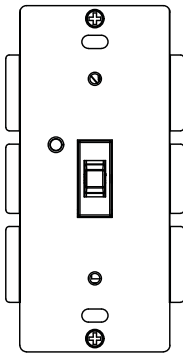


ZOOZ™
bright ideas
TOGGLE DIMMER
ZEN24 VER. 3.0



www.getzooz.com
ask@getzooz.com

FEATURES

- Manual or Z-Wave on/off and brightness control
- **Direct 3-Way:** works with regular on/off switches in a 3-way (neutral wire required)
- Fully adjustable ramp rate for just the right on/off speed
- Double tap to full brightness feature + **NEW: optional scene control (selected hubs only)**
- Remembers and restores on/off status after power failure
- Built-in Z-Wave Plus signal repeater to extend network range
- Works with LED and incandescent bulbs (don't use with fans or tubes)
- Accepts OTA firmware updates

SPECIFICATIONS

- Model Number: ZEN24 VER. 3.0
- Z-Wave Signal Frequency: 908.42 MHz
- Power: 120 VAC, 60 Hz
- **Maximum Load:** 150 W LED, 500 W incandescent (300 W with both sides of heat sink tabs off); **Minimum Load:** 15 W for LED bulbs
- Range: Up to 100 feet line of sight
- Operating Temperature: 32-104° F (0-40° C)
- Installation and Use: Indoor only

CAUTION

This is an electrical device - please use caution when installing and operating the dimmer. Remote control of appliances may result in unintentional or automated activation of power. Do not use this Z-Wave device to control electric heaters or other appliances which produce the risk of fire, burns, or electrical shock when unattended. To reduce risk of overheating and possible damage to other equipment, do not install this unit to control a receptacle; a motor-operated appliance; a fluorescent lighting fixture; or a transformer-supplied fixture.

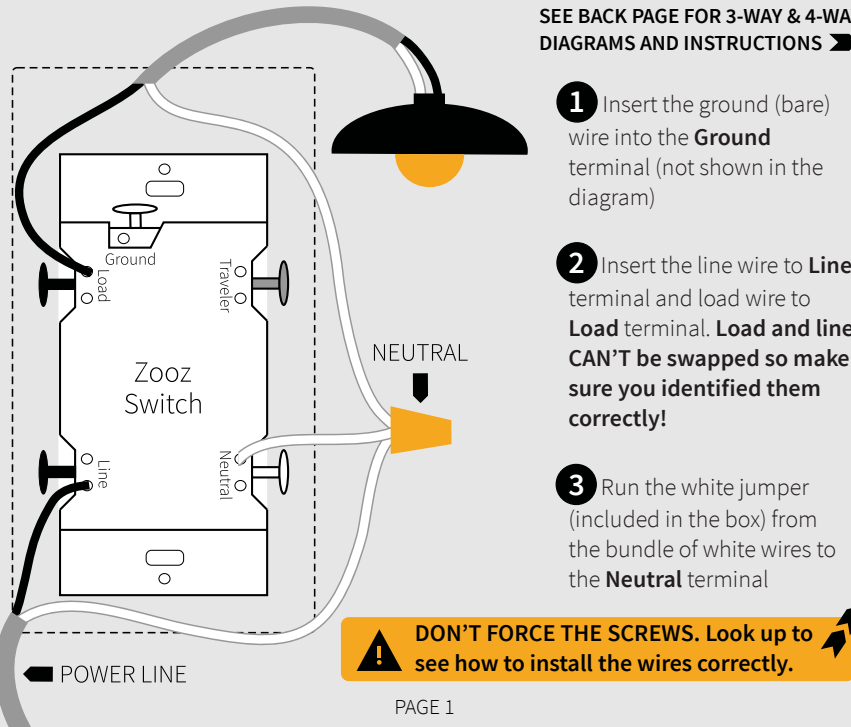
BEFORE YOU INSTALL

This switch is intended for installation in accordance with the National Electric Code and local regulations. It is recommended that a licensed electrician perform this installation.

WIRING: READ IT!

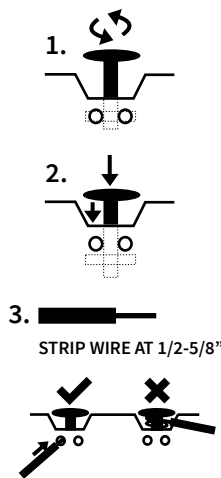
- CHECK THE LOAD:** lights only (150W for LED's, 500W for incandescent with side tabs ON), **DON'T CONNECT THIS SWITCH TO FANS OR TUBE LIGHTS!**
- POWER OFF:** turn the circuit power off in the breaker panel before you start. If installing in a multi-switch box with multiple circuits, turn power off at all of the circuits.
- CHECK THE WIRES:** mark load (most often black), line (most often black), neutral (most often white), and ground (most often bare). **14AWG wires only! Don't rely exclusively on your multimeter to identify the wires!**
- REMOVE THE OLD SWITCH:** disconnect the wires and label them.
- CONNECT THE Z-WAVE SWITCH:** follow all installation steps carefully. Wire the switch EXACTLY like in the diagram.

ZEN24 WIRING DIAGRAM FOR SINGLE POLE INSTALLATION



SEE BACK PAGE FOR 3-WAY & 4-WAY DIAGRAMS AND INSTRUCTIONS ➡

- 1 Insert the ground (bare) wire into the **Ground** terminal (not shown in the diagram)
- 2 Insert the line wire to **Line** terminal and load wire to **Load** terminal. **Load and line CAN'T be swapped so make sure you identified them correctly!**
- 3 Run the white jumper (included in the box) from the bundle of white wires to the **Neutral** terminal



- 1. UNSCREW:** carefully turn the screw counter clockwise to make space for the wire. DO NOT unscrew completely.
- 2. PRESS DOWN:** once it's loose, press the screw down with your finger so it catches the thread.
- 3. INSERT WIRE:** make sure the wire is perfectly straight, then insert it into the terminal while holding the screw down. DO NOT wrap wires around the terminal screws!
- 4. TIGHTEN:** turn the screw clockwise to tighten the wire. DO NOT OVERTIGHTEN!

COMPLETE INSTALLATION

Secure your Z-Wave switch in the box with mounting screws, handling the wires with care. For **multi-gang-box installations**, you may need to break the side tabs off with pliers to fit the switch next to the neighboring switches. **Install the wall plate using the included short screws** and restore power to the circuit.

TEST THE SWITCH

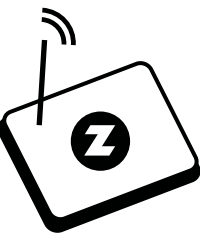
Toggle the switch up for ON and toggle it down for OFF. **If the test fails, please check that:**

- power is fully restored to the circuit
- wiring matches the instructions **exactly**
- the type of load is approved and within the specs of this switch

WARNING

- This product should be installed indoors upon completion of any building renovations.
- Prior to installation, the device should be stored in a dry, dust-and-mold-proof place.
- Do not install the switch in a place with direct sun exposure, high temperature, or humidity.
- Keep away from chemicals, water, and dust.
- Ensure the device is never close to any heat source or open flame to prevent fire.
- Ensure the device is connected to an electric power source that does not exceed the maximum load power.
- No part of the device may be replaced or repaired by the user.

Z-WAVE CONTROL

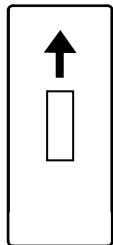


1. ADD DEVICE to your hub

Initiate inclusion (pairing) in the app (or web interface). Not sure how? Get step-by-step instructions for adding the switch to **SmartThings, Vera, Wink** and other hubs here: www.support.getzooz.com

2. Finalize inclusion at the switch.
A new dimmer switch will show up on your hub's device list.

TOGGLE UP 3 TIMES VERY QUICKLY ➡



NEED SOME HELP? ask@getzooz.com

TROUBLESHOOTING

The switch won't add to your system? Try this:

1. Initiate **EXCLUSION** and toggle the switch down 3 times quickly.
2. Toggle the switch **up 6-7 times** very quickly when adding it.
3. Bring the gateway controller (hub) **closer** to the switch, it may be out of range.
4. Get troubleshooting tips for your hub at www.support.getzooz.com

EXCLUSION (REMOVING / UNPAIRING DEVICE)

1. Bring your Z-Wave gateway (hub) close to the switch if possible.
2. Put the Z-Wave hub into **exclusion mode** (not sure how to do that? ask@getzooz.com) .
3. Toggle the switch **down 3 times** quickly.
4. Your hub will confirm exclusion and the device will disappear from your controller's device list.

FACTORY RESET

If your primary controller is missing or inoperable, you may need to reset the device to factory settings. To complete the reset process manually, **toggle-toggle-toggle'n'hold down** for at least 10 seconds.

NOTE: All previously recorded activity and custom settings will be erased from the device's memory.



This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network. **This is a UL certified device.** UL, just like ETL, is a Nationally Recognized Testing Laboratory. The UL mark is proof of product compliance with North American safety standards.

Please refer to your controller's user guide for advanced programming instructions as they are a little different for every software. **Not sure where to start? Go to www.support.getzooz.com for detailed instructions on how to change the settings on SmartThings, Vera, and more.** Or just email us: ask@getzooz.com

ASSOCIATION

This dimmer switch supports Group 1 with up to 1 devices for lifeline communication and Group 2 with up to 5 devices. This device will send BASIC REPORT to Group 1 and BASIC SET to group 2 when operated manually.

CUSTOMIZE YOUR SWITCH

Toggle Control

Parameter 1: Choose if you want the to turn the light on by clicking the toggle up or down
Values: 0 – Toggle up turns the light on, toggle down turns the light off (default); 1 – Toggle up turns the light off, toggle down turns the light on; 2 – Toggling either direction will turn the light on or off depending on the status.
Size: 1 byte dec.

Auto Turn-Off Timer

Parameter 3: Use this parameter to enable or disable the auto turn-off timer function
Values: 0 – timer disabled (default); 1 – timer enabled.
Size: 1 byte dec.

Parameter 4: Use this parameter to set the time after which you want the switch to automatically turn off once it has been turned on. The number entered as value corresponds to the number of minutes.
Values: 1 – 65535 (minutes). Default: 60
Size: 4 byte dec.

Auto Turn-On Timer

Parameter 5: Use this parameter to enable or disable the auto turn-on timer function
Values: 0 – timer disabled (default); 1 – timer enabled.
Size: 1 byte dec.

Parameter 6: Use this parameter to set the time after which you want the switch to automatically turn on once it has been turned off. The number entered as value corresponds to the number of minutes.
Values: 1 – 65535 (minutes). Default: 60.
Size: 4 byte dec.

On Off Status After Power Failure

Parameter 8: Set the on off status for the switch after power failure.
Values: 0 – forced to OFF (regardless of state prior to power outage); 1 – forced to ON (regardless of state prior to power outage); 2 – remembers and restores on/off status after power failure (default).
Size: 1 byte dec.

Ramp Rate Control

Parameter 9: Adjust the ramp rate for your dimmer (fade-in / fade-out effect for on / off operation). Values correspond to the number of seconds it take for the dimmer to reach full brightness or turn off when operated manually.
Values: 1 – 99 (seconds). Default: 1.
Size: 1 byte dec.

Minimum and Maximum Brightness

Parameter 10: Set the minimum brightness level (in %) for your dimmer. You won't be able to dim the light below the set value.
Values: 1 – 99 (%). Default: 1.
Size: 1 byte dec.

Parameter 11: Set the maximum brightness level (in %) for your dimmer. You won't be able to add brightness to the light beyond the set value.
Note: if Parameter 12 is set to value 0, Parameter 11 is automatically disabled.
Values: 1 – 99 (%). Default: 99.
Size: 1 byte dec.

Double Tap Function

Parameter 12: Choose if you want the dimmer to turn on to full brightness or custom brightness level after you double-tap the upper paddle.
Values: 0 – the light will turn on to full brightness with double tap (default). 1 – the light will turn on to the maximum brightness level set in Parameter 11 with double tap.
Size: 1 byte dec.

SCENE CONTROL

You can trigger 2 scenes or control 2 independent Z-Wave devices in your network using this dimmer. Just enable the setting in Parameter 13.
2 x TOGGLE DOWN: Trigger Scene 1
4 x TOGGLE DOWN: Trigger Scene 2

Enable/Disable Scene Control

Parameter 13: Enable or disable scene control functionality for quick 2-toggle and 4-toggle triggers (down only).
Values: 0 – scene control disabled (default). 1 – scene control enabled.
Size: 1 byte dec.

Learn more about using scene control with your Z-Wave hub at www.support.getzooz.com

This device requires the following **command classes** to be supported and recognized by your Z-Wave controller:
COMMAND_CLASS_ZWAVEPLUS_INFO,
COMMAND_CLASS_SWITCH_MULTILEVEL,
COMMAND_CLASS_ASSOCIATION,
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION,
COMMAND_CLASS_ASSOCIATION_GRP_INFO,
COMMAND_CLASS_TRANSPORT_SERVICE,
COMMAND_CLASS_VERSION,
COMMAND_CLASS_MANUFACTURER_SPECIFIC,
COMMAND_CLASS_DEVICE_RESET_LOCALLY,
COMMAND_CLASS_POWERLEVEL,
COMMAND_CLASS_CONFIGURATION,
COMMAND_CLASS_CENTRAL_SCENE,
COMMAND_CLASS_SECURITY_2,
COMMAND_CLASS_SUPERVISION,
COMMAND_CLASS_FIRMWARE_UPDATE_MD

WARRANTY

This product is covered under a 12-month limited warranty. To read the full warranty policy or file a warranty claim, please go to www.getzooz.com/warranty

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FCC NOTE
THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT. STORE INDOORS WHEN NOT IN USE. SUITABLE FOR DRY LOCATIONS ONLY. DO NOT IMMERSE IN WATER. NOT FOR USE WHERE DIRECTLY EXPOSED TO WATER. This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:
1. This device may not cause harmful interference,
2. This device must accept any interference received, including interference that may cause undesired operation. This 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 generates, uses and can radiate radio frequency energy and, if not installed and used according to instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in any given installation. If this equipment causes harmful interference to radio or television reception, the user may try to correct the interference by taking one or more of the following measures:
- Reorient or relocate receiving antenna
- Increase the separation between equipment and receiver
- Connect equipment into a separate outlet or circuit from receiver
- Consult the dealer or an experienced radio/TV technician for additional assistance

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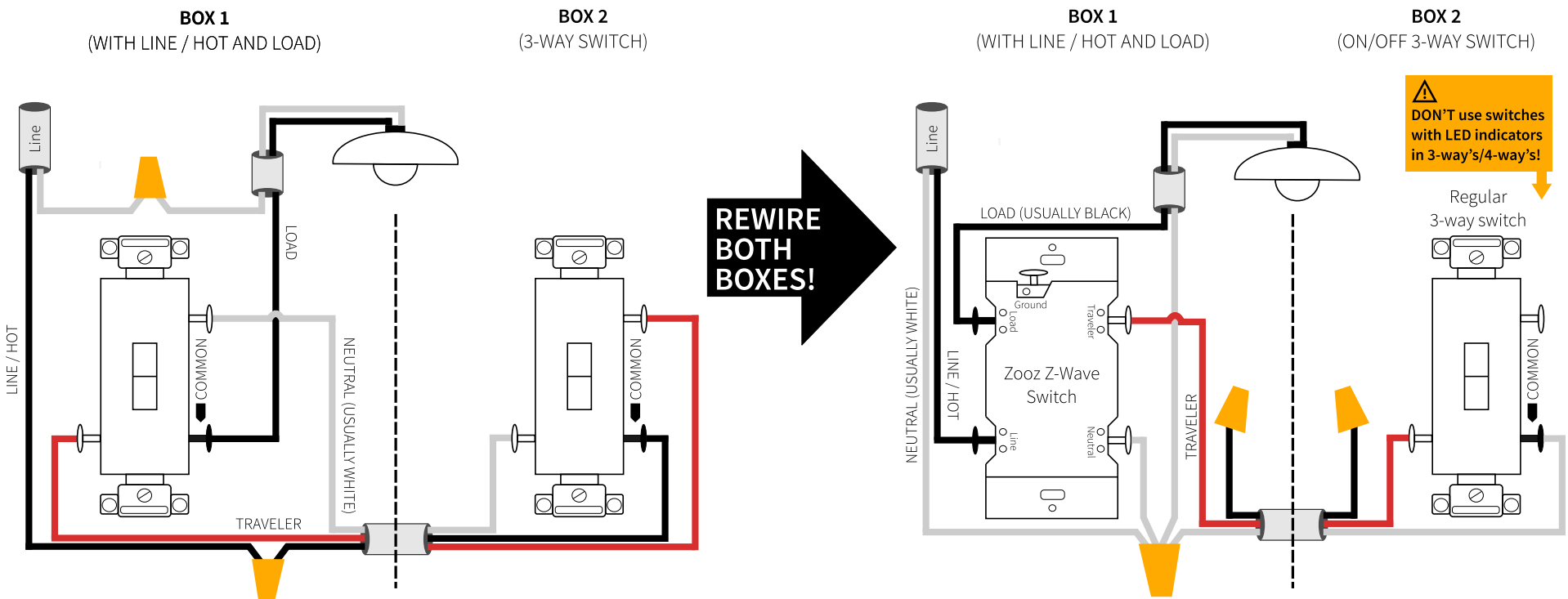
ZEN24 WIRING DIAGRAMS FOR THE MOST COMMON 3-WAY INSTALLATIONS

For more diagrams or to request custom instructions go to support.getzooz.com

3-WAY DIAGRAM FOR 2-POINT CONTROL OF ZOOZ SWITCHES: OPTION 1

ZEN21, ZEN22, ZEN23, ZEN24 VER. 2.0 / 3.0

Use the diagram on the right if your wiring looks like this →



STOP!

Wire and screw position, as well as color codes are for illustration only. You should not follow the colors and positioning in the illustration blindly. Always identify all wires prior to installing Zooz switches and make sure you can match the diagrams to your set-up exactly. Don't experiment or attempt a "trial-and-error" installation for your own safety.

NOTE!

If you are not comfortable identifying the wiring and completing the installation, please consult a licensed electrician. Make sure you have identified all wiring correctly before connecting the switch. If your wiring doesn't match any of the below diagrams, contact our support: ask@getzooz.com

⚠ ON/OFF SWITCHES ONLY

Do not connect Zooz Z-Wave switches to an existing 3-way dimmer, illuminated switch, or an electronic add-on switch. Zooz switches can only be wired with mechanical on/off switches in a 3-way or 4-way setting! To simplify the diagrams, we did not include connections for the ground wire. Remember that all Zooz switches need to be wired according to the electrical code, with ground wire connected to the ground terminal.

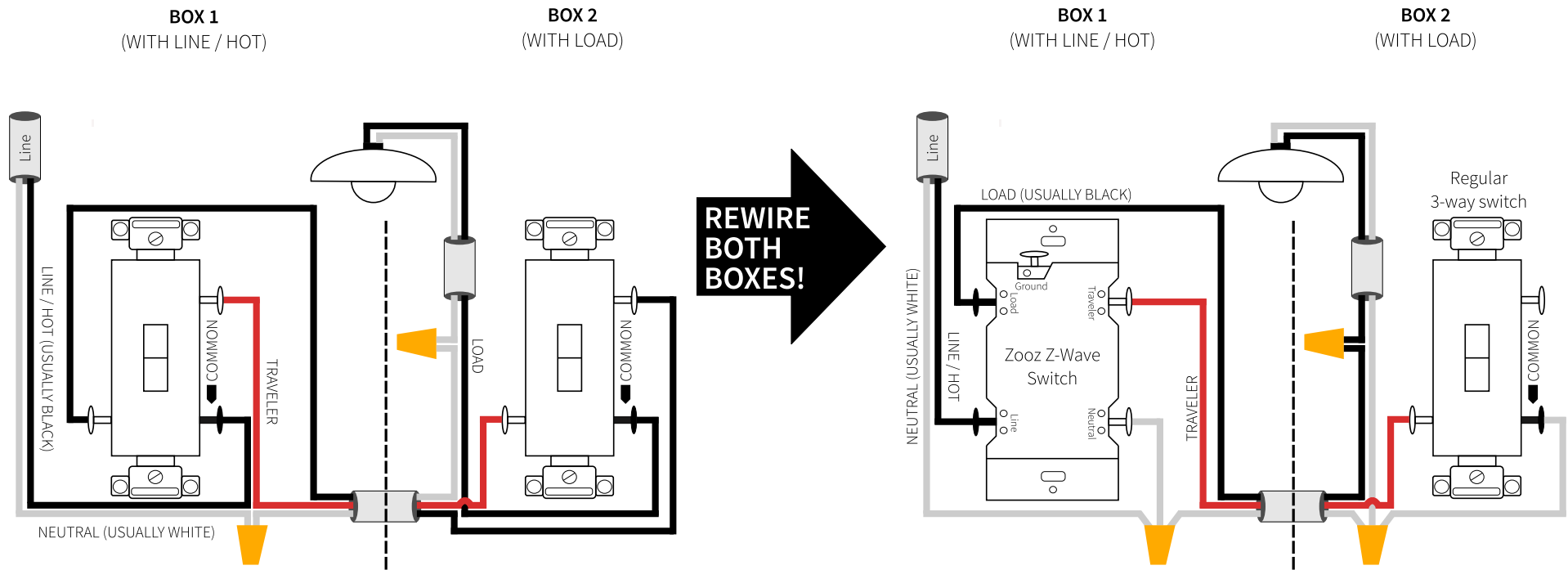
POWER OFF!

Cut power to the circuit before handling the wiring. Always install your Zooz switch in the box with direct connection to power line. Diagrams and instructions in this manual are for ZEN21, ZEN22, ZEN23, and ZEN24 VER. 2.0 / 3.0 models ONLY!

3-WAY DIAGRAM FOR 2-POINT CONTROL OF ZOOZ SWITCHES: OPTION 2

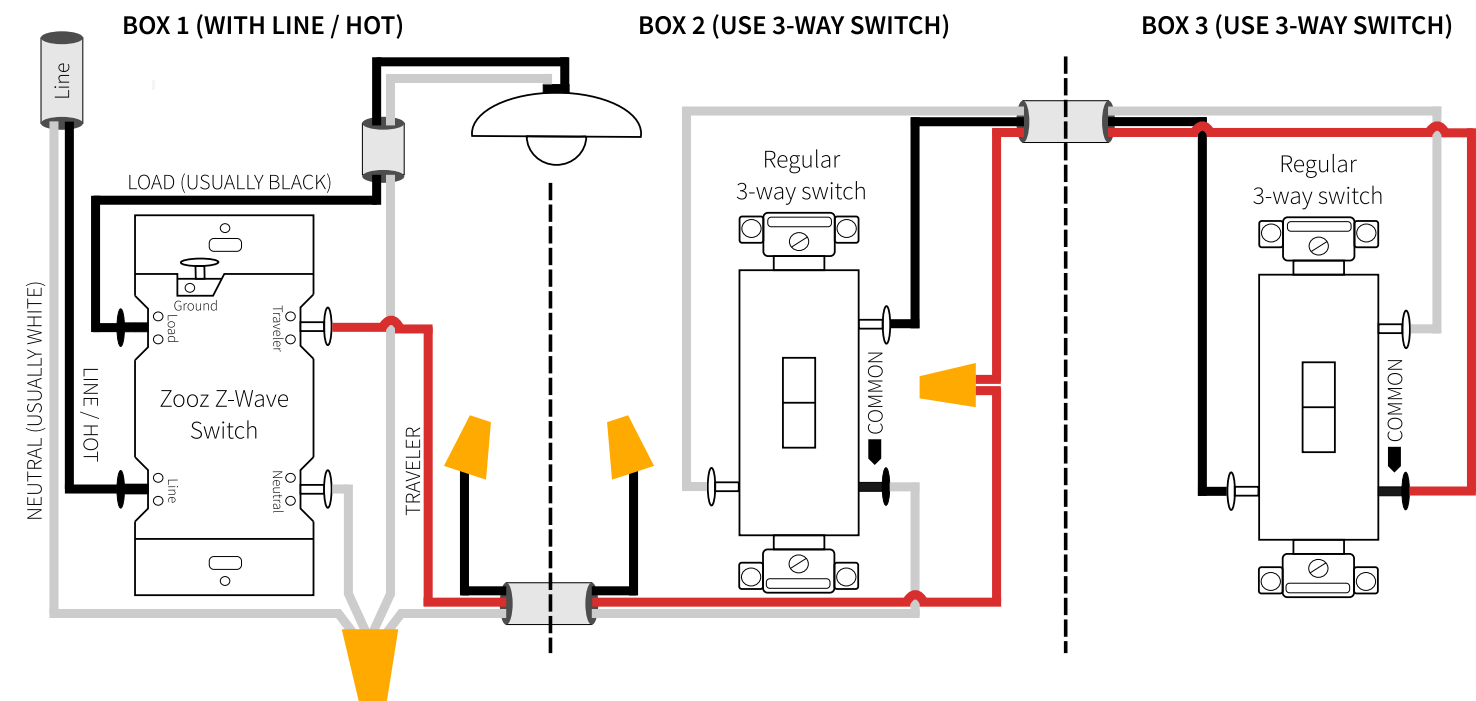
ZEN21, ZEN22, ZEN23, ZEN24 VER. 2.0 / 3.0

Use the diagram on the right if your wiring looks like this →



ZEN24 4-WAY INSTALLATION WIRING DIAGRAM (LINE AND LOAD MUST BE IN THE SAME BOX)

NOTE: Use regular 3-way on/off switches ONLY in this set-up (replace any 4-way switches or 3-way dimmers if needed). To simplify the diagrams, we did not include connections for the ground wire. Remember that all Zooz switches need to be wired according to the electrical code, with ground wire connected to the ground terminal.



MANUAL CONTROL

1 CLICK UP: turns the light on to the last brightness level. It takes around a second for the dimmer to reach full brightness. See advanced settings to change the ramp rate.
TOGGLE UP AND HOLD: add brightness.
2 x UP: goes to full brightness.

1 CLICK DOWN: turns the light off (fade-out effect and 4-second ramp rate).
TOGGLE DOWN AND HOLD: reduce brightness.
DOWN-DOWN-DOWN'N'HOLD: factory reset
2 x DOWN: trigger Scene 1 (if enabled in Parameter 13).
4 x DOWN: trigger Scene 2 (if enabled in Parameter 13).

Slide the **AIR-GAP SWITCH** to the left when changing bulbs to cut off power to the switch for your safety and shock prevention.

EACH BOX NEEDS TO BE REWIRED ACCORDING TO THE ABOVE DIAGRAM. Follow this diagram ONLY if you confirmed you have direct connection to power and light in the same box. If they're in separate boxes, use the ZEN27 model instead. If you have power or load coming into the box with the 4-way switch, contact us for custom instructions: ask@getzooz.com

NEED HELP?

If you're having trouble reading the diagrams or don't see your wiring set-up here, get in touch! We have **more 3-way, 4-way, and 5-way diagrams** and instructions. There are many ways to wire multi-point control set-ups so unless you can match your wiring to the diagrams here, please don't attempt the installation for your own safety.

www.support.getzooz.com
ask@getzooz.com