HomePro
RF Home Automation

ZDW120 V3

Z-Wave Radio Frequency (RF) Controlled, 500W, 120 VAC, Two Wire, Wall Mounted Dimmer, Series 300, Release 3.10
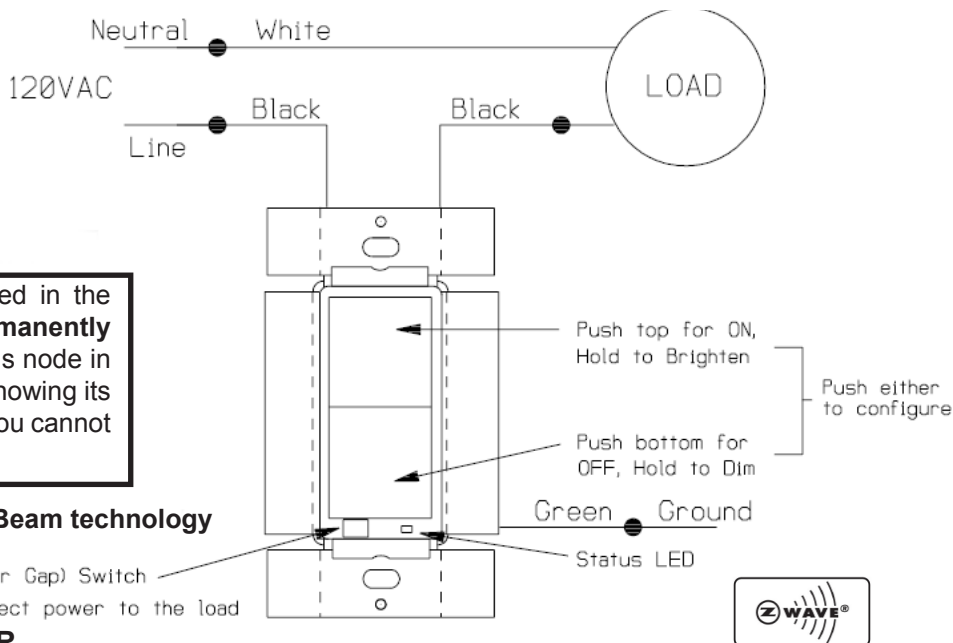
Supplied with matching decorative switch plate

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LISTED

Note: This module must be "Included in the Network" **only where it will be permanently installed**. The proper operation of this node in the mesh network is dependent on it knowing its location with respect to other nodes. You cannot "test bench" configure this module.

• **This product supports Zensor Net Beam technology**

Neutral   White
120VAC
Line   Black   Black   LOAD

Push top for ON, Hold to Brighten

Push either to configure

Push bottom for OFF, Hold to Dim

Green   Ground
Status LED

Load Disconnect (Air Gap) Switch
Pull out to disconnect power to the load

Z•WAVE®

ZDW120 WALL MOUNTED DIMMER

The ZDW120 Wall Mounted Dimmer is a component of the HomePro lighting control system.   Wire the Wall Mounted Dimmer in place of the standard wall switch according to the diagram above and program from the Wireless Controller to operate loads.   Inclusion of the ZDW120 Wall Mounted Dimmer on the ZTH100 Wireless Controller menu allows remote ON/OFF control and dimming of lights connected.

This Wall Mounted Dimmer is designed to work with other Z-Wave enabled devices. Z-Wave nodes of other types can be added to the system and will also act as repeaters if they support this function of repeating the signal received to other modules in the system.

This product supports 40Kbps data transmission. This product can also be used for networking support in systems that stream metadata. An example might include transmission of information from audio devices such as song title, artist, and album information to various displays around the home.

As part of a Z-Wave network, the ZDW120 will also act as a wireless repeater to insure that commands intended for another device in the network are received. This is useful when the device would otherwise be out of the radio range of the wireless controller.

There are no field repairable assemblies on this unit. If service is needed, the unit must be returned where purchased.

Read and understand these instructions before installing. This device is intended for installation in accordance with the National Electric code and local regulations in the United States, or the Canadian Electrical Code and local regulations in Canada. It is recommended that a qualified electrician perform this installation.

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 fluorescent lighting fixture, or a transformer-supplied appliance, but *only permanently installed incandescent lamp fixtures*. Make sure the lamp(s) to be controlled directly from this dimmer total no more than 500 watts. Retain instructions for future use.

INSTALLATION

<u>DANGER</u>**! - SHOCK HAZARD.** Make all connections with the **POWER OFF** to avoid injury to the installer or damage   to the device.

1. Strip 3/4" of insulation from the ends of the conductors (if not already done) and make connections as shown in the Wiring Diagram. Note that the line side of the load must be switched.

2. Check connections to be sure they are tight and no bare conductors are exposed.

3. Make sure the load or installation does not exceed the device rating.

4. Restore the power.

Wire this Wall Mounted Dimmer in place of an existing wall switch according to the diagram. See the ZTH100 Wireless Controller operating instructions to add this module under the command of the Wireless Controller.

Proper Single Gang Installation

Using ZDW120's standard full heat-sink (all tabs), the connected incandescent lamp load shall not exceed 500W.

If a tab is removed from one side of the ZDW120 unit, the connected incandescent lamp load must not exceed 400W.

If both tabs are removed from the ZDW120 unit, the connected incandescent lamp load must not exceed 300W.

Proper Dual Gang Installation

The connected incandescent lamp load must not exceed 400W for each of the two ZDW120 units.

Proper Triple Gang Installation

The connected incandescent lamp load must not exceed 300W for each of the two ZDW120 units.

Air Gap Switch

The ZDW120 has an air gap switch on the face (lower left), that when pulled out, completely removes the power available to the load (more so than simply turning the dimmer off). This enables the lamps that are controlled by the device to be changed with minimal danger of electrical shock. The air gap switch must be pushed all the way back in for the dimmer to operate the lamps again.

INCLUDING ZDW120 TO THE NETWORK

STEP 1.. Prepare the Controller to include a unit to the network by adding it to a group (method of adding a node to the network). Refer to controller instructions.

STEP 2. **The ZDW120 must be in its permanently installed location.** Tap either the top or bottom of the ZDW120 switch once.

STEP 3. You should see an indication on your Controller that the "DEVICE WAS INCLUDED" in the network.

NOTE: If you have trouble adding the ZDW120 to a group it may be that the Home ID and Node ID were not cleared from it after testing. You must first "RESET UNIT" with your controller to remove it from the network. If using the ZTH100 select "SETUP" and scroll to "RESET UNIT"

Although adding it to a group includes it in the network, removing it from a group does not remove it from the network. If removed from a group, it functions only as a repeater.

BASIC OPERATION

Local Control

The ZDW120 allows the user to

- Turn the load attached ON, OFF, DIM or BRIGHTEN.
- Include or exclude the module from the Z-Wave system
- Control other Z-Wave enabled devices.

The top or bottom of the ZDW120 switch can be used to carry out inclusion (add to a group), association, exclusion (remove from group) or reset (remove from network).   When a controller prompts you to "Send Node ID" or to "Press Button on Unit", quickly tap on the top or bottom of the switch once to satisfy those instructions.

- Tapping top of the switch turns the load attached ON.
- Tapping bottom of the switch turns the load attached OFF.
- Pressing and holding the top of the switch will brighten the load attached, and pressing and holding the bottom of the switch will dim the load. When OFF, pressing and holding the bottom of the switch will cause the load will go to the minimum dim level.

Note: Upon restoration of power after a power loss, the ZDW120 defaults OFF.

LED indication

The LED on the ZDW120 will turn on when the load attached is ON. However, the LED can be user configured to turn ON when the load attached is OFF, if so desired, to act as a night light.

The ZDW120 will flicker its LED when it is transmitting to any of its groups. This can be changed if desired.

ADVANCED OPERATION

All On/All Off

The ZDW120 supports the ALL ON/ ALL OFF commands.

The ZDW120 can be set to respond to ALL ON and ALL OFF commands 4 different ways.

Refer to your controller for information on how to set the ZDW120 to operate in the manner you desire. Some controllers may be only able to set certain settings of ALL ON/ALL OFF response.

The 4 different ways the ZDW120 can be setup to respond to ALL ON and ALL OFF commands are:

- ZDW120 will not respond to ALL ON or the ALL OFF command.
- ZDW120 will respond to ALL OFF command but will not respond to ALL ON command.
- ZDW120 will respond to ALL ON command but will not respond to ALL OFF command.
- ZDW120 will respond to ALL ON and the ALL OFF command (default).

Association

The ZDW120 supports the Association command.

The ZDW120 can be set to control other Z-Wave devices. **Those devices must be installed in their permanent location.** You can turn on and off, and even dim other Z-Wave devices once they are "**associated**" in either of 2 groups with the ZDW120. <u>A NOTE ABOUT DIMMERS IN A GROUP</u>: If you combine Z-Wave enabled dimmers and other types of Z-Wave devices in a group, place a Z-Wave enabled dimmer into the empty group first to ensure that the dimming operates correctly.

Each group is turned on or off (or dimmed) by tapping or holding the switch a differing amount of times.

If you **associate** a Z-Wave device into Group 2, you can turn that device on and off by tapping the top or bottom of the switch _twice_. You can brighten or dim devices by tapping the top or bottom of the switch once and then hold it down. The load attached to the ZDW120 is not affected.

If you **associate** a Z-Wave device into Group 3, you can turn that device on by tapping the top of the switch _three times_ or off by tapping the bottom of the switch _three times_. You can brighten devices by tapping the top of the switch twice or dim devices by tapping the bottom of the switch twice and then hold it down. The load attached to the ZDW120 is not affected.

You can **associate** up to **5** Z-Wave devices into _each_ of these groups. For instructions on how to "**associate**" a Z-Wave device into one of these groups, refer to your wireless controller instructions. (If you are using the ZTH100 controller, refer to the Setup Menu, Association section).

Configuration

The ZDW120 supports the Configuration command.

The ZDW120 can be configured to operate slightly differently than how it works when you first install it. Using the Configuration command you can configure the following:

You can use a ZTH100 to send Configuration commands. (Refer to the Setup Menu, Configuration section)

Set Ignore Start Level Bit When Transmitting Dim Commands

The ZDW120 can send Dim commands to Z-Wave enabled dimmers. The Dim command has a start level embedded in it. A dimmer receiving this command will start dimming from that start level. However, the command also has a bit that indicates whether the dimmer should ignore the start level. If the bit is set to 1, the dimmer will ignore the start level and instead start dimming from its current level. To clear this bit, configure this parameter to the value of 0.

- **Parameter No: 1**
- **Length: 1 Byte**
- **Valid Values = 0 or 1 (default 1)**

Night Light

The LED on the ZDW120 will by default, turn ON when the load attached is turned ON. To make the LED turn ON when the load attached is turned OFF instead, set parameter 3 to a value of 1.

- **Parameter No: 3**
- **Length: 1 Byte**
- **Valid Values = 0 or 1 (default 0)**

Invert Switch

To change the top of the switch to OFF and the bottom of the switch to ON, set parameter 4 to 1.

- **Parameter No: 4**
- **Length: 1 Byte**
- **Valid Values = 0 or 1 (default 0)**

Ignore Start Level When Receiving Dim Commands

The ZDW120 can be set to ignore the start level that is part of the dim command, regardless of whether the command itself is telling the dimmer to ignore the start level or not ignore the start level embedded in the command (see Parameter 1). Setting parameter 5 to a value of 0 will cause the ZDW120 to dim or brighten from the start level embedded in the command.

- **Parameter No: 5**
- **Length: 1 Byte**
- **Valid Values = 0 or 1 (default 1)**

Enable Shade Control Group 2

The ZDW120 can control shade control devices via its group 2 if this configuration parameter is set to 1.

- **Parameter 14**
- **Length: 1 Byte**
- **Valid Values: 0 or 1 (default 0)**

Enable Shade Control Group 3

The ZDW120 can control shade control devices via its group 3 if this configuration parameter is set to 1.

- **Parameter 15**
- **Length: 1 Byte**
- **Valid Values: 0 or 1 (default 0)**

LED Transmission Indication

The ZDW120 will flicker its LED when it is transmitting to any of its 4 groups. This flickering can be set to not flicker at all (set to 0), to flicker the entire time it is transmitting (set to 1), or to flicker for only 1 second when it begins transmitting (set to 2). By default, the ZDW120 is set to flicker for only 1 second.

- **Parameter 19**

- **Length: 1 Byte**

- **Valid Values = 0 , 1, 2 (default 2)**

Each Configuration Parameter can be set to its default setting by setting the default bit in the Configuration Set command. See your controller's instructions on how to do this (and if it supports it).

All Configuration commands will be reset to their default state when the ZDW120 is excluded from the Z-Wave network by using the controller to reset the node (on the ZTH100 select "SETUP" and scroll to "RESET UNIT").

SUC Support

There must be a Static Update Controller in your Z-Wave system for this feature to work. A Static Controller is one that is not moved after addition to the network. The Static Controller can act as a gateway in the system, since other nodes always know its position. The "always listening" advantage of the Static Controller is that other nodes can transmit information frames to it whenever needed.

You can assign an "SUC Route" to the ZDW120. Refer to your Controller's instructions on how to do this (if it supports it). Assigning an SUC Route to the ZDW120 allows it to request an update of the Z-Wave devices that are between it and the Z-Wave device to which it was trying to transmit. The ZDW120 will only request an update when a transmission fails.

SPECIFICATIONS

Power	120 VAC, 60 Hz.
Signal (Frequency)	908.42 MHz.
Minimum Load	40W, incandescent lamps only.
Maximum Load	500W, incandescent lamps only.
Range	Up to 100 feet line of sight between the Wireless Controller and /or the closest HomePro Receiver Module.
Operating Temperature Range	32-104° F (0-40° C). Indoor use only.

INTER-OPERABILITY WITH Z-WAVE™ DEVICES

A Z-Wave™ network can integrate devices of various classes, and these devices can be made by different manufacturers. The ZDW120 can be incorporated into existing Z-Wave™ networks.

The top or bottom of the ZDW120 switch can be used to carry out inclusion, association, or exclusion.

WARRANTY

For warranty and general product information visit our web site at www.act-solutions.com

ABOUT ZDW120'S CERTIFICATION

The ZDW120 is certified to comply with applicable FCC and IC rules and regulations governing RF and EMI emissions. 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.

FCC NOTICE

Note: 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

IC NOTICE

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.

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.

Products that speak Z-Wave
work together better.™