

# JASCO®



ZB3001 (45857)

## ZigBee®, In-Wall On/Off/Dimmer Switch

Home Automation Standard Version 1.2 Compliant



### Introduction

Thank you for your purchase of a Jasco ZigBee® control device. Jasco ZigBee lighting controls are designed to automate lighting/home control and provide easy remote operation of all your ZigBee enabled devices. The Jasco ZigBee product family includes a variety of devices to control lighting in your home. It is up to you whether you want to control one room or your entire house and whether you want to do it all now or start with one room and add more over time.

**This dimmer switch is designed for use with permanently installed lighting fixtures only. The switch has been optimized for use with incandescent lighting as well as with most dimmable CFL and LED bulbs. The maximum load ratings for this switch are 600W for incandescent bulbs and 150W for dimmable CFL and LED's. Lighting controlled by this switch must not exceed these stated limits.**

*NOTE: Actual performance of any CFL or LED will vary from bulb type to bulb type and among different manufacturers. It is important to note that only bulbs that have been designed as dimmable should be used on a dimmer. To find out if your bulb is dimmable, please check the package, the bulb itself, or call the bulb manufacturer directly.*

**CAUTION - To Reduce The Risk of Overheating and Possible Damage to Other Equipment, Do Not Install to Control a Motor-Operated Appliance, A Fluorescent Lighting Fixture or a Transformer Supplied Appliance**

There are no user serviceable parts in this unit.

### **! Warning !**

**RISK OF FIRE  
RISK OF ELECTRICAL SHOCK  
RISK OF BURNS**

#### **NOT FOR USE WITH MEDICAL OR LIFE SUPPORT EQUIPMENT**

**ZigBee enabled devices should never be used to supply power to or control the On/Off status of medical and/or life support equipment!**

#### **WARNING:**

##### **Controlling Appliances:**

Exercise extreme caution when using ZigBee devices to control appliances. Operation of the ZigBee device may be in a different room than the controlled appliance, also an unintentional activation may occur if the wrong button on the controller interface is pressed. ZigBee devices may automatically be powered on due to timed event programming. Depending upon the appliance, these unattended or unintentional operations could possibly result in a hazardous.

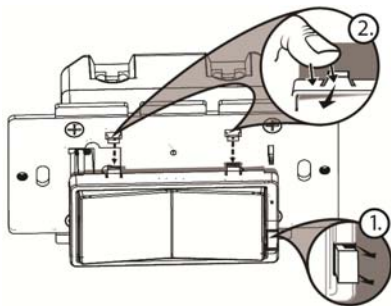
1. Do Not include ZigBee devices in Groups or Scenes if they control appliances.
2. Do Not use ZigBee devices to control electric heaters or any other appliances which may present a hazardous condition due to unattended or unintentional or automatic power on control.

## Key Features

- Turn ON/OFF or DIM lighting manually or remotely via the ZigBee controller
- Can be Included in multiple Groups and Scenes
- May be used in single pole installation or with up to two Jasco auxiliary switches in 2-way, 3-way or 4-way wiring configurations
- Works with Dimmable CFL/LED bulbs for improved energy efficiency
- Interchangeable Paddle switch: White & light almond paddle in package
- Over the Air updates – Once joined to your ZigBee network, the device can transparently receive updates through your ZigBee gateway
- Energy Monitoring – The device can report wattage (W) and kilowatt hours (kWh). Energy usage is monitored through the ZigBee Controller Interface
- Uses a standard, decora-size wall plate for single gang installations (wall plate not included)
- Blue LED indicates switch location in a dark room (LED can be enabled/disabled manually)
- LED Status Indicator – Indicates device scanning during pairing process
- ZigBee HA 1.2 Certified for simple pairing and integrated home automation
- Screw Terminal installation; requires wiring connections for Line (Hot), Load, Neutral, and Ground. Traveler wire required for multi pole installation

## To change color of the switch

1. Lift the Air Gap tab at the base of the cover.
2. Push side tabs in on one side and then the other to release cover. Lift the cover up and off.
3. Simply put the new cover onto the switch by inserting the air gap and side tabs and snapping securely into place.



## Installation

This switch may be used in new installations or to replace an existing wall switch. It may be used by itself for 2-way control (one switch & one load), with one Jasco Auxiliary Switch for 3-way control (two switches & one load) or with two Jasco Auxiliary switches for 4-way control (three switches & one load). When used by itself for 2-way control, please make sure that the screw terminal for the traveler wire is insulated (Do Not Remove the tape over the terminal if you are not using the traveler connection)

### **⚠ WARNING - SHOCK HAZARD**

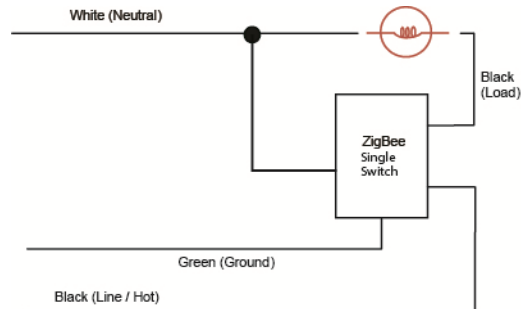
Turn OFF the power to the branch circuit for the switch and lighting fixture at the service panel. All wiring connections must be made with the POWER OFF to avoid personal injury and/or damage to the switch.

## CONNECTIONS



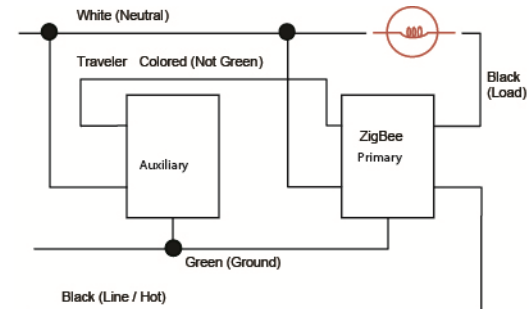
## TWO-WAY CONTROL

### SINGLE SWITCH WIRING USING ONE PRIMARY SWITCH



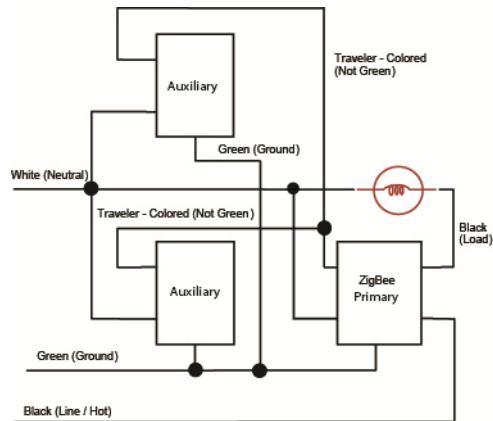
## THREE-WAY CONTROL

### TWO SWITCH WIRING USING ONE PRIMARY AND ONE AUXILIARY SWITCH



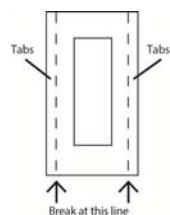
## FOUR-WAY CONTROL

### THREE SWITCH WIRING USING ONE PRIMARY AND TWO AUXILIARY SWITCHES



## Single, Dual and Triple Gang Boxes

The metal plate surrounding the switch assembly is a heat sink. The maximum load rating (600W) is provided when installed in a single gang box with the full heat sink. Multiple dimmer switches may be installed in dual or triple gang boxes and, if necessary, one or both sides of the heat sink may be removed by bending it at the score lines. There is a corresponding reduction in the switch's load rating when ganged. DO NOT exceed the following loads:



CFL/LED RATING	Incandescent RATING	Number of Dimmers	Heat Sink
150W	600W	1 Switch in Single Gang Box	Full – No tabs removed
125W	500W	2 Switches in Double Gang Box	One tab removed (Inner)
100W	400W	3 Switches in Triple Gang Box	Both tabs removed

### Observe Important Wiring Information

*Important: This switch is rated for and intended to only be used with copper wire.*

The home's electrical wires may be attached to the screw terminals or inserted into the holes in the back of the switch enclosure and clamped in place by tightening the screw terminals. Always follow the recommended wire strip lengths when making wiring connections.

### Wire gauge requirements

- Use 14 AWG or larger wires suitable for at least 80° C for supply (HOT), Load, Neutral, Ground and Traveler connections.

### Wire strip length:

- For attachment to screw terminals: Strip insulation 1 in (25mm)
- For attachment using the enclosure's holes: Strip insulation 5/8" (16mm)

*UL specifies that the tightening torque for the screws is 14 Kgf-cm (12 lbf-in).*

### SINGLE SWITCH WIRING

1. Shut off power to the circuit at fuse box or circuit breaker.
2. Remove wall plate.
- ! Warning: Verify power is OFF to switch box before continuing.**
3. Remove the switch mounting screws.
4. Carefully remove the switch from the switch box. DO NOT disconnect the wires.
5. There are five screw terminals on the switch; these are marked
  - LINE (Hot)
  - Neutral
  - LOAD
  - GROUND
  - TRAVELER

The Traveler terminal is only used for 3-way or 4-way wiring and should remain insulated if the switch is being installed in a 2-way system (one switch & one load). Match these screw terminals to the wires connected to the existing switch.

6. Disconnect the wires from the existing switch.
7. Connect the green or bare copper ground wire to the GROUND terminal.
8. Connect the black wire that goes to the light to the terminal marked LOAD.
9. Connect the black wire that comes from the electrical service panel (Hot) to the terminal marked LINE.

10. Connect the white wire to the neutral terminal.

**Note:** UL specifies that the tightening torque for the screws is 14 Kgf-cm (12 lbf-in).

11. Insert Switch into the switch box being careful not to pinch or crush wires.

12. Secure the switch to the box using the supplied screws.

13. Mount the wall plate.

14. Reapply power to the circuit at fuse box or circuit breaker and test the system.

#### **OPTIONAL for THREE or FOUR-WAY CONTROL:**

Connect the Traveler wire (usually Red) to the screw terminal marked TRAVELER on the primary switch (Do Not remove the tape over the terminal if you are not using the traveler connection). The other end of this Traveler wire connects to the TRAVELER screw terminal on the Auxiliary Switch.

1. The auxiliary requires the following 3 wiring connections:

a. The Traveler wire. This is used to send voltage signals to the primary switch. The signals from the auxiliary tell the primary switch what action to perform.

b. Ground.

c. Neutral.

2. DO NOT connect the auxiliary switch to the home's black Hot (Line) wire.

Once the switch is properly wired, you should be able to use the rocker to manually turn On/Off and dim the connected load

### ***Basic Operation***

The connected light can be turned ON/OFF in two ways:

1. Manually from the front panel of the in-wall switch
2. Remotely with a ZigBee Controller

#### **MANUAL CONTROL**

The Front Panel Rocker Switch allows the user to:

Turn ON/OFF the connected lighting.

- To turn the connected lighting ON: Tap the top of the rocker.
- To turn the connected lighting OFF: Tap the bottom of the rocker.

To BRIGHTEN/DIM the connected lighting

- To brighten the connected lighting, press and hold the top of the rocker until the desired brightness is achieved
- To dim the connected lighting, press and hold the bottom of the rocker until the desired brightness is achieved

The dimmer switch retains the previous dimmer setting. When turning the dimmer switch on by tapping the top rocker, the dimmer will automatically return to the previous dim setting.

## REMOTE CONTROL

ZigBee devices can be controlled directly by your ZigBee Controller and remotely over long distances with a PC or mobile phone app if your home's controller functions as a gateway connected to an internet router.

To control the device remotely it must be paired to the ZigBee Controller as instructed

### ***ZigBee Network Pairing***

#### **Join the switch to the ZigBee Network**

1. From your ZigBee Controller's interface, choose to add lighting device and enter Locating/Pairing mode as instructed by the controller.
2. After applying power to the In-Wall switch, your In-Wall Switch will begin auto scan mode as it searches for a controller to pair with

Auto-Scan: LED Status Indicator Blinks 3x every 10 seconds as the device scans for a compatible network controller to pair with until Timeout.

Timeout: Auto-Scan mode will eventually time out after the LED Status light stops blinking. If device Timeout occurs before the switch has joined the ZigBee network, press any button on the switch to resume scanning.

3. After the switch is located and paired to the ZigBee network, the LED Status Indicator will stop blinking and the switch will appear in your controller's menu. Setup the switch as an On/Off control and title the switch in a way that will be easy to identify.

The module is now paired to the ZigBee network and can be controlled remotely.

### ***Reset Device (Remove from ZigBee Network)***

#### **From the ZigBee Controller**

From your controller or hub interface, choose to remove or delete the lighting device as instructed. The device will be removed from the ZigBee network following indication from your controller. All configuration parameters will be reset after the device is removed from the network.

## **Manual**

**Resetting to factory defaults** require the user to:

1. Lift the air-gap switch at the bottom of the rocker to OFF position to power down the device.
2. Hold down the UP button
3. Push In the air-gap switch to ON position to power up the device.
4. Release UP button within 4 seconds after power up.

## ***LED Parameters***

To assist with locating the switch in a dark room, the LED glows blue when the light switch is turned OFF.

### **To turn LED off:**

Tap top rocker (ON Switch) 3x quickly and then tap bottom rocker (OFF Switch) 1x

### **To restore LED:**

Use the same series of button presses used to disable the LED to restore

## ***WARRANTY***

JASCO Products warrants this product to be free from manufacturing defects for a period of two years from the original date of consumer purchase. This warranty is limited to the repair or replacement of this product only and does not extend to consequential or incidental damage to other products that may be used with this product. This warranty is in lieu of all other warranties, expressed or implied. Some states do not allow limitations on how long an implied warranty lasts or permit the exclusion or limitation of incidental or consequential damage, so the above limitations may not apply to you. This warranty gives you specific rights, and you may also have other rights which vary from state to state. Please contact Customer Service at 800-654-8483 (option 1) between 7:30AM – 5:00PM CST or via our website ([www.jascoproducts.com](http://www.jascoproducts.com)) if the unit should prove defective within the warranty period.

## ***FCC and IC Compliance***

### **U2ZZB3001**

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

The equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment uses, generates, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

### **Operation is subject to the following two conditions:**

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device.

**Important Note:** To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

**Caution:** Exposure to Radio Frequency Radiation. To comply with FCC/IC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

**Compliance with IC Rules and Regulations** IC: 6924A-ZB3001

Jasco Products Company

Model: ZB3001 (45857)

CAN ICES-3(B) / NMB-3(B)

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

**OPERATING SPECIFICATIONS**

- Power 120VAC, 60Hz
- Signal (Frequency) 2.4 Ghz IEEE 802.15.4
- Maximum load for the ZigBee controlled In-Wall Switch:
  - 600W Incandescent
  - 150W Dimmable CFL/LED
  - Gang Ratings:

<b>Number of Dimmers</b>	<b>CFL/LED RATING</b>	<b>Incandescent RATING</b>
1 Switch in Single Gang Box	150W	600W
2 Switches in Double Gang Box	125W	500W
3 Switches in Triple Gang Box	100W	400W

- Operating Temperature Range: 32-104° F (0-40° C)
- For indoor use only.
- Complies with FCC and Industry Canada regulations
- Use 14 AWG or larger wires suitable for at least 80° C



## ***Recommended Compatible Dimmable CFL/LED Bulbs***

<b>Lamp Type CFL/ LED</b>	<b>Lamp Mfg.</b>	<b>Lamp Model</b>	<b>Lamp Watts</b>
LED	Ecosmart	125501	8W
CFL	Ecosmart	40123	23W
CFL	Ecosmart	2R3015DIM	15W
CFL	Ecosmart	40114 (SKU#238875)	14W
CFL	Sylvania	CF14EL/TWIST/DIM	14W
LED	Sylvania	LED10PAR20/DIM/P/930/FL30	10W
LED	Sylvania	LED8A19/DIM/0/827	8W
LED	Philips	9290002227	3W
CFL	GE	FLE26/2/DV/R40	26W
LED	Feit	PAR30L/LEDG5	15W
LED	Feit	G25/DM/LED	10W
LED	Feit	PAR20/LEDG5	9.5W
LED	Utilitech	LPAR20/LEDG5	9.5W
CFL	Ecosmart	40114 (SKU#709447)	14W
LED	Philips	3.5E26BA12DBBAAA	3.5W
LED	Miseengarde	LED7P20DS827/20	7W
CFL	Utilitech	LPAR20DM/LED(338804)	7.5W
LED	Philips	9E26PA19DCAAAA	8W

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