

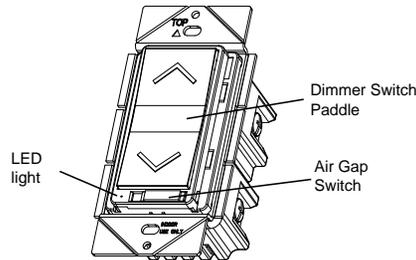
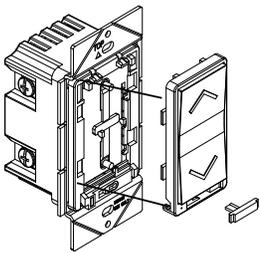
# INSTALLATION INSTRUCTIONS

## DESCRIPTION

The **ZW500DM-PLUS** by itself is a Single Pole Dimmer switch. Our unique wiring method combined with Advanced Z-Wave technology allows for multiple switches (requires ZW3K-N) to control a single Load manually at the devices or remotely from a computer, smart phone or tablet in Real Time. The ZW500DM-PLUS is fully compatible with other Z-Wave devices and it can be added to most Z-Wave compliant controllers.

## FEATURES

- Replaces a standard 120VAC, 15Amp wall switch with a technologically advanced Dimmer switch that can be manually controlled at the device or remotely through the Z-Wave network.
- Wireless Z-Wave technology creates a mesh network for command and control interoperability with other Z-Wave compliant controllers and devices
- Set scenes, schedule events (Program ON/OFF times like a timer), and even turn ON/OFF when a motion or door sensor goes off.
- Can be used as a Single Pole Dimmer switch or 3-Way (Multi-location) with ZW3K-N Auxiliary Switch (sold separately).
- A blue LED night light can be programmed to come on when the load is ON or OFF.
- 3 Interchangeable Color Face Plates included (white, light almond, and black).
- Compatible with LED, CFL, fluorescent, incandescent, and halogen bulbs.
- Dimmer will turn on the lights On to the last ON light level.



## REQUIREMENTS

Z-Wave devices require a connection to a compatible hub. Once the device is properly added to the hub, it can be managed and customized to your needs. Please visit [www.enerwaveautomation.com](http://www.enerwaveautomation.com) for a list of compatible hubs. NEUTRAL wire is required.

## SPECIFICATIONS

Voltage.....	120VAC, 60Hz
Incandescent.....	500W
Operating Temperature.....	32-104° F
Z-Wave Frequency.....	908.42 MHz
Minimum Load Requirement.....	25W (3 LED bulbs)
Range.....	Up to 131 feet line of sight between the Hub and the closest Z-Wave Device.

## WARNING: Turn the POWER OFF at the circuit breaker before installing the Switch

Read and understand these instructions before installing. This device is intended for installation in accordance with the National Electric Code and local regulations. It is recommended that a qualified electrician performs this installation. Make sure to turn off the circuit breaker or fuse(s) and make sure power is off before wiring the device. Exercise extreme caution when using Z-Wave devices to control appliances. Operation of the Z-Wave device may be in a different room than the controlled appliance so an unintentional activation may occur if the wrong button on the remote is pressed. Z-Wave devices can be automatically powered on by programmed events. Unattended or unintentional operation could result in hazardous conditions. Z-Wave enabled devices should never be used to supply power to, control, or monitor medical and/or life support equipment. To enable the 3-way function install the ZW3K-N in conjunction with the ZW500DM-PLUS. For use with incandescent, halogen, LED, and CFL lights. **Use copper wires only.**

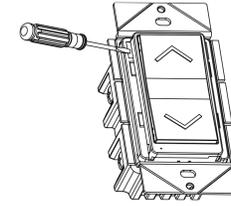
**Model: ZW500DM-PLUS**  
**Wireless Home Automation Control**  
**ON/OFF Dimmer Switch with**  
**Smart Meter**



# UPGRADING STANDARD SWITCHES TO Z-WAVE

## REPLACING EXISTING SWITCHES WITH THE ZW500DM-PLUS

Replacing a standard light switch with a smart Z-Wave switch is a simple way to modernize your home by adding programmable lighting control to your smart device. The ZW500DM-PLUS Smart Meter Switch enables you to measure the energy usage of your Lights. When added to a Z-Wave network, the ZW500DM-PLUS reports real time data to your gateway or controller. It can also display actual consumption (in W) and the accumulated power used (in kWh) in the user interface depending on the Hub. Please refer to your Hub manual for specific instructions on measuring the power.



To Replace the Face Cover, use a small screwdriver to pry off the cover

If you have trouble identifying the wires, STOP and consult with an Electrician.

## WIRING DIRECTIONS

**DO NOT REVERSE THE HOT AND TRAVELER WIRES. DOING SO WILL VOID YOUR WARRANTY AND THE SWITCH WILL SHORT CIRCUIT.**

**Step 1.** Identify all your wires. Label the wires or draw a diagram of existing wires. Make sure there is a NEUTRAL, HOT, and LOAD wire where the ZW500DM-PLUS will be installed.

**Step 2.** Connect the wires according to the Diagram.

- Connect the BLACK wire on switch to the HOT wire.
- Connect the WHITE wire on switch to the NEUTRAL wire.
- Connect the Red wire on switch to the LOAD wire.
- Connect the GREEN wire on switch to the GROUND wire or green GROUND screw on box.

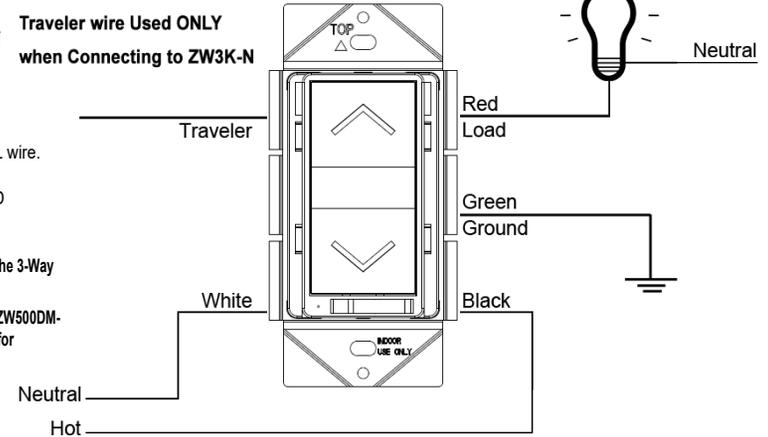
For 3-Way installation, the ZW500DM-PLUS requires the 3-Way Control Auxiliary Switch ZW3K-N

A standard 3-Way switch WILL NOT work with the ZW500DM-PLUS. Follow the ZW3K-N Instruction Manual for 3-Way installation.

## WIRELESS RANGE

This device complies with the Z-Wave standard of open-air, line of sight transmission distances of 131 feet. Actual performance in a home depends on the numbers of walls between the remote controller and the destination device, the type of construction and the number of Z-Wave enabled devices installed in the control network. Most Z-Wave enabled devices act as signal repeater and multiple devices result in more possible transmission routes which helps eliminate "RF dead-spots." Use the chart above only as a guide to maximize the signal range.

Traveler wire Used ONLY when Connecting to ZW3K-N



## FCC COMPLIANCE STATEMENT

FCC Grant of Equipment Authorizations of this device and transmitters installed in this device can be found at FCC website by entering the FCC ID number on the device.

**Caution:** Changes or modifications not expressly approved by the part responsible for compliance could void the user's right to operate the equipment. 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 of the device.

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 in accordance with the instructions, may cause harmful interference to radio communications. 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.

## WARRANTY INFORMATION

This device is warranted to be free of material and workmanship defects for 2 years from the date of purchase. Original receipt or proof of purchase from an authorized retailer must be presented upon warranty claim. ALL claims must be verified and approved by Enerwave, Inc. Warranties from other Enerwave products may vary. This warranty is nontransferable and does not cover normal wear and tear or any malfunction, failure, or defect resulting from misuse, abuse, neglect, alteration, modification, or improper installation. To the fullest extent permitted by the applicable state law, Enerwave shall not be liable to the purchaser or end user customer of Enerwave products for direct, indirect, incidental, or consequential damages even if Enerwave has been advised of the possibility of such damages. Enerwave's total liability under this or any other warranty, express or implied, is limited to repair, replacement or refund. Repair, replacement or refund are the sole and exclusive remedies for breach of warranty or any other legal theory.

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0207160034-07

# PROGRAMMING

## DEVICE INCLUSION/ EXCLUSION

The process of "Inclusion/ Exclusion" is to Add or Remove the device from the Hub. All Z-Wave devices must be "Included" on the Controller (Hub) before it can be controlled from a smart device. The Hub should be brought physically closer to the device just for the "Inclusion" process (recommended within 10ft). When finished, the Hub and device can be moved back to final installation location. Download the App or log onto the website associated with the Hub you are using and follow their Inclusion/ Exclusion instructions as each Hub's programming and features are different.

- During the Inclusion/ Exclusion process, the ON/OFF switch is used for including/ excluding the device.
- It is best to perform an Exclusion of the device prior to performing an Inclusion.

- Step 1.** From the Control Panel, go to the device Exclusion page.
- Select "Exclude Device".
  - When prompted, press the "ON" or "OFF" paddle on the switch 3 times.
- Step 2.** Go to the "Add Device" page.
- Select "Include Device".
  - When prompted, press the "ON" or "OFF" paddle on the switch 3 times.
  - Once the exclusion is finished, the blue LED indicator will start blinking.

The primary controller should indicate that the action was successful. If the controller indicates the action was unsuccessful, please repeat from Step 1. Once the switch is part of the network, the same basic procedure is used to add the switch to groups & scenes or change advanced functions. Refer to the primary controller's instructions for details.

**Step 3.** Follow the On-Screen instructions in the Control Panel on adding or removing rooms, scenes, other devices, and other functions and features.

**Step 4.** To reset the ZW500DM-Plus manually, simply press the "ON" or "OFF" paddle on the switch 3 times and hold for 3 seconds on the 3rd press.

## OPERATING THE ZW500DM-PLUS

You're now ready for basic operation of the ZW500DM-PLUS. The Dimmer switch turns the Load (Lights) ON/OFF when the ON/OFF rocker switch is tapped once. To dim, press and hold the top or bottom switch paddle and release when the desired light level is achieved. It can also be operated from your desktop or a smart device such as the iPhone, iPad or any Android device. In the event of a power outage, the ZW500DM-Plus will default to the "OFF" state.

## ADVANCED PROGRAMMING

**WARNING:** Advanced programming is recommended ONLY for experienced programmers. The ZW500DM-PLUS has customizable features / functions that require writing codes. Changes to code may cause device to function improperly or to not function at all.

The following parameters require that you have an advanced controller. Basic remotes do not have this capability.

### All-ON and All-OFF

Depending upon your primary controller, the ZW500DM-PLUS switch can be set to respond to ALL-ON and ALL-OFF commands in four different ways. Some controllers may not be able to change the response from its default setting. Please refer to your controller's instructions or technical support for information on whether or not it supports the configuration function and if so, how to change this setting. **The four possible responses for each button (top or bottom button on switch) are:**

- Push button will respond to ALL-ON and the ALL-OFF command (default).
- Push button will not respond to ALL-ON or ALL-OFF commands.
- Push button will respond to the ALL-OFF command but will not respond to the ALL-ON command.
- Push button will respond to the ALL-ON command but will not respond to the ALL-OFF command.

### LED Light and Buttons Configuration

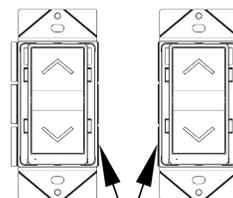
By default, one press of the "up" button will turn the Load on and the LED indicator will turn off. Use "Command\_Class\_Configuration" to configure the LED indicator to operate in reverse when the button is pressed.

#### Configuration details

Parameter	Size	Description	Valid Value	Default Value
1	1 Byte	Synchronization of outlet power and LED indicator	0: Power on, LED off 1: Power on, LED on	Default=0

## MULTIPLE DIMMERS DERATING

When installing more than one control in the same wall box, it may be necessary to remove the side tabs before installing (see below). Using pliers, bend each tab back and forth until they break off. Repeat for each tab to be removed. Removal of tabs WILL REDUCE MAXIMUM LOAD CAPACITY.



Tabs Removed for Multigang Installation

When using the ZW500DM-PLUS Dimmer to control LED/CFL lights in conjunction with another ZW500DM-PLUS Dimmer to control Incandescent /Halogen lights follow this Derating Chart for Maximum Capacity on EACH device.

If you are using ONLY LED/CFL bulbs on ALL ZW500DM-PLUS Dimmers, DO NOT USE this Derating Chart. Follow the LED/ CFL Derating Chart.

If the combined Wattage of ALL LED/CFL bulbs on 1 dimmer is:	Then the Maximum COMBINED Wattaged for the Incandescent/Halogen bulbs on EACH attached dimmer:		
	If NO Tabs are removed then Max Wattage is:	If 1 side of Tabs are removed then Max Wattage is:	If 2 sides of Tabs are removed then Max Wattage is:
0W	700W	600W	500W
1-25W	500W	400W	300W
26-50W	400W	300W	200W
51-75W	300W	200W	100W
76-100W	200W	100W	50W
101-125W	100W	50W	0W
126-150W	0W	0W	0W

### LED/CFL Derating Chart

	Load Capacity when Tabs are removed from:		
	0 Sides	1 Side	2 Sides
Dimmable LED/CFL	150W	150W	150W

## ASSOCIATION

Grouping ID	Max number of nodes	Description
1	1	Lifeline: Send device reset locally notification
2	5	StatusReport: Send basic report
3	5	PowerReport: Send meter power report

# ZW500DM-PLUS