ZLINK
Connecting Things That Matter

Z-WAVE PLUS

WD-100
In Wall Dimmer
This product speaks with other Z-Wave certified devices
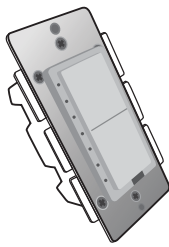
INTRODUCTION

ZLINK's WD-100 is a Z-Wave Plus certified device with S2 security and SmartStart features. You can now add this device securely and with ease using QR code on the product with compatible gateways supporting S2 and Smart Start. WD-100 replaces a standard in-wall light switch turning it into a Z-Wave controlled network device with manual and remote control dimming and On/Off light control. ZLINK WD-100 supports "Instant Feedback" of manual status to compatible gateways as well as Central Scene to allow setting multiple scene control throughout the home, with gateways supporting Central Scene. Each Z-Wave device serves as a node to repeat the signal in the network, thus, extending the overall Z-Wave mesh wireless network range. For more information on this and other quality ZLINK Products please visit www.ZLINKProducts.com.

FEATURES

• Power 120 VAC, 60Hz, up to 600 watts
• Region US: 908.4, 916 MHz
• Works w/ most incandescent, dimmable CFL & LED lights
• 7 segment LED dim level indicator
• Remotely or manually turns ON or OFF, or DIM lights
• Fits standard wall plates (wall plate not included)
• Works with any certified gateway supporting Z-Wave
• Please find the QR code label with DSK on the front metal yoke of the device.

! WARNING !
RISK OF FIRE, ELECTRICAL SHOCK & BURNS. DO NOT USE WITH MEDICAL AND LIFE SUPPORT INSTRUMENT. No user serviceable parts are in this module. The lighting connected to the WD-100 must not exceed 600W incandescent, 150W dimmable CFL/LED. CAUTION: To Reduce the Risk of Overheating and Possible Damage To Other Equipment, Do Not Install To Control A Receptacle, A Motor-Operated Appliance, A Non-Dimmable Fluorescent Lighting Fixture, Or A Transformer-Supplied Appliance

IMPORTANT: WD-100 requires LINE, NEUTRAL and LOAD wires for every installation

SETUP

**Step 1** WARNING! RISK OF SHOCK! Make sure power is OFF in the circuit before wiring!

Step 2 Identifying the wiring terminals on the module

LINE (Hot) - Black (connected to power)
NEUTRAL - White (this wire is often tied to other neutral wires and may require a jumper to connect with the WD-100)
LOAD - Black (usually tied closely to Traveler wire)
TRAVELER — Red/Other (only used in 3-way circuits)
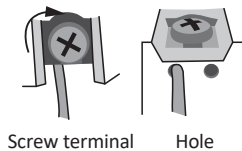GROUND — Green or Bare
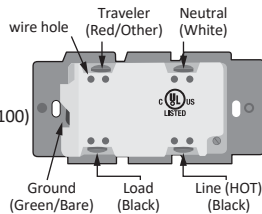
Step 3 Remove the wall plate and the existing switch (if mounted) at your preferred installation location. You should label the wires connected to the screw terminals before disconnecting the switch. Please check that the wiring configuration to the right is present in the wall switch box, otherwise consult a qualified electrician.

4 wires for 2-way circuit
5 wires for 3-way circuit
1. Line(Hot) - Black
2. Neutral - White
3. Ground – Green or bare
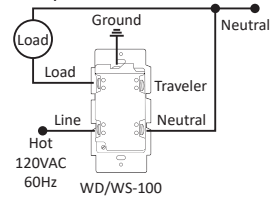4. Traveler (for 3-way) – Red or other
5. Load - Black
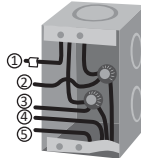
Wiring Information

Use copper wires only. UL specification: the tightening torque for the screws is 14 Kgf-cm (12 lbf-in)
Strip insulation 5/8" (16mm)
Wire connection can be made either to Screw terminal or Hole. 14 gauge wire can use hole or screw terminal, all other gauges must use screw terminal rated at least 80°C.
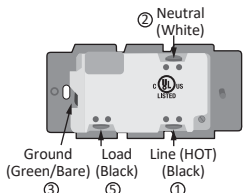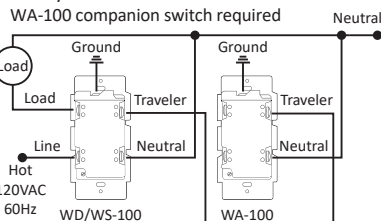
Screw terminal   Hole
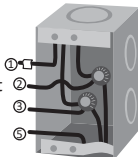
Making Connections

2-Way circuit

Load, Ground, Neutral, Load, Traveler, Line, Neutral, Hot 120VAC 60Hz, WD/WS-100

Neutral (White), Ground (Green/Bare), Load (Black), Line (HOT) (Black)

The Traveler terminal is not used in a 2-way circuit. Do not remove the insulation tape on the Traveler terminal in this application.

3-Way circuit
WA-100 companion switch required

Load, Ground, Ground, Neutral, Load, Traveler, Traveler, Line, Neutral, Neutral, Hot 120VAC 60Hz, WD/WS-100, WA-100

Traveler (Red/Other), Neutral (White), Ground (Green/Bare), Load (Black), Line (HOT) (Black)

Please refer to WA-100 user manual for wiring instructions of the auxiliary switch. The maximum length of Traveler wire may not exceed 200ft.

Gang Box

To install the WD-100 in a multi-gang or J box, the tabs on the sides of the metal yoke may need to be removed. For single gang switch, no changes should be required. For dual or higher gang configuration where switches are next to each other, the tabs need to be removed. Simply take a pair of pliers, grab the tabs and wiggle until the tabs break off. This will lower the electrical rating of the module. Please refer to the following details

1x gang box
Rating: 600W incandescent
150W dimmable CFL/LED with 2 side tabs

2x gang box
Rating: 500W incandescent
125W dimmable CFL/LED with 1 side tabs

3x gang box
Rating: 400W incandescent
100W dimmable CFL/LED with no side tabs
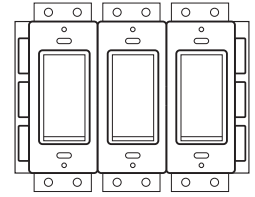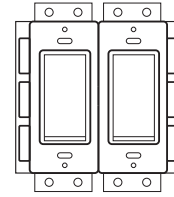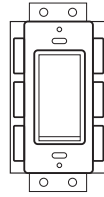
Step 4 When proper wiring is completed, secure the device to the wall box. Restore power to the circuit to test if the connected lighting can be turned ON/OFF/Dim manually by the rocker on the device before remounting the wall plate. Also observe the status change of the LED indicators to ensure the device is in normal operating mode. If WA-100 Auxiliary Switch is used for a 3-way connection, please also test if it can control the lighting.

Step 5 Add(Include) the device into your network by a Z-Wave certified controller. Please refer to the controller's instructions manual for details. Normally, this requires putting your controller software in Add New Device (inclusion) mode. When this process is initiated in the controller software, single click and release the rocker switch. The controller software should indicate that the action was successful. If the controller shows it was a fail, repeat the procedure.

Manual Reset

Note: If Inclusion still fails after the 2nd attempt, you need to first reset the device before repeating the above steps. The manual reset method is as follows:
1. Turn the connected lighting ON with the rocker
2. Quickly tap the top paddle 3 times then the bottom 3 times

If you see the lighting turns OFF and then ON, it means that the device has been reset successfully and you may retry Step. 5 above to add the device into your network. Otherwise, please repeat the manual reset procedures.

Use the manual reset procedure only in the event that the network primary controller is lost or otherwise inoperable.
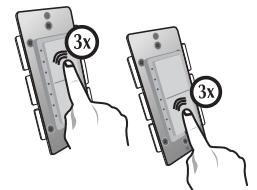
BASIC OPERATION

The connected lighting can be controlled manually with a rocker OR Wirelessly with a remote controller

ON   OFF
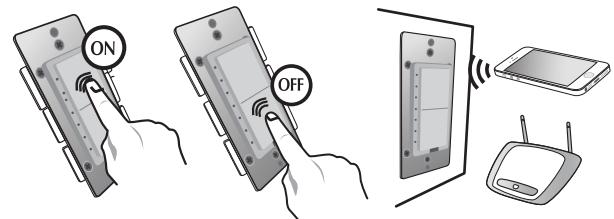
A Z-Wave certified controller is capable of setting up ZLINK products in your desired network. Once the device is added, you may assign it to a Group. Furthermore, it can be set in Association with another Z-Wave device to perform a specific triggered function such as turning lights on when motion is detected. Please refer to the instructions manual of your controller for details and procedures on how these settings can be done.

In the event of a power failure, the ZLINK device will return to the last dimming level after the power is restored.

About the rocker switch:
The single rocker switch on this product can be used to manually turn lights On, Off, or Dim by tapping the switch. Tapping and releasing the upper part of the rocker turns the lights ON. Tapping and releasing the lower part of the rocker turns the lights OFF. Press and Hold the upper part of the rocker to Dims Up the lighting. Press and Hold the lower part of the rocker to Dim Down the lighting. Simply release the rocker when the desired brightness level is reached during dimming.

The 7 LED indicators:
There are in-line 7 LED indicators on WD-100 to display the connected lighting status.

All 7 LED indicators are ON when the connected lighting is at full brightness (100%)
All 7 LED indicators are OFF when the connected lighting is shut off (0%)
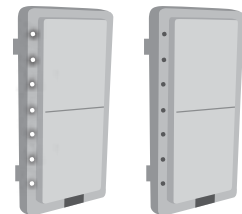
Note: there are some occasions when the lighting is dimmed down to the minimum brightness level (only the bottom LED is ON) but it appears OFF visually. Depending on the lighting devices used, the behaviors vary. You may check the actual lighting status with the indication of the bottom LED.

The LED indicators will indicate the current dimming level and will remain On as long as light is On. The LEDs will turn Off when the light is turned Off.

When replacing light bulbs the air gap switch on the bottom must be pulled out, this disconnects power to the load. When installation is finished the air gap switch needs to be pushed all the way back in to function properly, see the diagram to the right.
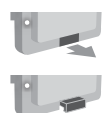
ADVANCED CONFIGURATION

Configurable Parameter Settings: If your controller supports Z-Wave configurable parameters, the following settings can be modified.

Parameters

#	Description	Values	Default	Bytes
4	Inverting orientation of the ON/OFF on the rocker	Value= 0, the connected light will turn ON by pressing the top rocker Value= 1, the connected light will turn ON by pressing the bottom rocker	0	2
7	Dimming Resolution Level (Remotely)	Valid Values: 1-99, indicates the number of levels when the light is controlled remotely. Lower the number, finer the control of dimming. Higher the number, faster the dimming will jump from one state to another.	1	2
8	Dimming Resolution Speed (Remotely)	Valid Values: 1-255, indicates the time duration of each level when the light is controlled remotely. For example, if Parameter 7 is set to 1 and Parameter 8 is set to 3, it will take approximately 3 seconds for the lights to turn On or Off when you remotely turn On or Off the switch. This provides a soft feel for the lights turning On or Off. If you prefer instant On or Off like incandescent light bulbs, you can set a higher number for Parameter 7 and set Parameter 8 to 1.	3	2
9	Dimming Resolution Speed (Manually)	Valid Values: 1-99, indicates the number of levels when the light is controlled by paddle switch.	1	2
10	Dimming Resolution Speed (Manually)	Valid Values: 1-255, indicates the time duration of each level when the light is controlled by paddle switch	3	2

Using a combination of parameters 7-10, you can create a customized ramp up and down rate for lights to turn ON, OFF, or dim based on your preference.

Depending on the capability of your controller or gateway software, the following simple to advanced operations can be performed. Please refer to the controller's or gateway manual for details.

Association:
1. WD-100 supports group one for lifeline communication.
2. You can associate up to five Z-Wave devices to group one.
3. Lifeline association only supports the "manual reset" event.
4. For instructions on how to "set lifeline associate", please refer to your controller/gateway instructions.

Scene and Central Scene

WD-100 supports standard Z-Wave Scene control commands if supported by your controller to create different dim settings (moods). For example, double tapping the top or bottom paddles can create different scenes. Refer to user guide of your controller on how this works.

In addition, Z-Wave Plus introduced a new process for scene activation called "Central Scene Control". Press and release the button, it will send a certain command to the central controller via the lifeline association group 1. This allows the controller to react to key pressed, key released and key held down.

- Press and release the top button, Scene 1 preset by the Gateway will be turned ON.
- Press and release the bottom button, Scene 2 preset by the Gateway will be turned ON.

Again, this new feature needs to be supported by your controller in order to enjoy the benefits of this new function. Please consult your controller manufacturer.

SPECIFICATIONS

Model	ZL-WD-100
Input power	120 VAC, 60 Hz.
Max output loading	1x gang box 600W incandescent, 150W dimmable CFL/LED 2x gang box 500W incandescent, 150W dimmable CFL/LED 3x gang box 400W incandescent, 150W dimmable CFL/LED
Radio frequency	908.4/916 MHz.
Wireless range	up to 100ft line of sight between the controller and the other available nodes.
Normal operating temperature	77°F (25°C)
FOR INDOOR USE ONLY	

Interoperability with Z-Wave devices

A Z-Wave network can integrate devices from various classes of products, and these devices can be made by different manufacturers. The ZLINK product introduced in this instructions manual has a Z-Wave certification which allows such an interoperability.

FCC ID: 2ABWCWD100

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.

IC: 11786A-WD100

This device complies with Part 15 of the FCC Rules and with RSS of Industry Canada. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Z-Wave is a registered trademark of Sigma Designs.

WARRANTY

ZLINK warrants to the original purchaser of this product that for the warranty period, this product will be free from material defects in materials and workmanship.

The foregoing warranty is subject to the proper installation, operation and maintenance of the product in accordance with installation instructions and the operating manual supplied to customer.

Warranty claims must be made by customer in writing within 30 days of the manifestation of a problem. ZLINK's sole obligation under the foregoing warranty is to repair, replace or correct any such defect that was present at the time of delivery or during the warranty period. The warranty does not extend to consequential or incidental damage to other products that may be used with this product. For inquiry and customer service, email to support@ZLINKproducts.com
All brand names shown are trademarks of their respective owners.

Warranty period: limited 1 year from date of purchase.

IMPORTANT Your Z-Wave device has a unique Device Specific Key (DSK) on the product and packaging that is required to add or re-add the device to a network with a controller supporting Security 2 (S2). Be sure to save the DSK code for each device and store in a safe place. Do not remove the DSK from the product. Take a photo of the full DSK code on the packaging or write the full code here:

_____

Installation Date:_____

Device Location:_____