

ZigBee Push Button Smart Dimmer

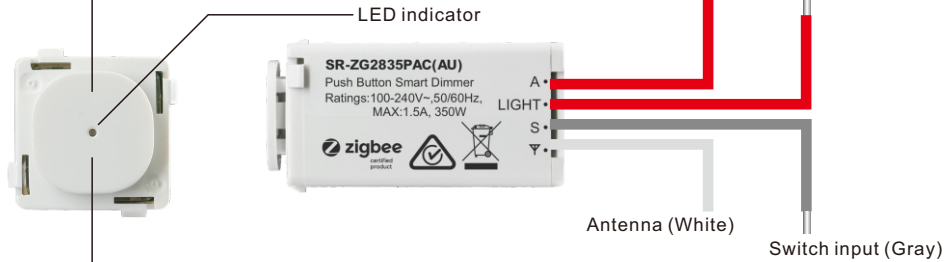
Revised 2022.09.28



Important: Read All Instructions Prior to Installation

Function introduction

Push button, for zigbee network pairing, factory reset operation, for controlling load (on/off, brightness), for setting min. brightness & startup brightness



Short press the button to turn on/off load, press and hold to dim up/down the load between the range 1%~100%

Note: either of the 2 orange wires can be used as active input lead or load output lead.

Product Data

Input Voltage	Input Frequency	Output Voltage	Output Current	Radio Frequency	Size(LxWxH)	Ambient Temperature
100-240VAC	50/60Hz	100-240VAC	1.5A max	2.4GHz	45x21x21mm	-20°C ~ +50°C

Compatible Load Types			
Load Symbol	Load Type	Maximum Load	Remarks
	Dimmable LED lamps	175W @ 230V 88W @ 110V	Due to variety of LED lamp designs, maximum number of LED lamps is further dependent on power factor result when connected to dimmer.
	Dimmable LED drivers	175W @ 230V 88W @ 110V	Maximum permitted number of drivers is 175W divided by driver nameplate power rating.
	Incandescent lighting, HV Halogen lamps	350W @ 230V 175W @ 110V	
	Low voltage halogen lighting with electronic transformers	175W @ 230V 88W @ 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
- 0x1000: ZLL Commissioning

Output Clusters

- 0x0019: OTA

Product Features

- ZigBee push button smart dimmer based on latest ZigBee 3.0 protocol
- Neutral free, simple wiring
- Supports resistive loads, capacitive loads or inductive loads
- Enables to set minimum brightness and startup brightness
- 1 channel output, up to 350W
- 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 be controlled by zigbee gateway, zigbee remote, local button
- 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 switches
- Compatible with universal ZigBee gateway products
- With push switch input, can be controlled by universal AC push switches
- Standard size, can be compatible with existing Australia wall switch plate
- Radio Frequency: 2.4GHz
- Waterproof grade: IP20

Main Features:

- Advanced microprocessor control
- Implemented algorithm of smart light source detection
- Active power and energy metering functionality
- Soft start function
- Innovative minimum dimming level and startup brightness setting functions
- 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
- Supported dimmable light sources (power factor > 0.5) with minimal power of 3VA using the Bypass (depending on the type of load)

Trailing edge or leading edge dimming mode can be set by factory setting to control following types of loads:

- "Trailing edge" for resistive loads
- "Trailing edge" for capacitive loads
- "Leading edge" for inductive loads

Note: factory default setting is trailing edge.

Safety & Warnings

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

Operation

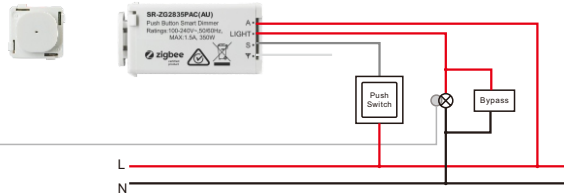
1. Do wiring according to connection diagram correctly.
2. This ZigBee device is a wireless receiver that communicates with a variety of ZigBee compatible systems. This receiver receives and is controlled by wireless radio signals from the compatible ZigBee system.

3. Zigbee Network Pairing through Coordinator or Hub (Added to a Zigbee Network)

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".

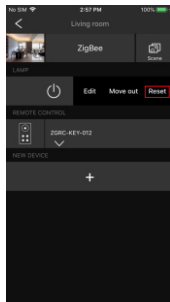
Step 2: From your ZigBee Controller or hub interface, choose to add lighting device and enter Pairing mode as instructed by the controller.

Step 3: power on the device, it will be set into network pairing mode automatically (connected light flashes twice slowly), the network pairing mode will last until the device is added to a zigbee network. If the connected light does not flash, please factory reset the dimmer first.



Step 4: Connected light will blink 6 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. 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.

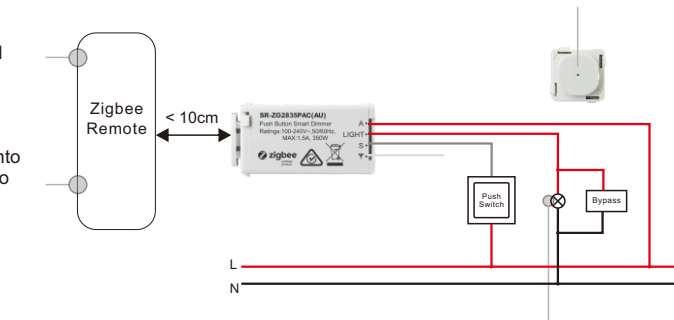
5. TouchLink to a Zigbee Remote

- Step 1: Method 1:** Short press the button 4 times and then within 3 seconds press and hold it for over 5 seconds to start Touchlink commissioning immediately under any circumstances, or reset power of the dimmer to start Touchlink commissioning immediately under any circumstances, 180S timeout, repeat this step.
- Method 2:** Add the device to a gateway or hub network, it will be set into Touchlink commissioning immediately after added, 180S timeout. Once timeout, reset power of the device to set it into touchlink commissioning again.

Step 2: Bring the remote or touch panel within 10cm of the lighting device.

Step 3: Set the remote or touch panel into Touchlink commissioning, please refer to corresponding remote or touch panel manual to learn how.

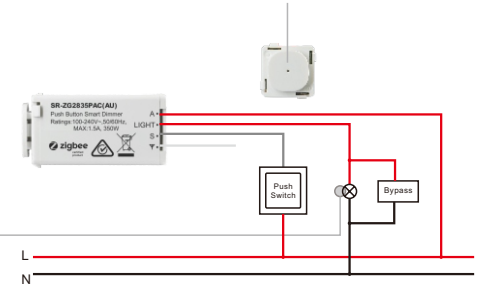
Step 4: There shall be indication on the remote for successful link and connected light will flash twice.



- 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) Control with both gateway and remote, add remote and device to network first then TouchLink.
 - 4) After TouchLink, the device can be controlled by the linked remotes.

6. Factory Reset Manually

Step 1: Short press the button 5 times continuously and then within 3 seconds press and hold it for over 5 seconds until LED indicator turns off.



Step 2: Connected light will blink 3 times to indicate successful reset.

- 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)

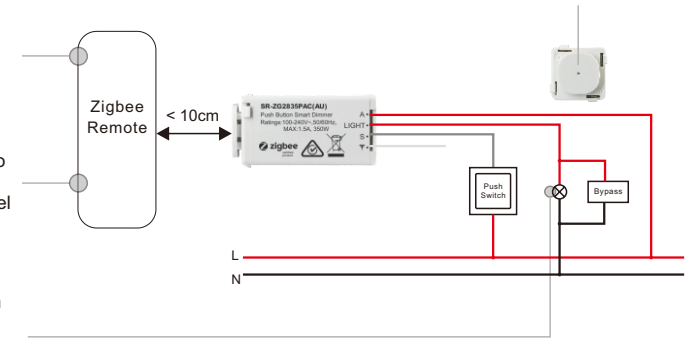
Note: Make sure the device already added to a network, the remote added to the same one or not added to any network.

Step 1: Short press the button 4 times and then within 3 seconds press and hold it for over 5 seconds to start Touchlink commissioning, 180 seconds timeout, repeat this step.

Step 2: Bring the remote or touch panel within 10cm of the lighting device.

Step 3: Set the remote or touch panel into Touch Reset procedure to reset the device, please refer to corresponding remote or touch panel manual to learn how.

Step 4: There shall be indication on the remote and connected light flashes 3 times for successful reset.



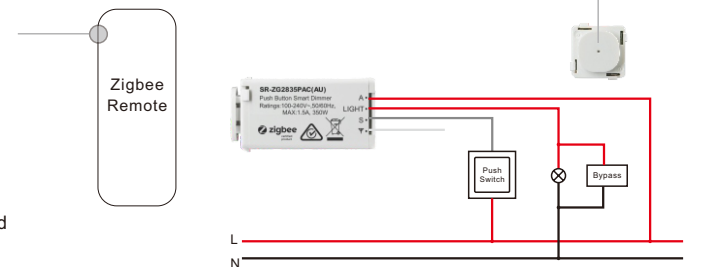
8. Find and Bind Mode

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

Step 1: Short press the button 4 times and then within 3 seconds press and hold it for over 5 seconds to start Find and Bind mode (connected light flashes slowly) to find and bind target node, 180 seconds timeout, repeat this step.

Step 2: Set the remote or touch panel (target node) into find and bind mode, and enable it to find and bind initiator, please refer to corresponding remote or touch panel manual.

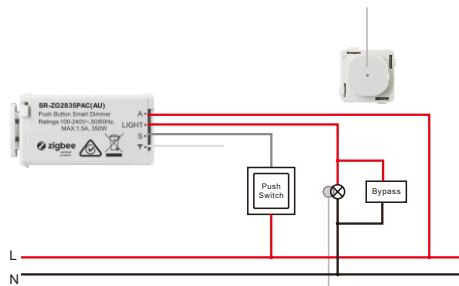
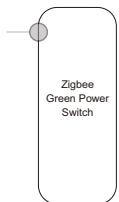
Step 3: There shall be indication on the remote or touch panel that it bind the device successfully and can control it then.



9. Learning to a Zigbee Green Power Switch

Step 1: Short press the button 4 times and then within 3 seconds press and hold it for over 5 seconds to start Learning to GP switch mode (connected light flashes twice), 180 seconds timeout, repeat this step.

Step 2: Set the green power switch into Learning mode, please refer to its manual.



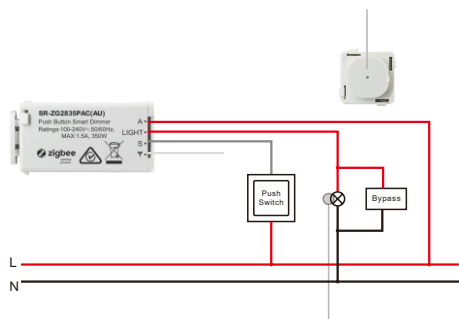
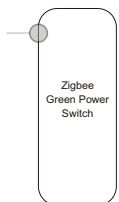
Step 3: Connected light will flash twice to indicate successful learning. Then the switch can control the device.

Note: Each device can learn to max. 20 zigbee green power switches.

10. Delete Learning to a Zigbee Green Power Switch

Step 1: Short press "Reset." button 3 times and then within 2 seconds press and hold it for over 5 seconds to start delete Learning to GP switch mode (connected light flashes slowly), 180 seconds timeout, repeat this step.

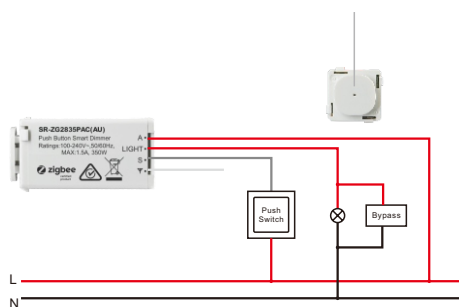
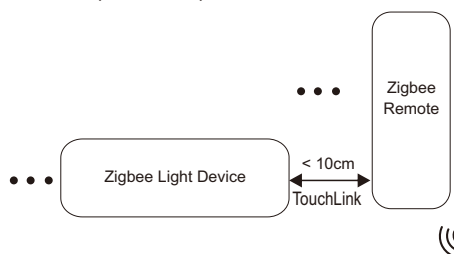
Step 2: Set the paired green power switch into Learning mode, please refer to its manual.



Step 3: Connected light will flash 4 times to indicate successful deleting.

11. Setup a Zigbee Network & Add Other Devices to the Network (No Coordinator Required)

Step 1: Short press the button 4 times and then within 3 seconds press and hold it for over 5 seconds to enable the device to setup a zigbee network (connected light flashes twice) to discover and add other devices, 180 seconds timeout, repeat this step.



Step 2: Set another device or remote or touch panel into network pairing mode and pair to the network, refer to their manuals.

Step 3: Pair more devices and remotes to the network as you would like, refer to their manuals.

Step 4: Bind the added devices and remotes through Touchlink so that the devices can be controlled by the remotes, refer to their manuals.

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

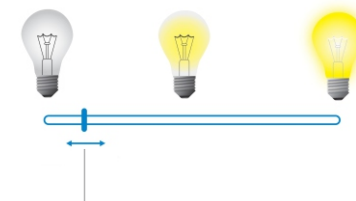
The device supports firmware updating through OTA, and will acquire new firmware from zigbee controller or hub every 10 minutes automatically.

13. 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 between 1% to 100%.

14. Minimum Brightness Setting

Set Minimum Brightness



Step 1: adjust the brightness of connected load to a desired level between 1%-50%.

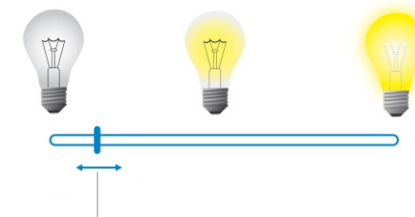


Step 2: short press the button 5 times continuously and rapidly, LED indicator will turn on green for 3 seconds, and within these 3 seconds short press the button once to enter setting menu.

Step 3: LED indicator will blink green once, which means the dimmer has entered min. brightness setting process which will last for 15 seconds.

Step 4: Within the 15 seconds, press and hold the button for over 5 seconds (if press and hold it less than 5 seconds, the dimmer will quit min. brightness setting process) until LED indicator blinks green rapidly for 2 seconds, the brightness adjusted in step 1 will be set as minimum brightness, then the load can not be dimmed below this level.

Delete Minimum Brightness



Step 1: adjust the brightness of connected load to 0%.



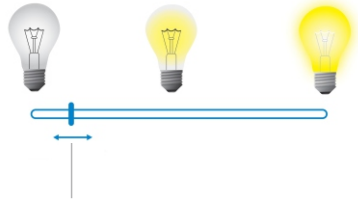
Step 2: short press the button 5 times continuously and rapidly, LED indicator will turn on green for 3 seconds, and within these 3 seconds short press the button once to enter setting menu.

Step 3: LED indicator will blink green once, which means the dimmer has entered min. brightness setting process which will last for 15 seconds.

Step 4: Within the 15 seconds, press and hold the button for over 5 seconds (if press and hold it less than 5 seconds, the dimmer will quit min. brightness setting process) until LED indicator blinks green rapidly for 2 seconds, previously set min. brightness will be deleted, then the load can be dimmed to 1%.

15. Startup Brightness Setting

Set Startup Brightness



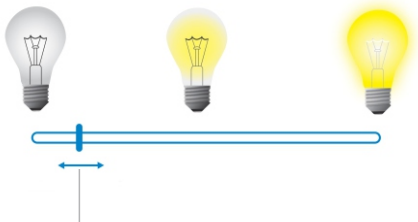
Step 1: adjust the brightness of connected load to a desired level between 1%-50%.

Step 3: LED indicator will blink green twice, which means the dimmer has entered startup brightness setting process which will last for 15 seconds.

Step 4: Within the 15 seconds, press and hold the button for over 5 seconds (if press and hold it less than 5 seconds, the dimmer will quit startup brightness setting process) until LED indicator blinks green rapidly for 2 seconds, the brightness adjusted in step 1 will be set as startup brightness.

Note: startup brightness setting function is to avoid the phenomenon that some dimmable LED drivers can not be turned on after turned off at a very low brightness level. Once setting a startup brightness, if the startup brightness is higher than the brightness before turned off, the driver will first go to the startup brightness after turned on then drop down to the level before turned off. If the startup brightness is lower than the brightness before turned off, the driver will directly go to the brightness before turned off.

Delete Startup Brightness



Step 1: adjust the brightness of connected load to 0%.

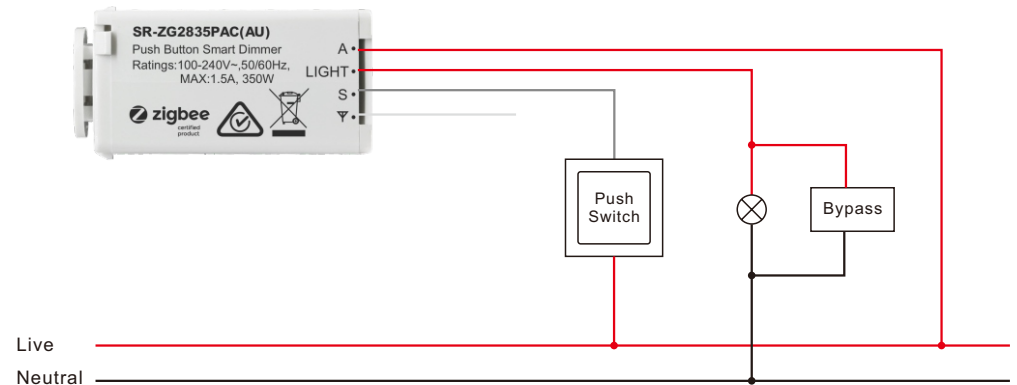
Step 3: LED indicator will blink green twice, which means the dimmer has entered startup brightness setting process which will last for 15 seconds.

Step 4: Within the 15 seconds, press and hold the button for over 5 seconds (if press and hold it less than 5 seconds, the dimmer will quit startup brightness setting process) until LED indicator blinks green rapidly for 2 seconds, previously set startup brightness will be deleted.

Step 2: short press the button 5 times continuously and rapidly, LED indicator will turn on green for 3 seconds, and within these 3 seconds short press the button twice to enter setting menu.

Step 2: short press the button 5 times continuously and rapidly, LED indicator will turn on green for 3 seconds, and within these 3 seconds short press the button twice to enter setting menu.

Wiring Diagram

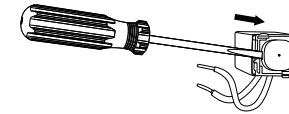


NOTE: Switch connected to the switch wire activates the basic functionality of the dimmer (short press to turn the light on/off, hold to dim up or dim down).

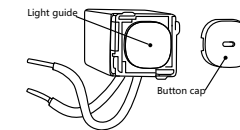
The Bypass is a device designed to work with the push button dimmer. It should be used in case of connecting LED bulbs or energy saving compact fluorescent lamps. The Bypass prevents flickering of the LED lights and glowing of the turned off compact fluorescent lamps. In the case of 2-wire connection, 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 $\cos\phi > 0.5$).

Installation

1. Insert flathead screwdriver into recess on the side of the button cap.



2. Lever off the button cap leaving the light guide in place.



3. Press new button cap onto mechanism until it clicks into place.



The Push-Button Dimmer mechanisms features installer interchangeable button caps. Simply pop the existing button cap off using a screwdriver and snap the new button cap in place.