



ZigBee ROBB Smart Micro Dimmer Instruction Manual

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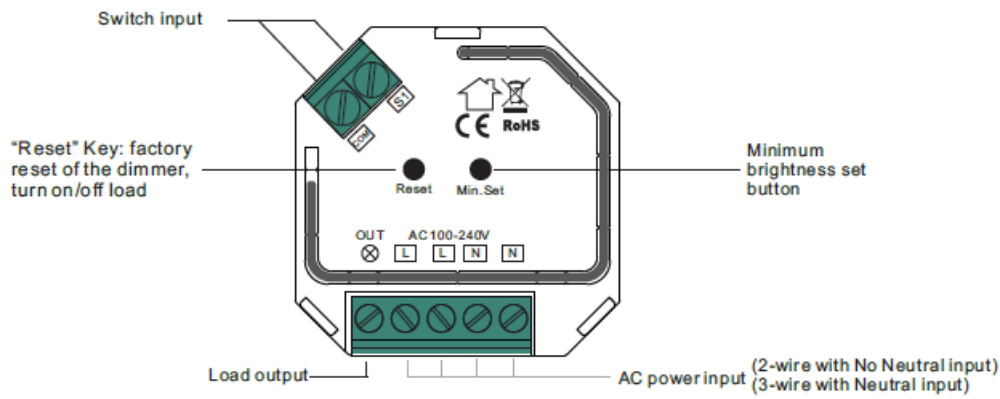


ZigBee ROBB Smart Micro Dimmer







Important: Read All Instructions Prior to Installation

Function introduction



Product Data

Input Voltage	Output Voltage	Output Current	Size(LxWxH)
100-240VAC	100-240VAC	1.8A max	45.5x45x20.3mm

Compatible Load Types			
Load Symbol	Load Type	Maximum Load	Remarks
	Dimmable LED lamps	200W @ 230V 100W @ 110V	Due to variety of LED lamp designs, maximum number of LED lamps is further dependent on power factor or result when connected to dimmer.
	Dimmable LED drivers	200W @ 230V 100W @ 110V	Maximum permitted number of drivers is 200W divided by driver nameplate power rating.
	Incandescent lighting, HV Halogen lamps	400W @ 230V 200W @ 110V	
	Low voltage halogen lighting with electronic transformers	200W @ 230V 100W @ 110V	

ZigBee Clusters the device supports are as follows

Input Clusters

- **0x0000:** Basic
- **0x0003:** Identify
- **0x0004:** Groups
- **0x0005:** Scenes
- **0x0006:** On/off
- **0x0702:** Simple Metering
- **0x0008:** Level Control
- **0x0b04:** Electrical Measurement
- **0x0b05:** Diagnostics

Output Clusters

- **0x0019:** OTA
- ZigBee AC phase cut dimmer based on latest ZigBee 3.0 protocol
- 100-240VAC Wide Input and Output Voltage
- Supports resistive loads, capacitive loads or inductive loads
- 1 Channel Output, Up to 400W
- Input and Output with Screw Terminals, Safe and Reliable
- Both leading edge version and trailing edge versions are available for choosing, preset by factory setting
- Enables to control ON/OFF and light intensity of connected light source
- ZigBee end device that supports Touchlink commissioning
- Can directly pair to a compatible ZigBee remote via Touchlink without coordinator
- Supports self-forming zigbee network without coordinator and add other devices to the network
- Supports find and bind mode to bind a ZigBee remote
- Supports zigbee green power and can bind max. 20 zigbee green power remotes
- Compatible with universal ZigBee gateway products
- Mini Size, Easy to be Installed into a standard 86*86mm wall box
- **Radio Frequency :** 2.4GHz
- **Waterproof grade:** IP20

Main Features

- Can operate under two-wire connection with no neutral lead or three-wire connection with neutral lead
- Advanced microprocessor control
- Implemented algorithm of smart light source detection
- Active power and energy metering functionality
- Soft start function
- Innovative minimum dimming level setting function
- Works with momentary switches
- **Active element:** semiconductor electronic switch
- To be installed in wall switch boxes of dimensions allowing for installation, conforming to provisions of applicable regulations
- The Bypass is an extension unit

As a dimmer it operates under the following loads:

- Conventional incandescent and HV halogen light sources
- ELV halogen lamps and dimmable LED bulbs (with electronic transformers)
- MLV halogen lamps (with ferromagnetic transformers)
- Dimmable LED bulbs
- Dimmable compact fluorescent CFL tube lamps
- Supported dimmable light sources (power factor > 0.5) with minimal power of 5VA using the Bypass (depending on the type of load)

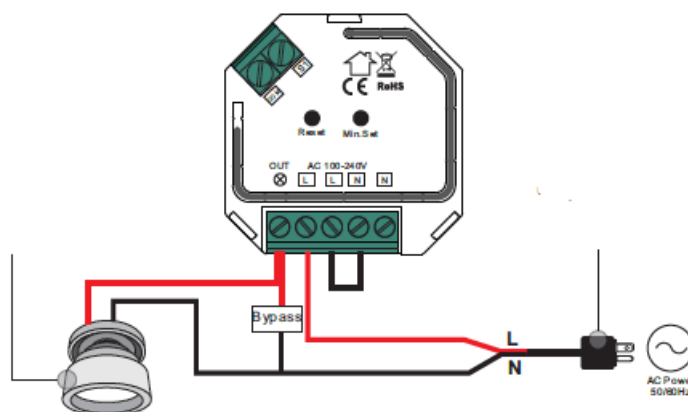
Trailing edge dimming mode dimmer

Safety & Warnings

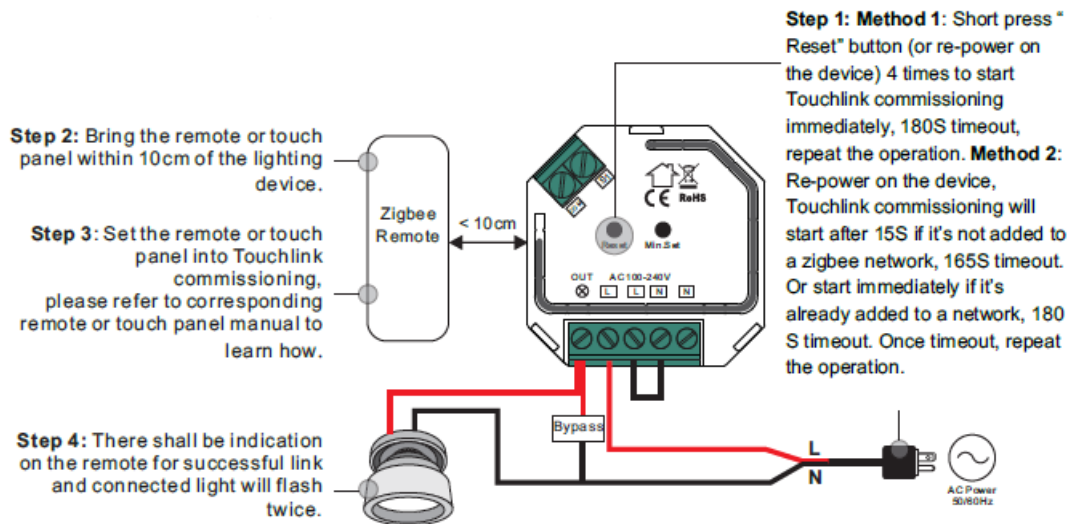
- DO NOT install with power applied to device.
- DO NOT expose the device to moisture

Operation

1. Do wiring according to connection diagram correctly.
2. This ZigBee device is a wireless receiver that communicates with a variety of ZigBee compatible systems. This receiver receives and is controlled by wireless radio signals from the compatible ZigBee system
3. Zigbee Network Pairing through Coordinator or Hub (Added to a Zigbee Network)
 1. **Step 1:** Remove the device from previous zigbee network if it has already been added to, otherwise pairing will fail. Please refer to the part “Factory Reset Manually”.
 2. **Step 2:** From your ZigBee Controller or hub interface, choose to add lighting device and enter Pairing mode as instructed by the controller
 3. **Step 3:** Re-power on the device to set it into network pairing mode (connected light flashes twice slowly), 15 seconds timeout, repeat the operation.
 4. **Step 4:** Connected light will blink 5 times and then stay solid on, then the device will appear in your controller’s menu and can be controlled through controller or hub interface



4. TouchLink to a Zigbee Remote



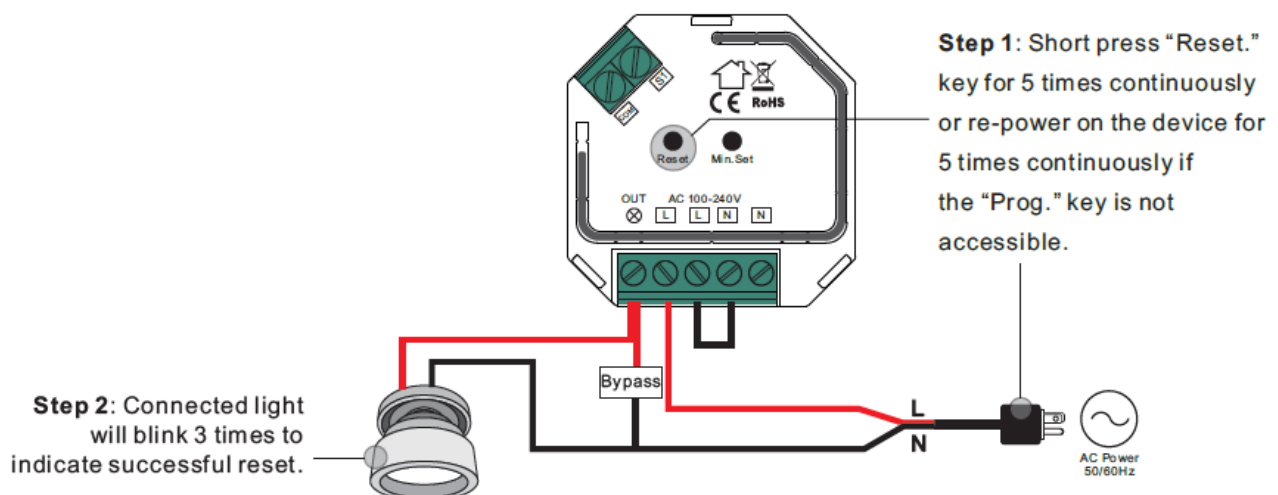
Note:

1. Directly TouchLink (both not added to a ZigBee network), each device can link with 1 remote.
2. TouchLink after both added to a ZigBee network, each device can link with max. 30 remotes.
3. For Hue Bridge & Amazon Echo Plus, add remote and device to network first then TouchLink.
4. After TouchLink, the device can be controlled by the linked remotes
5. Removed from a Zigbee Network through Coordinator or Hub Interface



From your ZigBee controller or hub interface, choose to delete or reset the lighting device as instructed. The connected light blinks 3 times to indicate successful reset.

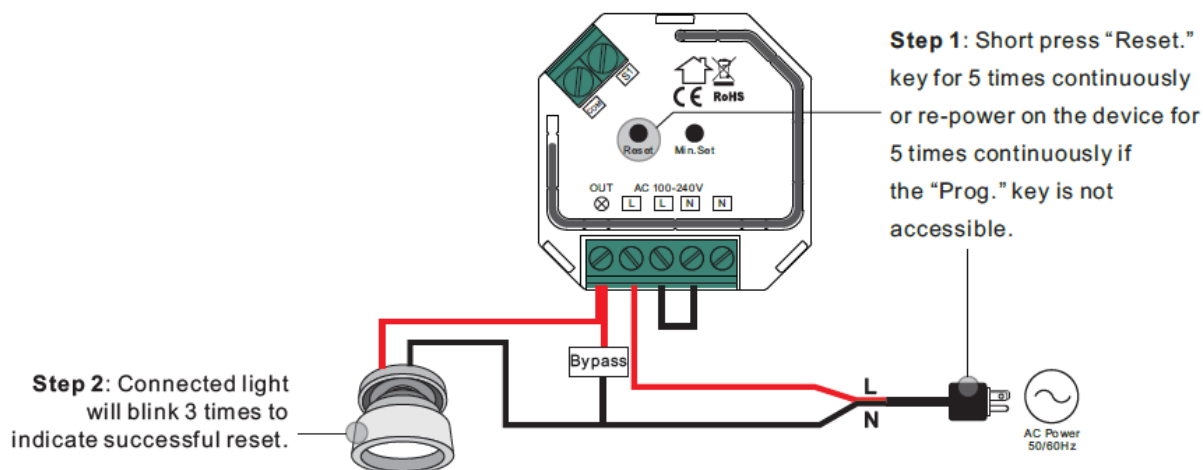
6. Factory Reset Manually



Note:

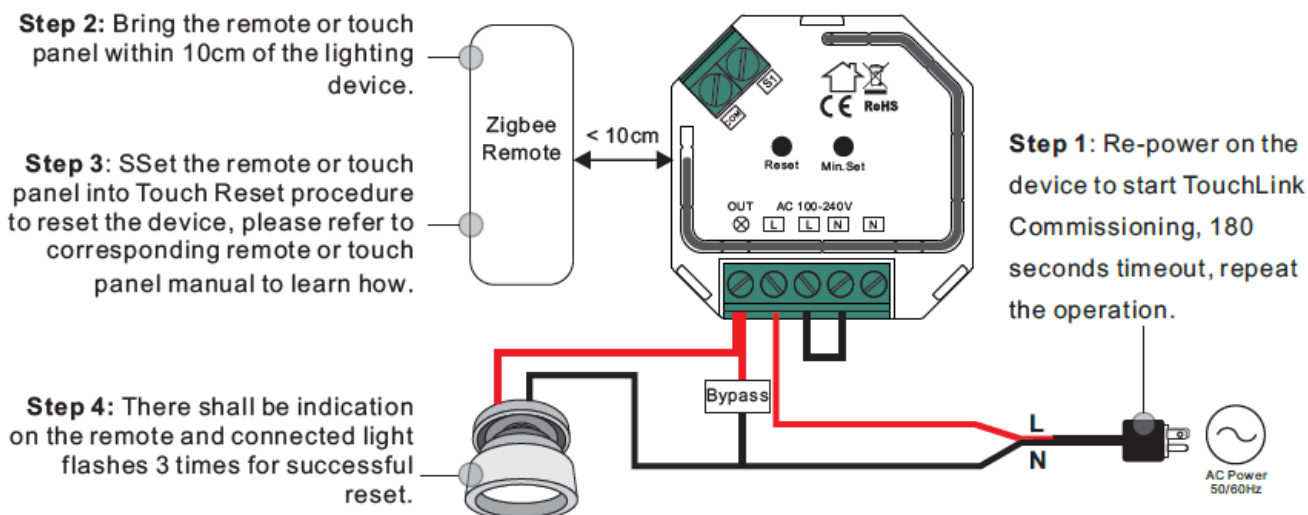
1. If the device is already at factory default setting, there is no indication when factory reset again .

2. All configuration parameters will be reset after the device is reset or removed from the network.



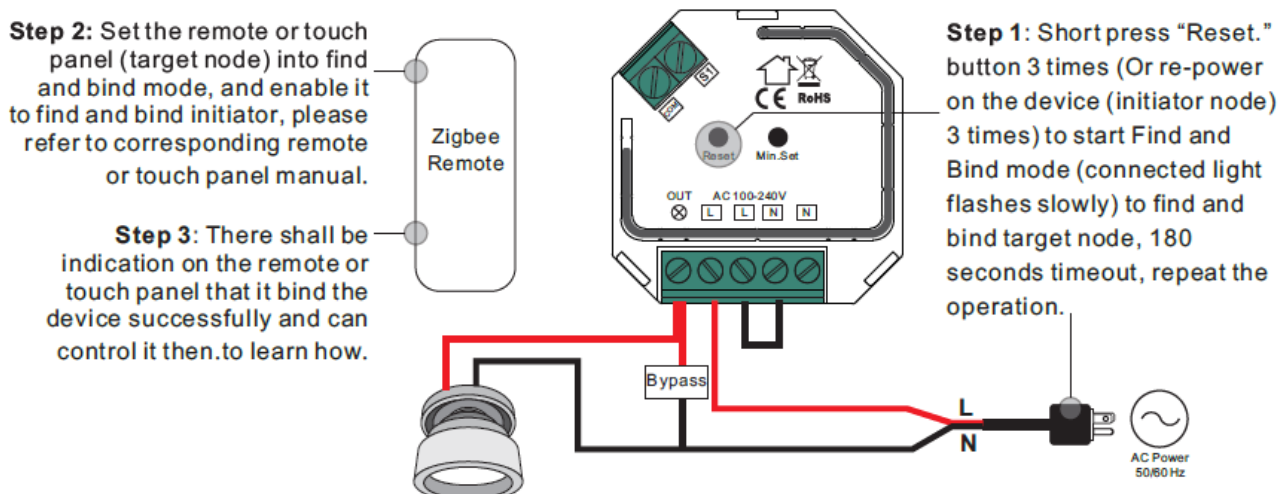
7. Factory Reset through a Zigbee Remote (Touch Reset)

Note: Make sure the device already added to a network, the remote added to the same one or not added to any network.



8. Find and Bind Mode

Note: Make sure the device and remote already added to the same zigbee network.



9. Learning to a Zigbee Green Power Remote

Note:

1. Each added device can link and be controlled by max. 30 added remotes.
2. Each added remote can link and control max. 30 added devices.

12. **OTA**

The device supports firmware updating through OTA, and will acquire new firmware from zigbee controller or hub every 10 minutes automatically.

13. **Setting minimum brightness:**

Adjust brightness to a desired level from zigbee hub or controller interface or a remote, then short press “Min. Set” key, then the connected load can only be dimmable between this minimum brightness and 100% brightness. The dimming range of this dimmer is 1%-100%, but some load types may flicker when dimmed to 1%, thus a minimum brightness shall be set higher than 1% to avoid flickering during dimming process.

14. **Delete the minimum brightness:**

Adjust the brightness to 100% from zigbee hub or controller interface or a remote, then press and hold down the “Min. Set” key on the dimmer for over 3s to delete the minimum brightness.

15. **Controlled by a push switch:**




Once connected with a push switch, click the push switch to switch ON/OFF, press and hold down it to increase/decrease light intensity

Wiring Diagram

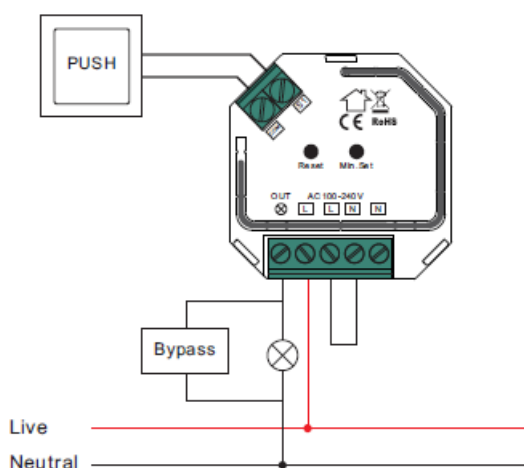
Notes for the diagrams

- **L** – terminal for live lead
- **N** – terminal for neutral lead
- **Out** – output terminal of the dimmer (controlling connected light source)
- **S1** – terminal for switch
- **COM** – terminal for grounding to the switch connected to the dimmer

Compatible load types and recommended values of power for supported loads:

Supported load types		100-240V~	
	Resistive loads Conventional incandescent and halogen light sources	20-400W @ 230V 20-200W @ 110V	
	Capacitive loads Fluorescent tube lamp (compact / with electronic ballast), electronic transformer, LED	Using Bypass: 3-200W @ 230V 3-100W @ 110V	No Bypass Used: 20-200W @ 230V 20-100W @ 110V
	Inductive loads Ferromagnetic transformers	20-200W @ 230V 20-100W @ 110V	

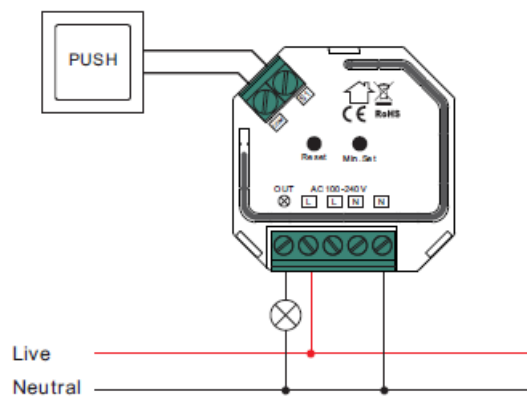
2-Wire Connection With No Neutral Lead



NOTE: Switch connected to the S1 terminal activates the basic functionality of the dimmer (turning the light on/off, dimming).

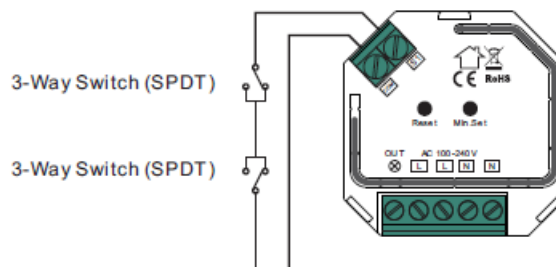
The Bypass is a device designed to work with the micro smart dimmer. It should be used in case of connecting LED bulbs or energy saving compact fluorescent lamps. The Bypass prevents flickering of the LED lights and glowing of the turned off compact fluorescent lamps. In the case of 2-wire connection, the Bypass allows to reduce minimum power of load required by the dimmer for correct operation. The Bypass provides powering of the dimmer in case of controlling the low loads of minimum power down to 3W (for $\cos\phi > 0.5$).

3-Wire Connection With Neutral Lead

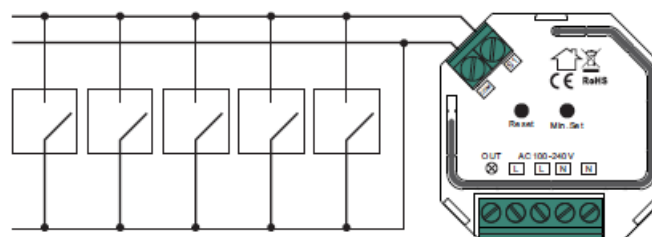


NOTE: Switch connected to the S1 terminal activates the basic functionality of the dimmer (turning the light on/off, dimming).

3-Way Switch Connection

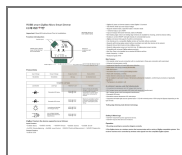


Momentary Wall Switch Connection



This phase dimmer adopts leading edge dimming (forward phase control) or trailing edge dimming (reverse phase control), two versions are available for choosing. Please make sure the connected loads support the control type you choose. Please refer to the user manual of the load or consult the supplier of the load.

Documents / Resources



[ZigBee ROBB Smart Micro Dimmer](#) [pdf] Instruction Manual

ROB_200-011-0, ROBB, ROBB Smart Micro Dimmer, Smart Micro Dimmer, Micro Dimmer, Dimmer