ERC22A02-CAS Smart Shading Controller

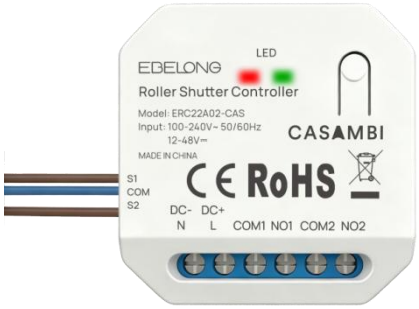
Product Specification

Modify Record

NO.	Version	Date	Modify Comment	Product Specialist
1	V1.0	2026-5-18	Initial Version	Caroline Liang

1 Product Overview

1.1 Product Images



1.2 Product Introduction

ERC22A02-CAS is a 2-channel output controller based on Casambi Mesh, supporting relay drive and active/passive output switching, wired switch input, and configurable curtain/lighting control modes via the Casambi App. It is suitable for residential, hotel, and office shading and lighting scenarios.

1.3 Product Feature

1. Multi-mode Output: Relay dry contact output supports both active and passive applications through wiring configuration, while five control modes are switchable via the APP—reducing SKU count and inventory pressure.

2. Full-Scenario Compatibility — Wide voltage input of AC 100–240V / DC 12–48V supports five modes. Compatible with all types of AC/DC curtain motors (including external control box models) and lighting loads—one device covers both shading and lighting applications.

3. Curtain Interlock: Up/Down interlock logic support, suitable for roller shutters/garage door systems with control boxes, enhancing safety and stability.

4. Casambi Ecosystem Integration: Can be combined with Casambi kinetic switches, sensors, and App for multi-point control and automated scene linkage.

5. Wired Switch Input Support: Supports rocker switches and reset switches, suitable for retrofit projects retaining traditional switch control.

6. Casambi OTA Remote Wireless Upgrades — Supports over-the-air firmware updates without disassembly or on-site maintenance, significantly reducing long-term maintenance costs.

1.4 Product Combinations

No.	Control Method	Typical Function
1	ERC22A02-CAS + Casambi Kinetic Switch	Achieve "Up / Stop / Down" three-stage control
2	ERC22A02-CAS + Casambi App	Smart roller shutter, blind, and track motor open/close control with real-time status feedback; supports timer control and scene modes
3	ERC22A02-CAS + Casambi Sensor	Automatic open/close or illuminance-linked control
4	ERC22A02-CAS + Casambi IP Gateway	Remote monitoring and local automation, suitable for centralized management in hotels or office buildings

1.5 Application Scenarios

1. Residential Spaces: Bedroom curtains, living room roller shutters, balcony shading, lighting control.
2. Hotel Rooms: Electric curtains and lighting linkage, scene control (e.g., "Sleep Mode", "Movie Mode").
3. office Spaces: Automatic blind control, meeting room smart shading and lighting linkage.
4. Commercial Displays: Showcase curtains, exhibition lighting system control.

Mode	Application
2× Relay Control	Independent channel control (lighting fixtures or other small loads)
1× Blind Up/Down	Active output; AC tubular motors (roller shutters, blinds, curtain tracks)
1× Blind Up/Down (dry contact)	Passive output; DC curtain track motors, smart control boxes, garage doors, etc.

Note:

1. The default mode is 2Relay. You can change the profile before adding the device to the network, or after adding it, double-click the device icon in the luminaire interface, enter the device settings page, select "Mode" - "Change Profile" to modify the mode.

2. When configured as active output (wet contact), the default output behavior is Latch; when configured as passive output (dry contact), the default output behavior is Pulse.

2 Structure and Performance

2.1 Product Principle

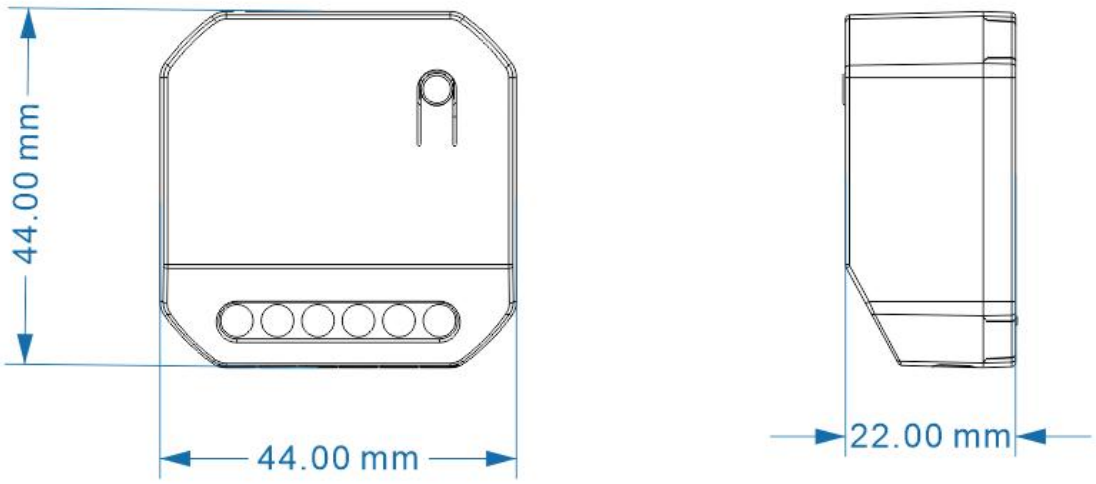
The ERC22A02-CAS receives control commands via Casambi Mesh, with an internal MCU parsing commands and driving relay outputs. The device supports active output (wet contact) and passive output (dry contact), implementing Up/Down interlock and Stop control in curtain mode to ensure motor operation safety. It can link with Casambi switches, sensors, and App, supporting scenes, timers, and status feedback.

2.2 Product Parameter

Item	Parameter
Electrical Performance	
Number of Channels	2 channels
Input Voltage	AC 100-240V 50/60Hz / DC 12-48V
Ma ximum Load Current	8A/channel (resistive load) 4A/channel (capacitive load) 1A/channel (inductive load)
Output Type	Active output / Passive output
Standby Power	≤1W (AC 220V)
Surge Protection	L/N: 2kV
Communication Protocol	
Wireless Protocol	Casambi Mesh
Communication Frequency	2.4GHz
Communication Range	Outdoor 40m, Indoor 25m
OTA Upgrade	Supports Casambi OTA Firmware Update

Physical Properties	
Housing Material	L44 x W44 x H22mm
Mounting Method	PC
Terminal Type	Base box mounting
Housing Material	Screw terminals
Maintenance and Operating Environment	
Operating Temperature	-20 ~ +55℃
Storage Temperature	-20 ~ +85℃
Operating Humidity	0%-85% RH, non-condensing
Storage Humidity	0%-85% RH, non-condensing
Protection Rating	IP20
Service Life	≥30,000 cycles

2.3 Product Dimension Structure Diagram



2.4 LED Indicator Description

2.4.1 2Relay Mode

LED Status	2Relay
LED1 red on	CH1 load on
LED1 red off	CH1 load off
LED2 green on	CH2 load on
LED2 green off	CH2 load off

2.4.2 1Blind Mode

LED Status	1Blind
LED1 red on, LED2 green off	Blind open
LED1 red off, LED2 green on	Blind close
LED1 red off, LED2 green off	Blind stop

Note: In 1Blind mode, the two channels are interlocked; if both are triggered simultaneously, only one channel will open. When both channels are disconnected, the curtains stop moving.

2.4.3 1Blind (Dry) Mode

LED Status	1Blind (Dry)
LED1 red on, LED2 green off	Blind open
LED1 red off, LED2 green on	Blind close
LED1 red on, LED2 green on	Blind stop

Note: In 1Blind (Dry) mode, the two channels are interlocked; only one channel can be activated at a time. If both channels send a pulse signal simultaneously, the curtain will stop.

2.5 Installation Method

2.5.1 Installation Precautions

1. Power-off Operation: Always cut off main power before installation, and confirm no electricity before wiring.

2. Terminal Distinction: Strictly distinguish between input and output terminals to avoid short circuits or reverse connections.

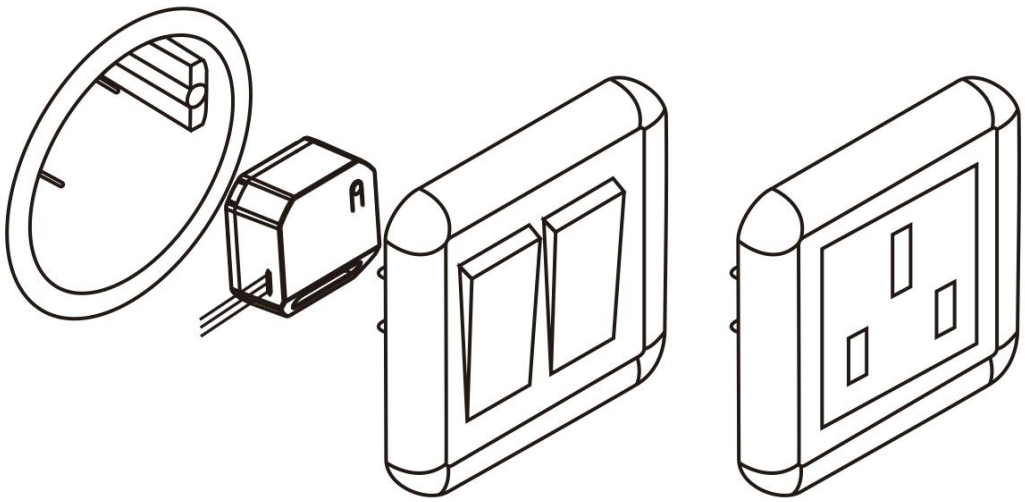
3. Communication Distance: Ensure installation without obstructions between devices, avoiding metal housing shielding that affects signal.

4. Environment Requirements: For indoor dry environments only, avoid humid, high-temperature, or dusty environments.

5. Electrical Safety: Use wires and circuit protection devices that comply with local electrical codes.

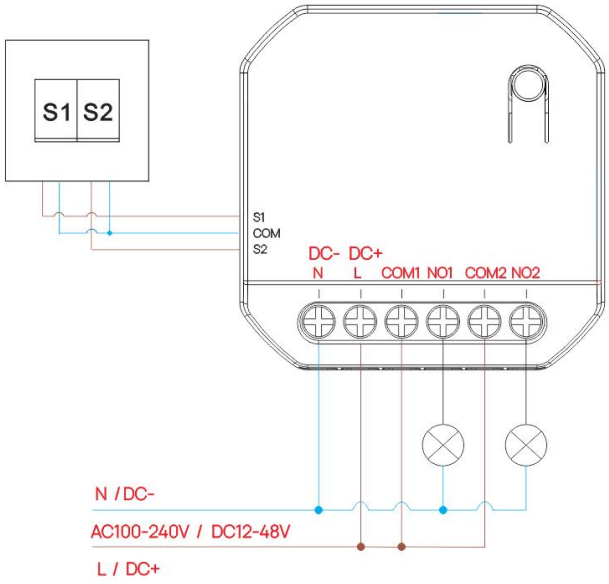
6. Software Setup: After first power-on, complete Profile selection and function testing via Casambi App.

2.5.2 Installation Method



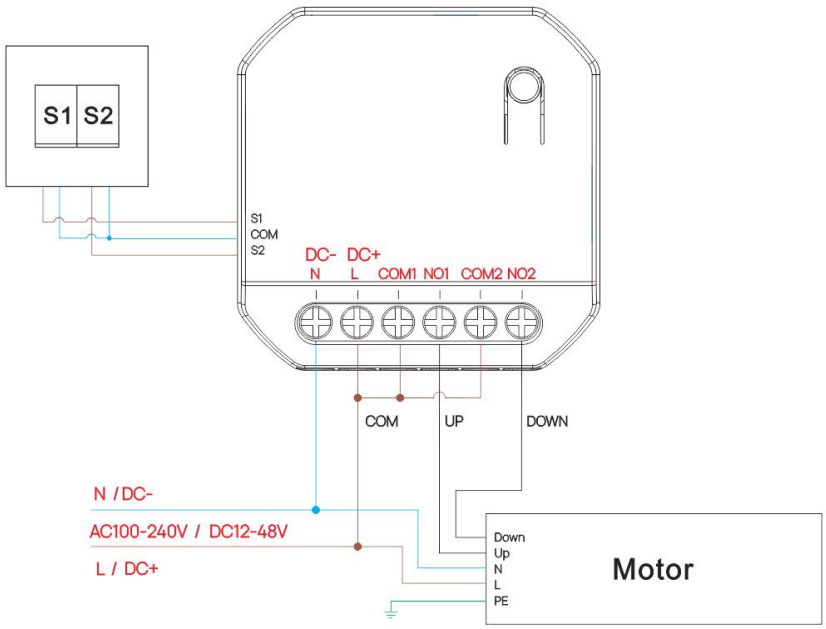
2.5.2 Wiring Methods

Mode 1: 2Relay



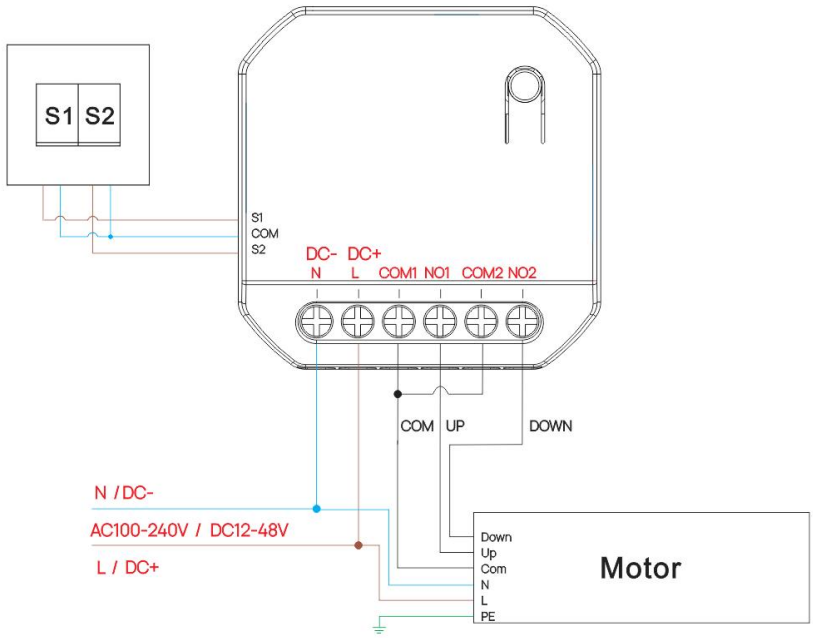
2 x Relay

Mode 2: 1Blind



1 x Blind

Mode 3：1Blind （Dry）



1 x Blind (dry contact)

Terminal	2 × Relay	1Blind & 1Blind （Dry））
N / DC -	Power input neutral / DC	Power input neutral / DC
L / DC +	Power input live / DC positive	Power input live / DC positive
COM1	CH1 common	Blind common
NO1	CH1 relay output	Blind UP output
COM2	CH2 common	Blind common
NO2	CH2 relay output	Blind DOWN output
S1	Wired switch control CH1	Wired switch forward input
S2	Wired switch control CH2	Wired switch reverse input
COM	Wired switch common terminal	Wired switch common terminal

Note:

1. The wired switch input terminals S1, S2, and COM are dry-contact inputs. Do NOT connect them to live or energized circuits.

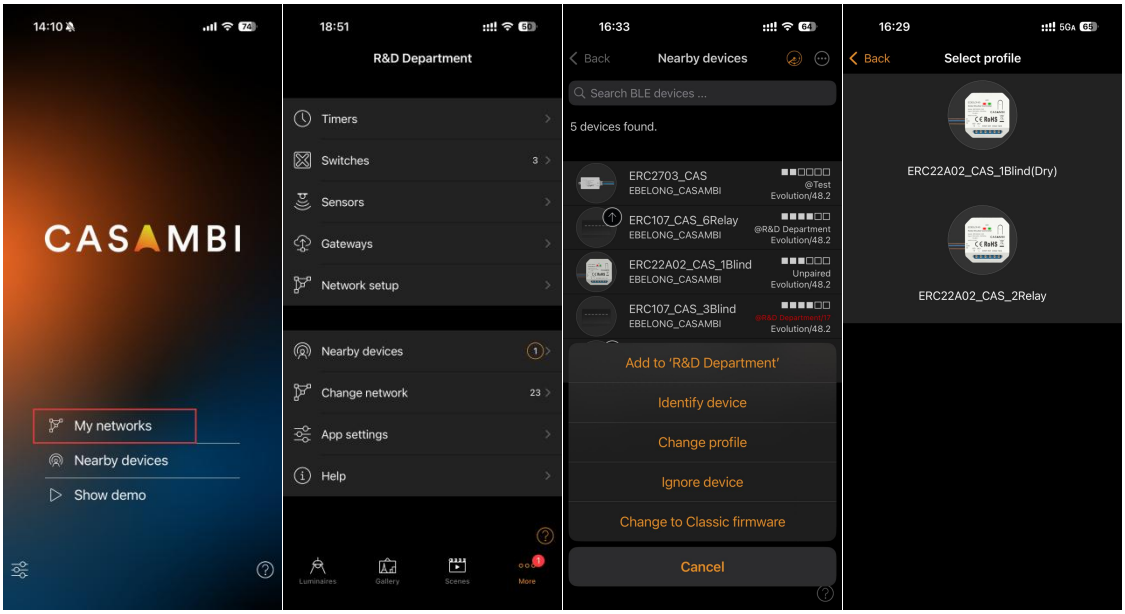
2. It is strictly prohibited to touch the exposed wiring terminals (S1, S2, and COM) of the wired switch while the unit is energized.

3. The wired switch supports both rocker (toggle) and momentary (reset) switches. The device automatically detects the switch type upon the first press after each power on.

4. In dry-contact mode, the COM1, NO1, COM2, and NO2 terminals are voltage-free. Do NOT connect live wires to these terminals.

3 Operation Instructions

3.1 Device Configuration

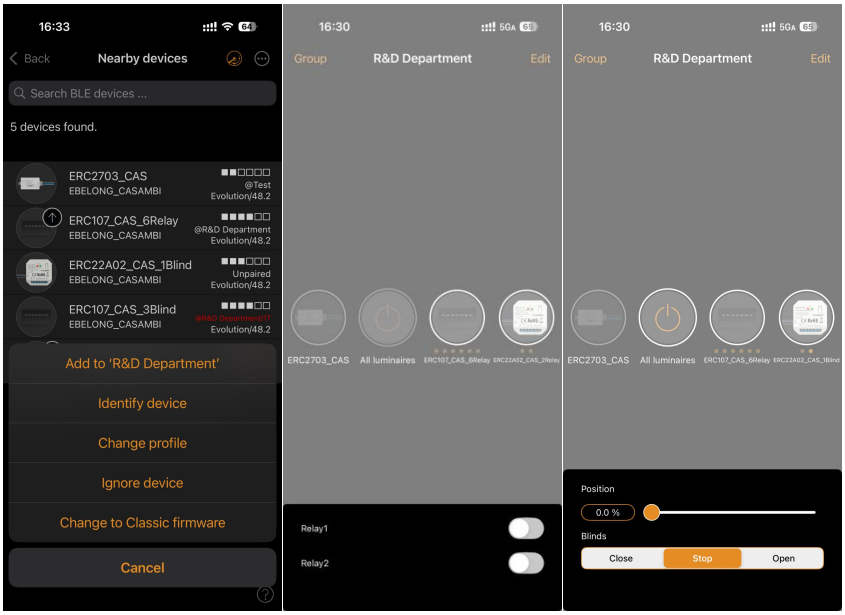


1.Power on the device, open Casambi App, and select a network first.

2.Enter the network, click "More" at the bottom right, and select "Nearby Devices".

3.Select "ERC22A02-CAS", then select "Change Profile".

4.Select the profile you need.

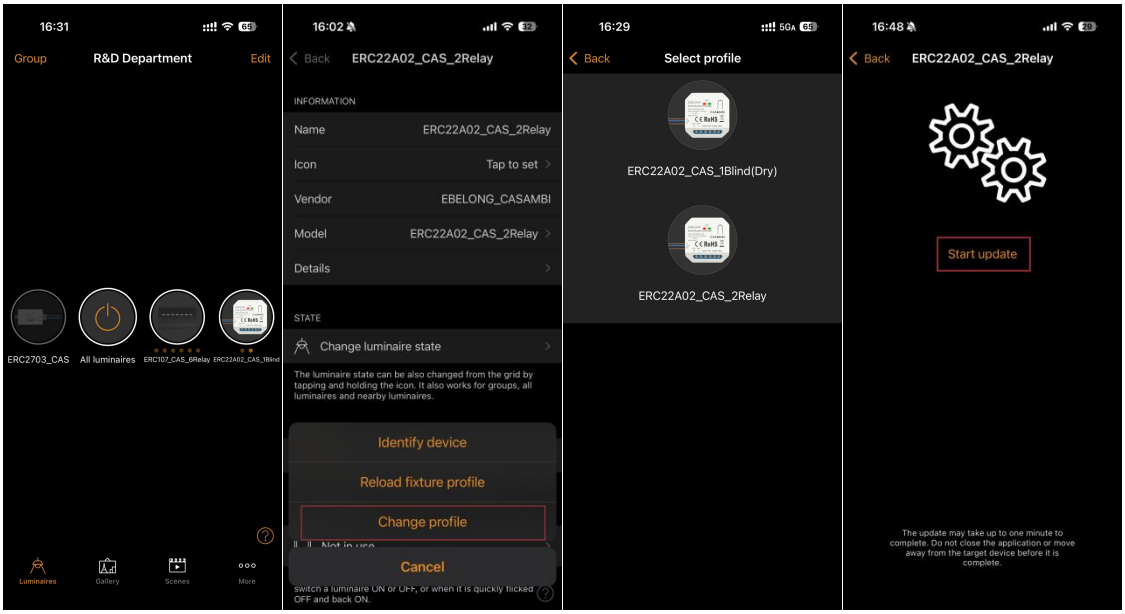


5. Return to the "Nearby devices" page, select "ERC22A02-CAS," and add the device to the current network.

6. In "2Relay" mode, each relay channel can be controlled individually.

7. In "1Blind" mode, you can control curtains using the "Latch" signal.

8. In "1Blind (Dry)" mode, you can control curtains using the "Pulse" signal.



9. To switch modes, double-click the "ERC22A02-CAS" icon to enter the settings page.

10. Click "Mode", select "Change Profile".

11. Select the mode you want to change to.

12. Click "Start Update" to switch to other modes.

Note: The wiring method must match the selected mode.

3.2 Travel Calibration

There are 3 modes in the parameters:

Value	Mode	Description
0	Run	Running mode, should be selected after calibration is complete.
1	Calibrate	Calibration mode, used to set upper and lower limit positions.
2	Manual	Manual mode, indicates no limits are set; must manually observe and stop while the blind is moving each time.

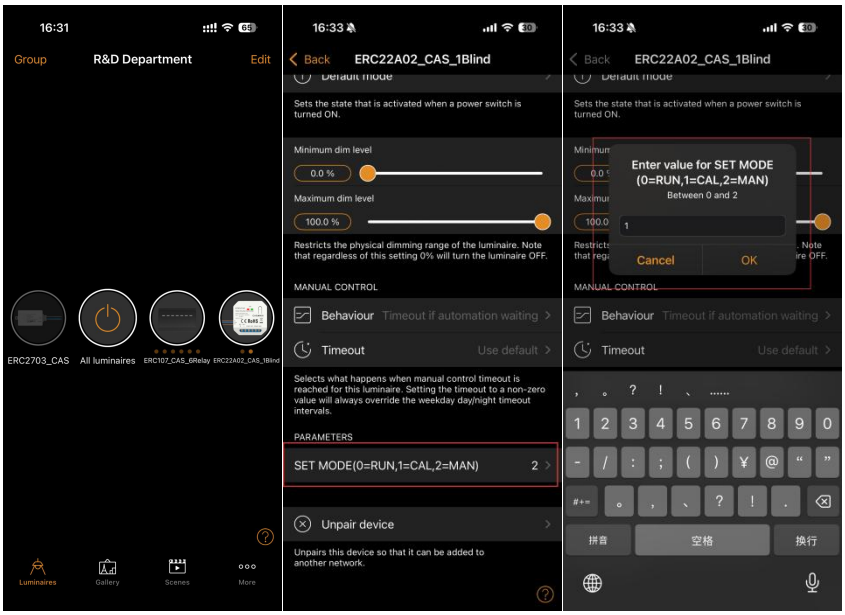
Mode	App Control	Wireless Kinetic Switch Control	Wired Switch Control
Manual Mode	Blinds control enabled; Position control disabled	Can only pair with Blinds. Single press to open/close; press again to reverse. Stops at the curtain limit. (If single press does not trigger action, long-press until the curtain starts moving; single press will then toggle open/close.)	Press S1 to open; the motor stops when the curtain reaches its limit. Press S2 to close; the motor stops when the curtain reaches its limit.
Calibration Mode	Blinds control enabled; Position control disabled	Can only pair with Blinds. Single press to open/close; press again to reverse. Stops at the curtain limit. (If single press does not trigger action, long-press until the curtain starts moving; single press will then toggle open/close.)	Press S1 to open; the motor stops when the curtain reaches its limit. Press S2 to close; the motor stops when the curtain reaches its limit.
Operating Mode	Position control enabled; Blinds control disabled	Can only pair with Position. Single click for fully open/close (or return to previous opening percentage). Long-press to adjust the opening percentage.	Press S1 to open; the motor stops automatically when fully open. Press S2 to close; the motor stops automatically when fully closed.

Note:

1. Limit protection on the curtain motor is required when using the wireless kinetic switch or wired switch in Manual or Calibration mode.

2. To set the curtain to a specific opening percentage, create a Scene and pair the wireless kinetic switch with that scene.

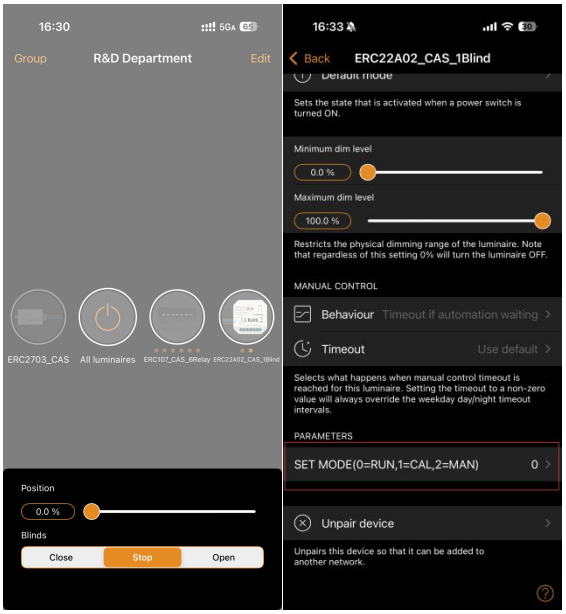
Calibration method is as follows:



1. On the "Luminaires" page, double-click the ERC22A02-CAS icon.

2. Click the “SET MODE”.

3. Enter "1" to enter calibration mode.



4. Return to the luminaire interface and long-press the ERC22A02-CAS icon.

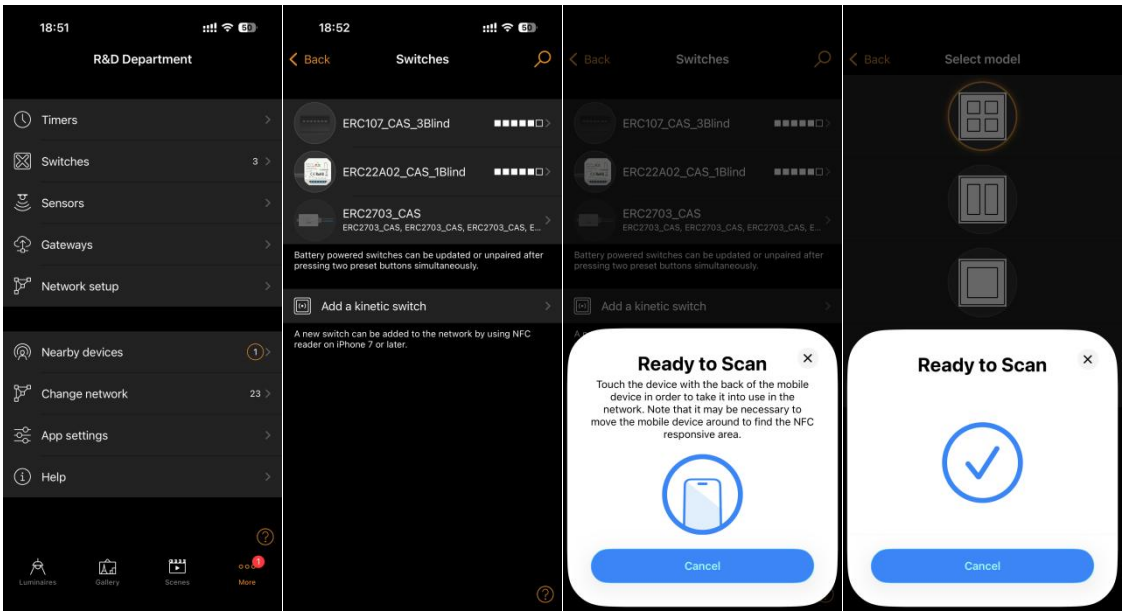
5. Observe the blinds, click the "Close" button on the App page, and click "Stop" when the blinds are fully closed.

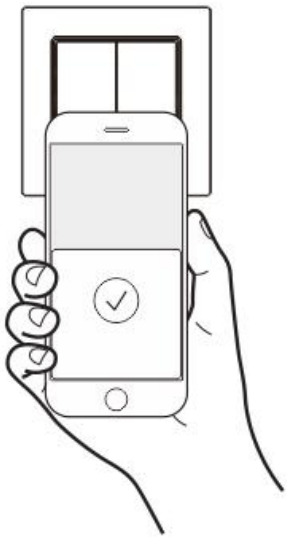
6. After completing step 5, click the "Open" button on the App page, and click "Stop" when the blinds are fully open.

7. Double-click the "ERC22A02-CAS" icon to enter the settings page, change "Parameter" to "0" to enter "Operating" mode; calibration is now complete.

Note: In calibration mode, after setting the upper limit position, do not switch downward. You must first return to parameter settings and enter "0" to enter operating mode; otherwise, calibration will be reset.

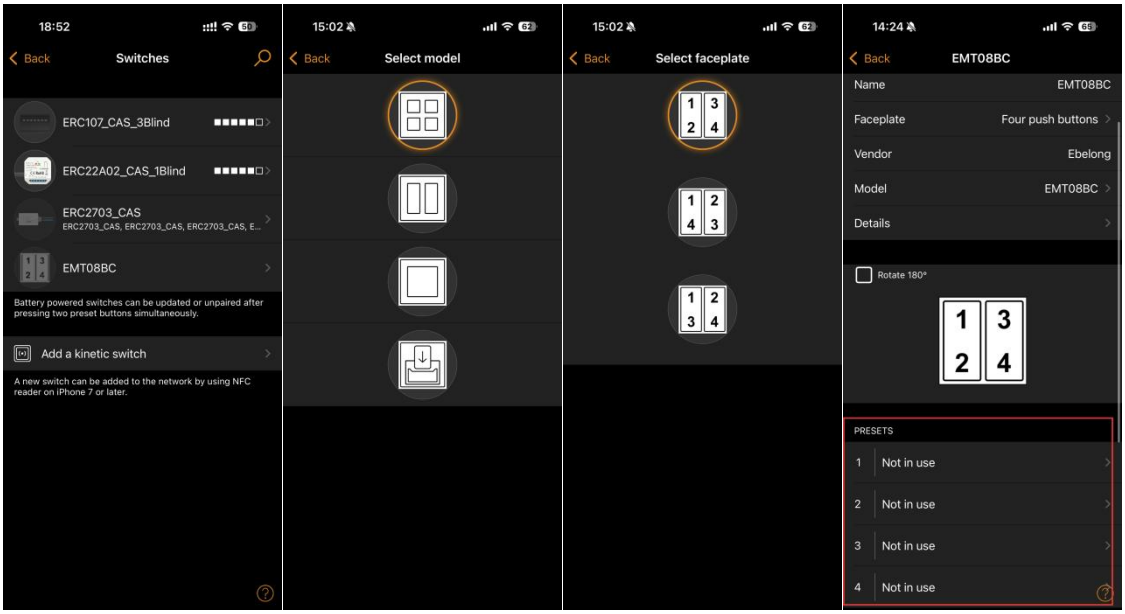
3.3 Pair with Wireless Kinetic Switch





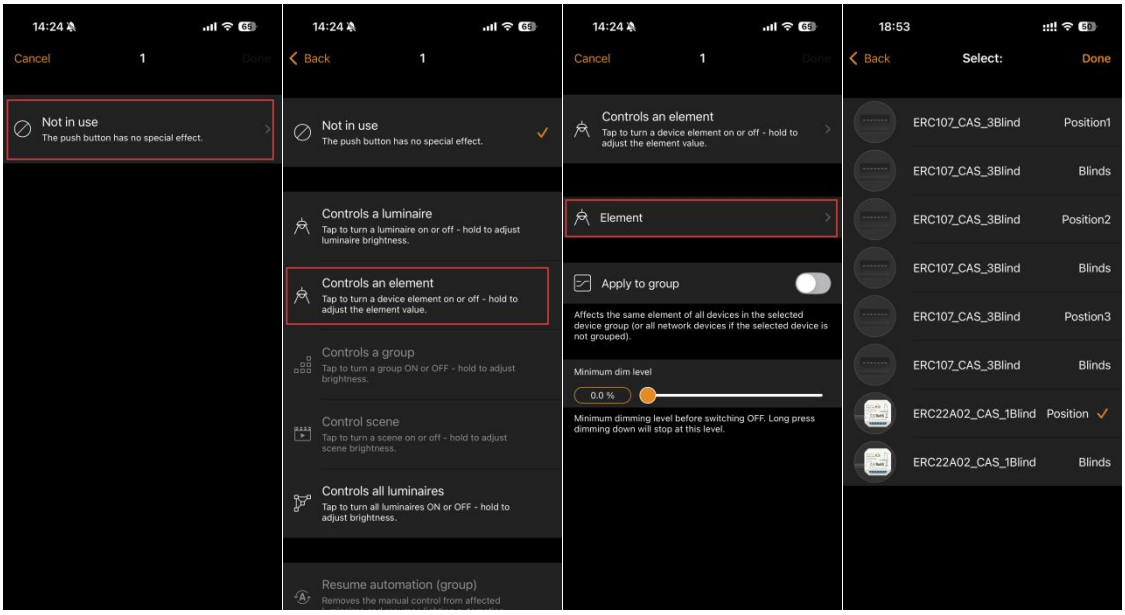
1. On the “More” page, tap to enter the “Switches” page.

2. Select “Add a kinetic switch,” then place your phone's NFC chip over the switch's center as prompted to pair.



3. When adding multiple switches and unsure which one you're configuring, press the button repeatedly. The switch corresponding to the flashing icon on the "Switches" page is the one being configured.

4. After pairing is complete, tap to enter the switch page where you can select the button mode and panel. Once selected, you can configure each panel individually.



5. Enter a panel page, select "Not in use," choose "Control en element," select "Element," pick the desired function (e.g., "Position 1"), then click "Done."