ZWP

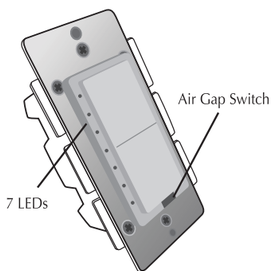
www.zwaveproducts.com

This product speaks with other Z-Wave certified devices

Wireless Dimmer Module

WD-100

In Wall Dimmer



INTRODUCTION

Z-Wave Products WD-100 is a member of the Z-Wave® family and communicates with other Z-Wave certified devices in a control network. WD-100 replaces a standard in-wall light switch and turns it into a Z-Wave controlled network device with dimming and On/Off light control. 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. Different types and brands of Z-Wave devices can be associated with Z-Wave Products and they will work together to optimize and expand the coverage of your Z-Wave network. Once setup is completed, you can enjoy the convenience and leisure which WD-100 offers.

FEATURES

- Works with incandescent and most dimmable florescent (CFL), or LED lighting
- Scene control capable
- Instantly reports manual status change to controller
- Over the air (OTA) firmware upgrade available with controllers/gateways that supports OTA
- 7 LED indicators
- Z-Wave Plus certified
- Z-Wave 500 Series module inside
- Fits standard single wall plate
- Fits standard multiple gang junction box

! WARNING !

RISK OF FIRE, ELECTRICAL SHOCK & BURNS
DO NOT USE WITH MEDICAL AND LIFE SUPPORT INSTRUMENT

No user serviceable parts are in this module

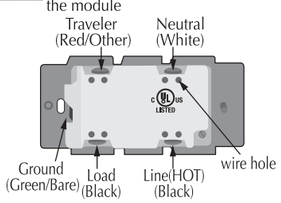
The lighting connected to the WD-100 must not exceed 600W incandescent, 150W dimmable CFL/LED.

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

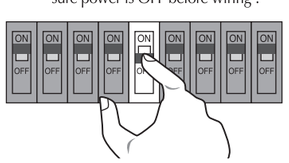
SETUP

This device requires neutral wire

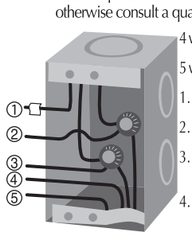
Step 1 Identifying the wiring terminals on the module



Step 2 WARNING ! RISK OF SHOCK ! Make sure power is OFF before wiring !



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 below 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 (3-way) Red or Other
5. Load - Black

Step 4 When proper wiring is completed, secure the module 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 module before remounting the wall plate. Also observe the status change of the LED indicators to ensure the module 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.

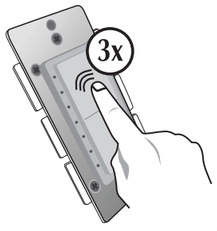
Step 5 Add(Include) the module into your network by a Z-Wave certified controller. Please refer to the controller's instructions manual for details.

Manual Reset

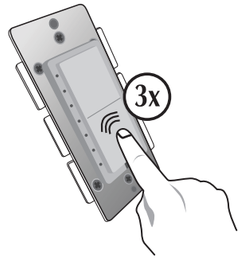
Note: If Inclusion still fails after the 2nd attempt, you need to first reset the module before repeating the above steps. The manual reset method is as follows,

1. Turn the connected lighting ON with the rocker

2. Quickly tap the top side(ON) of the rocker 3 times



Then, quickly tap the bottom side(OFF) of the rocker 3 times



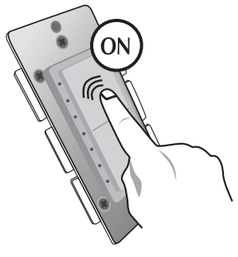
If you see the lighting turns OFF and then ON, it means that the module has been reset successfully and you may retry Step 5 above to add the module into your network. Otherwise, please repeat the manual reset procedures.

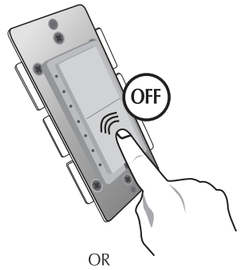
(If the module is already reset or it has not been added into a network, the lighting will not have any reaction.)

Use the manual reset procedure only in the event that the network primary controller is lost.

BASIC OPERATION

The connected lighting can be controlled manually with a rocker





OR

Wirelessly with a remote controller

Wiring Information

Use copper wires only

UL specification: the tightening torque for the screws is 14 Kgf-cm (12 lbf-in)

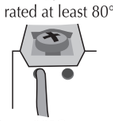
Strip insulation 5/8" (16mm)

Wire connection can be made either to

Screw terminal

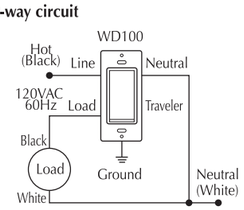
14 AWG or larger rated at least 80°C

Hole

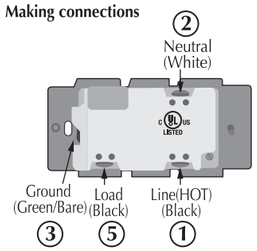


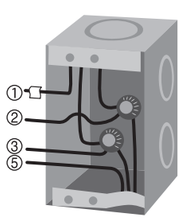
14 AWG rated at least 80°C

2-way circuit



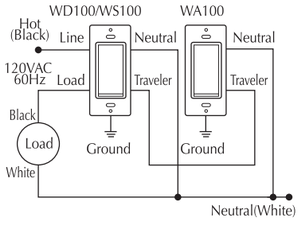
Making connections



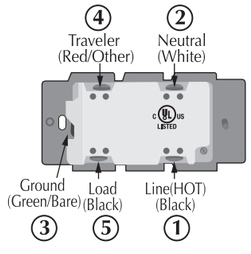


The Traveler terminal is not used in a 2-way circuit. Do not remove the insulation tape on the Traveler terminal in this application

3-way circuit



Making connections



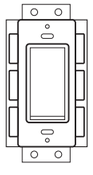
Please refer to WA-100 user manual for wiring instructions of the auxiliary switch. The maximum length of Traveler wire may not exceed 200ft.

Gang Box

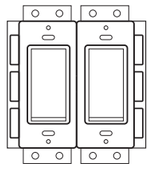
To install the WD-100 in a single gang switch, no changes should be required. For dual or higher gang configuration where switches are next to each other, the tabs need to be removed. Simply take a pair of pliers, grab the tabs and wiggle until the tabs break off.

This will lower the electrical rating of the module. Please refer to the following details.

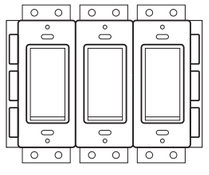
1x gang box
rating: 600W
incandescent
150W dimmable
CFL/LED
with 2 side tabs



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



WD-100

Size: 5cm x 10cm, total: 75cm x 20cm(H)

(English)

A Z-Wave certified controller of either portable or static is capable of setting up products in your desired network. Once the module is added, you may assign it to a Group. It will change its reaction when the All command ON or OFF is received. Furthermore, it can be set in Association with another Z-Wave device to perform a specific function. Please refer to the instructions manual of your remote controller for details and procedures on how these settings can be done.

Please note that the module will shut OFF after a power failure. The module will return to the last dimming level after power restore.

About the rocker switch:
There is only 1 rocker switch on this module for manual operation that allows you to

1. Turn the connected lighting ON/OFF and DIM by tapping the switch.
   Tapping and releasing the upper part of the rocker turns the lighting ON.
   Tapping and releasing the lower part of the rocker turns the lighting 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.
2. Add(Include) or Delete(Exclude) the module to/from your Z-Wave network with your primary controller. Please refer to the instructions manual of your gateway or remote controller for details and procedures on how these actions can be done. Normally the sequence is as follows: when the inclusion (or exclusion) process is prompted by your primary controller, single click and release the rocker switch => the controller should show that the action was successful => if the controller shows it was a fail, repeat the procedure.

Configurable Parameters

The following default settings can be changed if configurable parameters are supported by controller.

The orientation of the ON/OFF on the rocker switch can be inverted by changing the following configuration with a controller (if supported)
Parameter 4
Length: 1 byte
Valid values: 0 or 1 (default 0)

If value = 0, the connected light will turn ON by pressing the top side of the rocker switch and turn OFF by pressing the bottom side.
If value = 1, the connected light will turn OFF by pressing the top side of the rocker switch and turn ON by pressing the bottom side.

About the 7 LED indicators:
There are in-line 7 LED indicators on this module 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%)

Only the bottom 4 LED indicators are ON when the connected lighting is at around half of it's full brightness
(50-60%)

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

By default, the LED indicators will show the current dimming level.

About Dimming:

The resolution level and speed of dimming up and down can be adjusted by changing the following configuration parameters (if supported).

Parameter 7 (resolution level) for turning On or Off the lights via remote control
Length: 1 Byte
Valid Values: 1-99 (default = 1), indicates the number of levels when the light is controlled by remote. Lower this number, the finer the control of dimming. Higher the number the faster the dimming will jump from one state to another.

Parameter 8 (speed) for turning On or Off the lights via remote control or scheduled program
Length: 2 Byte
Valid Values: 1-255 (default = 3), indicates the time duration of each level when the light is controlled by remote. For example, if the 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 bulb, you can set a higher number for Parameter 7 and set parameter 8 to 1.

Parameter 9 (level) for turning On or Off the lights manually
Length: 1 Byte
Valid Values: 1-99 (default = 1), indicates the number of levels when the light is controlled by paddle switch.

Parameter 10 (timer) for turning On or Off the lights manually
Length: 2 Byte
Valid Values: 1-255 (default = 3), indicates the time duration of each level when the light is controlled by paddle switch

Using the combinations of these 4 parameters, 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 only supports group #1 for lifeline communication.
2. You can associate up to 5 Z-Wave devices to group 1.
3. Lifeline association only supports the "manual reset" event.
4. For instructions on how to "set lifeline associate" , please refer to your wireless controller instructions

Activation of Central Scene

Z-Wave Plus introduces a new process for scene activation – "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.

SPECIFICATIONS

Model: 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, 125W dimmable CFL/LED
3x gang box 400W incandescent, 100W dimmable CFL/LED

Radio frequency: 908.4/916 MHz.
Wireless range: up to 130ft 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 Z-Wave Products unit introduced in this instructions manual has a Z-Wave certification which guarantees such an interoperability.

FCC ID: 2ABWCWD100

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.

IC: 11786A-WD100

This device complies with Industry Canada license-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.

Z-Wave is a registered trademark of Sigma Design

WARRANTY

Z-Wave Products 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. Z-Wave Products' sole obligation under the foregoing warranty is to repair, replace or correct any such defect that was present at the time of delivery, or to remove the product and to refund the purchase price to customer. 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 help@zwaveproducts.com

All brand names shown are trademarks of their respective owners

Warranty period: limited 1 year from date of purchase

Z-Wave Products
70 Commercial Ave. Warehouse A
Moonachie, NJ 07074

WD100_12202016

WD-100
Size: 5cm x 10cm, total: 75cm x 20cm(H)

(English)