.

The Smart-Home Smart RCBO is a single-phase residual current operated circuit breaker with overcurrent protection, available in Type A and AC. It provides comprehensive protection against residual currents and electrical overloads. Featuring a compact two-DIN module design, an OLED display for real-time data, and compatibility with Tuya Smart and Smart Life apps. It supports current settings from 1 to 40A (C curve) and a 30mA leakage current. The device includes an automatic reclosing function with up to three attempts after a trip, and manual rearming via the app. Additional protections cover short-circuits, overheating, overvoltage, and undervoltage. It is compatible with Linux and Home Assistant, and includes a MODBUS RTU RS485 interface. Detailed logs are stored for seven days on the Tuya IoT Platform. The product complies with EN 61009-1, EN 60947-2:2017/A11:2020, EN 60947-1:2021, and RoHS 2 directive.

SAFETY INFORMATION

- Installation must be performed by a qualified electrician in accordance with national and local wiring regulations.
- Always disconnect power before installing, wiring, or servicing the device.
- Do not operate the device if it is damaged or malfunctioning.
- Ensure proper grounding to prevent electric shock.
- The device is designed for indoor use in dry environments. Avoid exposure to moisture or extreme temperatures.
- Do not attempt to modify or repair the device yourself. Contact qualified personnel for service.

PRODUCT OVERVIEW

The Smart RCBO combines residual current and overcurrent protection in a compact 2-DIN module design. It features an OLED display and can be controlled via Wi-Fi through the Tuya Smart or Smart Life applications.

Key Features:

- **Compact Design:** Occupies only two DIN modules in your electrical panel.

- **Comprehensive Protection:** Detects leakage current (Type A & AC 30mA) and overcurrent (1-40A, C curve).
- **Automatic Reclosing:** Up to 3 attempts after a trip, with a 30-second interval. Manual rearming is also possible via the app.
- **OLED Display:** Real-time display of voltage, current, power, temperature, leakage current, kWh consumption, and MODBUS status.
- **Smart Control:** Remote management via Tuya Smart/Smart Life app, scenario creation, and voice commands (Alexa, Google Home).
- **Advanced Compatibility:** Supports Linux and Home Assistant integrations, with a MODBUS RTU RS485 interface.

Component Identification:

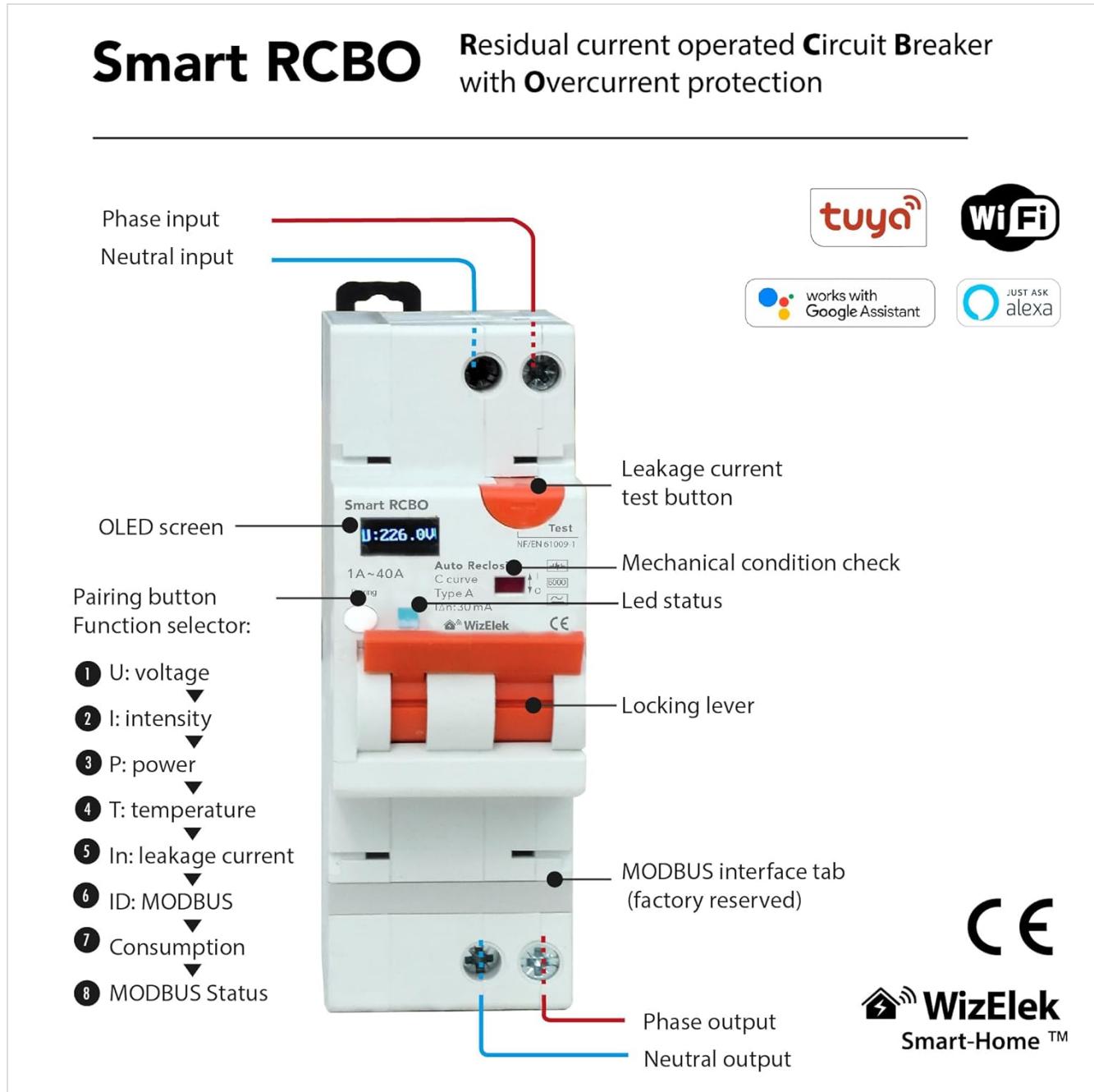


Image: Front view of the Smart RCBO with labeled components. This image shows the phase input, neutral input, OLED screen, pairing button/function selector, leakage current test button, mechanical condition check, LED status indicator, locking lever, MODBUS interface tab, phase output, and neutral output. The OLED screen displays various electrical parameters.

- **Phase Input/Output:** Connections for the live wire.
- **Neutral Input/Output:** Connections for the neutral wire.

- **OLED Screen:** Displays real-time electrical data.
- **Pairing Button/Function Selector:** Used for Wi-Fi pairing and navigating OLED display functions.
- **Leakage Current Test Button:** For manual testing of the residual current function.
- **Mechanical Condition Check:** Visual indicator of the breaker's state.
- **LED Status:** Indicates operational status and Wi-Fi connection.
- **Locking Lever:** Secures the device to the DIN rail.
- **MODBUS Interface Tab:** (Factory reserved) For advanced integration.

SPECIFICATIONS

Parameter	Value
Manufacturer	Smart-Home
Product Dimensions (L x W x H)	7 x 3.5 x 10 cm
Weight	240 grams
Model Reference	Smart RCBO 30mA type A & AC
Style	Type A & AC 30mA
Voltage	230 Volts (AC)
Wattage	9 kW
Current Rating	1-40 A (C curve)
Leakage Current Sensitivity	30mA (Type A & AC)
Breaking Capacity (Icu/Ics)	6kA
Number of Poles	2
Mounting Type	DIN rail (2 modules)
Overvoltage Protection	Adjustable 250V to 350V (Default: 280V)
Undervoltage Protection	Adjustable 110V to 200V (Default: 165V)
Maximum Temperature Setting	Adjustable 60°C to 125°C (Default: 80°C)
Power Max Setting	Adjustable 5W to 9000W (Default: 2000W)

Compliance:

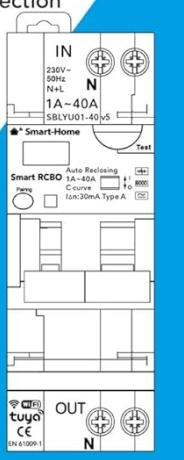
- EN 61009-1
- EN 60947-2:2017/A11:2020
- EN 60947-1:2021
- RoHS 2 Directive 2011/65/EU Annex II

EN

Smart RCBO

Wi-Fi connected Residual current
operated Circuit Breaker
with Overcurrent protection

SBLYU01-40 v5

**Main Features**

Control / Settings: Tuya Smart app -
Android and iOS
Voice commands: Alexa or Google Home



Wi-Fi: 2.4GHz (5GHz excluded)



Manual or smartphone application
operated Arming/Disarming



Display on OLED screen: voltage, current,
power, internal temperature, leakage
current, kWh consumed



Type A (and AC) leakage current 30mA



Maximum intensity setting 1A to 40A



The RCBO withstands an intensity of 6000A
Ics: Service Breaking Capacity



Maximum power setting



Maximum temperature setting



Minimum and maximum voltage settings



Recording: kWh consumed per day/month/
year



Hourly/weekly programming
Programmable scenarios ("Create a scene")
and event logs



Automatic Reclosing Function: 3 attempts
in case of leakage current, overcurrent,
overpower, over/under voltage

Settings	Value	Observation
Max Intensity	1A to 40A	Default 40A C curve
Max leakage current	30mA	Type A Type AC included
Oversupply	250V to 350V	Default: 280V
Undervoltage	110V to 200V	Default: 165V
Temperatur Max	60°C to 125°C	Default: 80°C
Power Max	5W to 9000W	Default: 2000W
Icu/Ics	6000A	Icu=Ics

(*) European standards and regulations

- EN/NF 60947-2:2017/A11:2020
- EN 60947-1:2021
- EN 61009
- RoHS Council 2 Directive 2011/65/EU Annex II
(EU) 2015/863 following the latest amendment
by Directive (EU) 2017/2102 of November 15,
2017
- European regulation n° 1907/2006 REACH
(Registration, Evaluation and Authorization of
Chemicals)

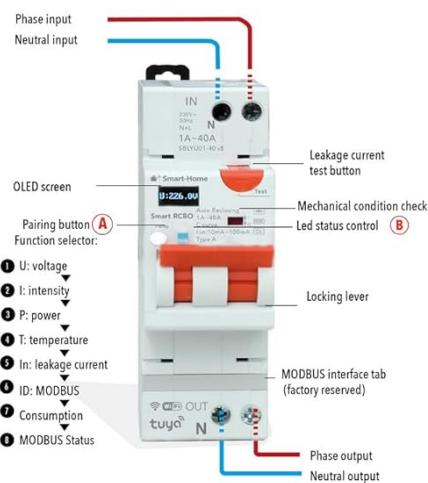
Image: This image provides a summary of the Smart RCBO's main features, including Wi-Fi compatibility, manual/smartphone operation, OLED display functions, maximum intensity, and European standards compliance. It also includes a table detailing default and adjustable settings for maximum intensity, leakage current, oversupply, undervoltage, maximum temperature, and power max.

SETUP**1. Installation and Wiring:**

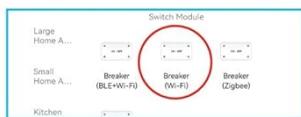
- Install the Smart RCBO at the head of the row of the electrical panel, typically downstream of the main circuit breaker.
- Ensure the installation complies with EN 61009-1 standards and local electrical codes.
- Connect the phase input and neutral input wires to the top terminals of the RCBO.
- Connect the phase output and neutral output wires to the bottom terminals of the RCBO, leading to the circuits to be protected.
- Secure the device firmly onto the DIN rail using the locking lever.

2. App Connection (Tuya Smart / Smart Life):

Front panel detail



3 Select Electrical menu then Breaker (Wi-Fi) icon



4 Enter the name of your Wi-Fi network (SSID) and the password.

Check that the smartphone is connected to 2.4 GHz Wi-Fi then press **Next**

5 Press Check that the light is flashing

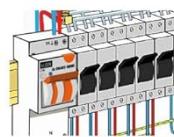
6 Press Blinks quickly

7 Wait for Add Device to complete

8 At the end of the process press **done**

Implementation

Install the smart RCBO at the head of the row of the electrical panel.
Install downstream of the main circuit breaker if the installation has several electrical distribution branches.



Download "Tuya Smart" APP



Connection with TuyaSmart

Press the Pairing button **A** on the circuit breaker for 5 s. The LED indicator **B** flashes red rapidly

1 On the homepage of Tuya Smart. Press the top right corner button **+**

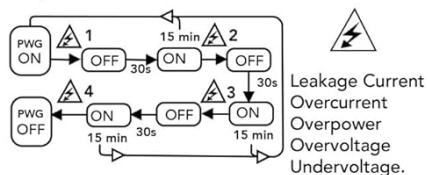
2 Tap **Add Device**

Automatic Reclosure Mode

Go to the **Advanced Function** menu and activate the **Automatic Closure** function.



The Smart RCBO automatically cuts off the circuit in case of an electrical fault and attempts to restore it up to three times every 30 seconds. If the fault persists after these 3 attempts, the circuit remains open. If the circuit remains stable for 15 minutes, the system is reset.



Note: In case of excessive temperature or short circuit, no automatic reclosing

01/01/2024 © 2024 Smart Home. All rights reserved

Image: This image illustrates the steps for connecting the Smart RCBO to the Tuya Smart app. It shows the device's front panel, the app download QR code, and a step-by-step guide for pairing the device with a smartphone.

- Download the "Tuya Smart" app from the App Store or Google Play Store, or scan the QR code provided in the product documentation. You can also visit <https://smartapp.tuya.com/tuyasmart>.
- Press the Pairing button (labeled 'A' in the diagram) on the circuit breaker for 5 seconds. The LED indicator will flash rapidly.
- Open the Tuya Smart app. On the homepage, tap the "+" icon in the top right corner.
- Tap "Add Device".
- Select the "Electrical" menu, then choose the "Breaker (Wi-Fi)" icon.
- Enter the name of your Wi-Fi network (SSID) and the password. Ensure your smartphone is connected to a 2.4 GHz Wi-Fi network. Tap "Next".
- Confirm that the light is blinking rapidly in the app.
- Wait for the app to add the device.
- Once the process is complete, the device will be added to your app.

Note: The device only supports 2.4 GHz Wi-Fi networks. 5 GHz networks are not supported.

OPERATING INSTRUCTIONS

1. OLED Display Navigation:

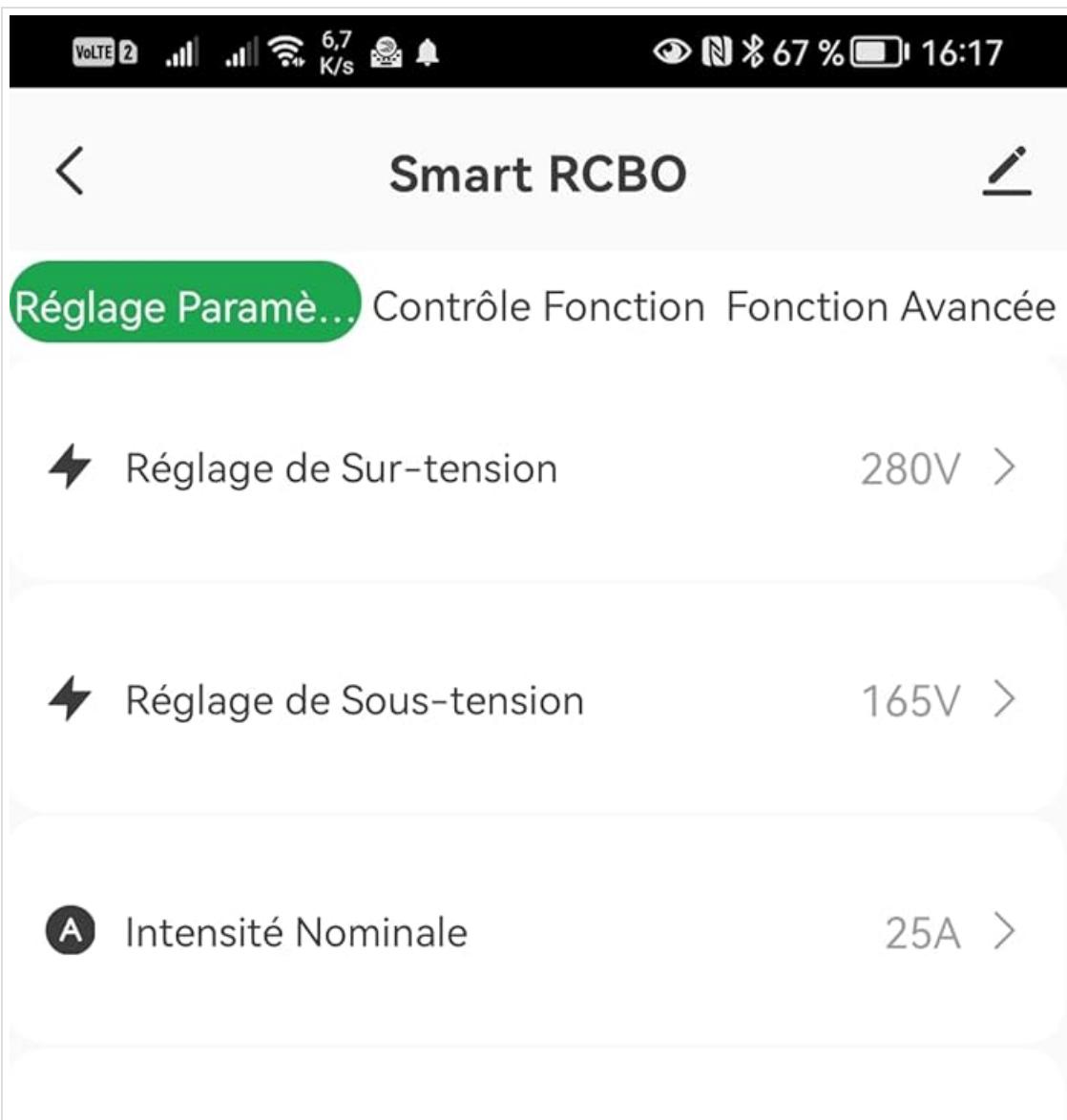
The OLED screen displays various real-time electrical parameters. Use the function selector button (same as the pairing button) to cycle through the following displays:

- **U:** Voltage
- **I:** Current (Intensity)
- **P:** Power
- **T:** Temperature
- **In:** Leakage Current
- **ID:** MODBUS ID
- **Consumption:** kWh consumed
- **MODBUS Status:** Communication status

2. App Control (Tuya Smart / Smart Life):

The Tuya Smart or Smart Life app allows for remote control and monitoring of your Smart RCBO.

- **Remote ON/OFF:** Switch the breaker on or off from your smartphone.
- **Parameter Settings:** Adjust protection thresholds for overvoltage, undervoltage, overcurrent, over-temperature, and overpower. You can also set the leakage current sensitivity.



🌡 Seuil de Haute Température 80.0°C >

⚡ Valeur de Surpuissance 4995W >

ⓧ Réglage du Courant de Fuite 30mA >



Accueil



Réglage Horloge



Réglage Fonction



Données Électriques



Journal Quotidien



Image: Screenshot of the Tuya Smart app showing the parameter settings screen. This allows users to configure overvoltage, undervoltage, nominal current, high temperature threshold, overpower value, and leakage current settings.

- **Consumption Monitoring:** View daily, monthly, and yearly energy consumption data in kWh.

VoLTE 2

...

...

4.8 M/s

...

...

...

...

...

68 %

...

16:16



Smart RCBO



Consommation Totale

Day

Month

Year

0.45





Image: Screenshot of the Tuya Smart app displaying total consumption data. It shows a graph of daily consumption and the current total consumption value, along with real power.

- **Scenario Creation:** Set up automated scenarios based on time, device status, or other conditions.
- **Voice Control:** Integrate with Alexa or Google Home for voice commands.

3. Automatic Reclosing Mode:

The Smart RCBO features an automatic reclosing function to restore power after a trip, provided the fault is temporary.

AUTO RECLOSE MODE

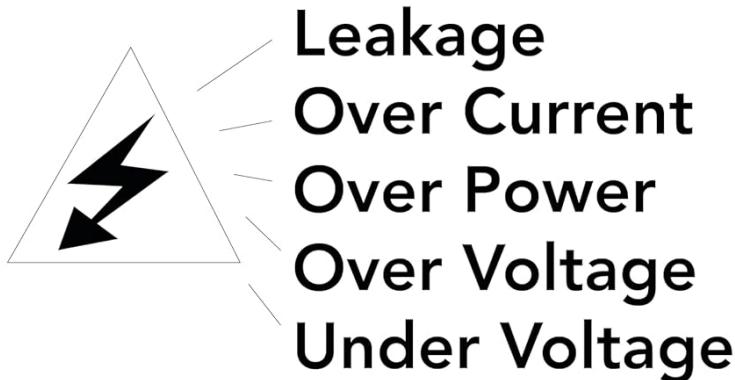
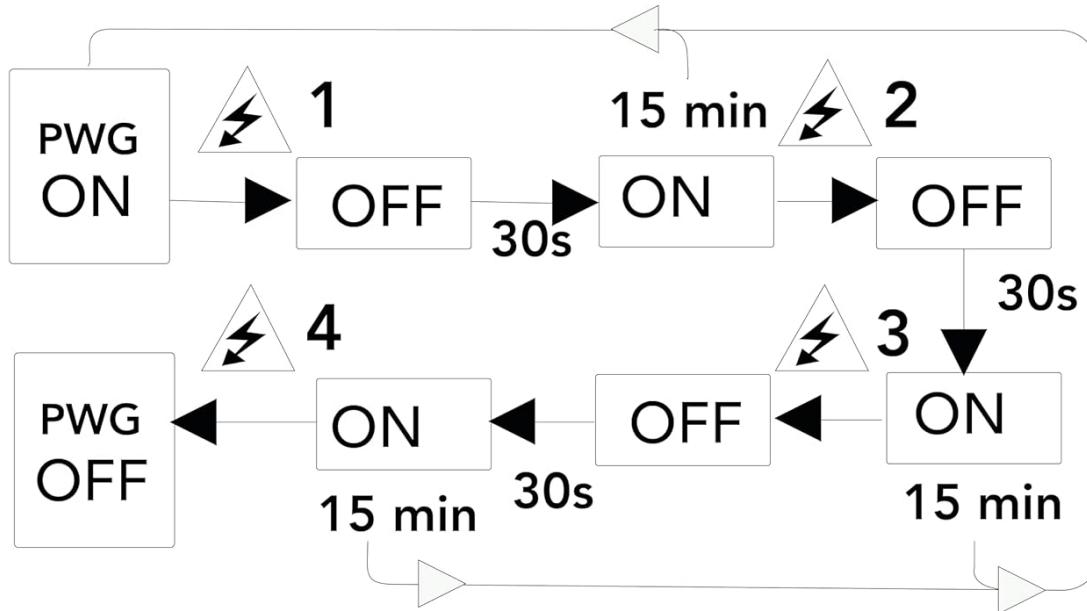


Image: Flowchart illustrating the automatic reclosing mode. It details the sequence of attempts (up to 3) with 30-second intervals after a trip, and the conditions for reclosing or remaining off, including leakage, overcurrent, overpower, overvoltage, and undervoltage.

- After a trip due to leakage, overcurrent, overpower, overvoltage, or undervoltage, the device will attempt to reclose up to three times.
- Each reclosing attempt is spaced by 30 seconds.
- If the fault persists after three attempts, the circuit breaker will remain open for 15 minutes before attempting to reclose again. If the fault is still present, the system will reset to OFF.
- **Safety Note:** The device will NOT reclose automatically in case of a short-circuit or excessive temperature to ensure safety.
- You can manually rearm the breaker via the Tuya Smart app if automatic reclosing fails or is disabled.





Smart RCBO



Réglage Paramè... Contrôle Fonction **Fonction Avancée**



Restaurer les Réglages par Défaut

Restaurer...



Activation de la Fermeture Automatique



Accueil



Réglage Horloge



Réglage Fonction



Données Électriques



Journal Quotidien



Image: Screenshot of the Tuya Smart app's Advanced Function screen. This screen allows users to restore default settings and activate or deactivate the automatic closing switch (auto reclosing) feature.

MAINTENANCE

- Regularly check the device for any visible damage or signs of wear.
- Keep the device clean and free from dust and debris. Use a dry, soft cloth for cleaning.
- Test the leakage current function periodically using the test button on the device.
- Ensure all wiring connections remain tight and secure.
- Perform firmware updates via the Tuya Smart app when available to ensure optimal performance and security.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	No power supply; incorrect wiring.	Check main circuit breaker; verify wiring connections.
Wi-Fi connection fails or is unstable.	Incorrect Wi-Fi password; 5GHz network used; device too far from router; router issues.	Ensure correct 2.4GHz Wi-Fi password; move device closer to router; restart router; re-pair device.
Automatic reclosing does not work.	Feature disabled in app; persistent fault (short-circuit, high temperature); incorrect settings.	Enable "Automatic Closing Switch" in the app's Advanced Function settings. Check for persistent faults and resolve them. Manually rearm via app if necessary.
OLED display is blank or shows incorrect data.	No power; device malfunction.	Check power supply. If power is present and display is still blank, contact support.
App instructions do not match current app interface.	App updates have changed the interface.	Refer to the latest in-app help or online resources for updated instructions. The core functionality remains, but menu paths may differ. For example, auto-reclosing settings might be under "Param set" instead of "Advanced functions".

WARRANTY AND SUPPORT

Warranty:

This product comes with a 2-year legal conformity warranty, excluding transport costs. Please retain your proof of purchase for warranty claims.

Spare Parts:

Spare parts are available for 2 years from the date of purchase.

Customer Support:

For technical assistance, troubleshooting, or warranty inquiries, please contact the seller or manufacturer directly. Refer to your purchase documentation for contact details.