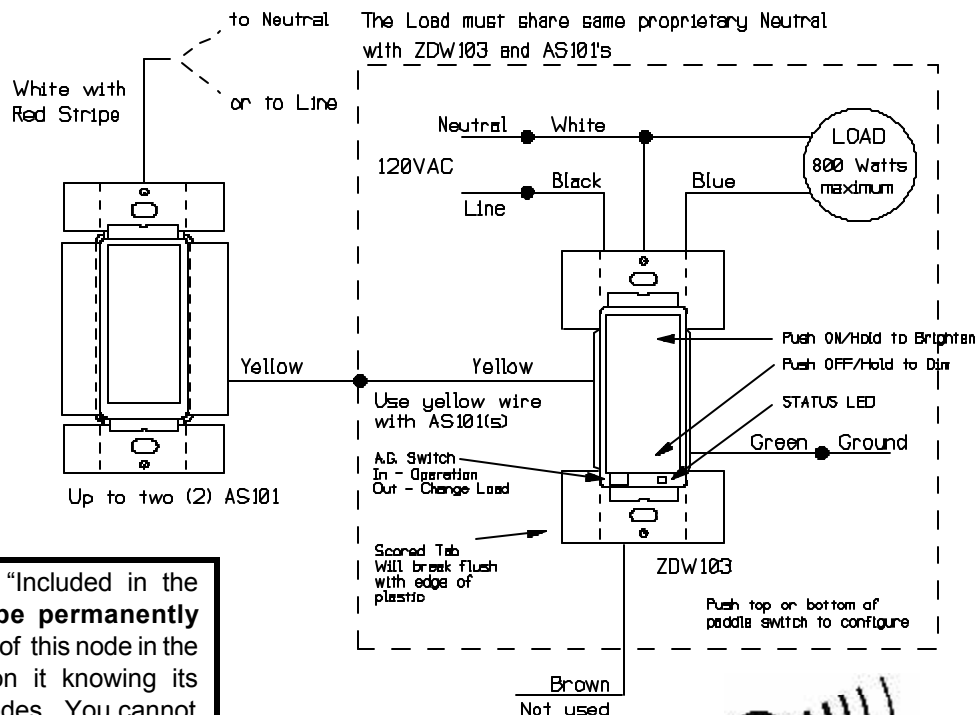




Supplied with matching decorative switch plate



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.

ZDW103 WALL MOUNTED DIMMER

The ZDW103 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 ZDW103 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 Included in the network and will also act as repeaters to increase the range of the network.

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

DANGER! SHOCK HAZARD. 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.

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 the dimmer receiver total no more than 800 watts. Retain instructions for future use.

INSTALLATION

- STEP 1.** With power off, wire this ZDW103 and AS101's according to the diagram show. AS101's are required to be wired to the same line (or neutral) which is also wired to the master unit as well as the load being controlled, and not wired to any other neutral. If multiple neutral wires are tied together in one box separate the neutrals to preserve the integrity of the ZDW103 circuit. If more than one ZDW103 is to be installed in a wall box, scored tabs on the side can be broken off by bending back and forth with pliers, to accommodate proper fit. Apply power when completed.

Proper Single Gang Installation

Using ZDW103's standard full heat-sink (all tabs), the connected incandescent lamp load shall not exceed 800W. If a tab is removed from one side of the ZDW103 unit, the connected incandescent lamp load must not exceed 700W. If both tabs are removed from the ZDW103 unit, the connected incandescent lamp load must not exceed 600W.

Proper Dual Gang Installation

The connected incandescent lamp load must not exceed 600W for each of the two ZDW103 units.

Proper Triple Gang Installation

The connected incandescent lamp load must not exceed 500W for each of the two ZDW103 units.

Air Gap Switch

The ZDW103 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.

Thermal SW (Software) Fuse:

This product is equipped with a thermal software fuse. The thermal software fuse will trigger when the controlled wattage exceeds 800 watts. The Load must be reduced to 800W or less to prevent this condition from occurring.

What will happen if this condition occurs?

If the thermal software fuse is activated, the output power will be reduced to 50% to prevent damage to the dimmer. The LED on the front of the ZDW103 will blink at a 2.5 second rate. If the unit has not cooled down after 5 minutes, the output power will be reduced to 25%. The LED will then blink at a 1 second rate. If another five minutes passes and the temperature is still too high, the output power will be reduced to 10%. The LED will then blink at a very fast rate. Reduce the total wattage to avoid damage.

Local and Remote DIM/BRIGHT Control of the load will not be available while in this state. Local DIM/BRIGHT control of the affected ZDW103 from associated Z-Wave dimmers/devices will not be available while in this state. ON/OFF control will be available locally, remotely or from associated dimmers/devices. If the safe temperature has not been reached, the maximum level set by the SW Fuse will be retained when the ZDW103 is turned OFF and then back ON.

If at any time the safe operation temperature is achieved, normal operation will return and the LED will stop blinking, but the output will remain at the power that allowed the dimmer to cool. The dimmer will allow maximum output power again.

Remember to reduce the load on the output to 800W or lower to prevent the software fuse from triggering again.

INCLUDING ZDW103 TO THE NETWORK

- STEP 2.** Prepare the Controller to include a unit to the network (Refer to controller instructions).
- STEP 3.** **The ZDW103 must be in its permanently installed location.** Tap either the top or bottom of the switch paddle on the ZDW103 once.
- STEP 4.** You should see an indication on your Controller that the "device was included" in the network.

BASIC OPERATION

Local Control

From the front paddle switch, the ZDW103 allows the user to do the following:

- Turn ON or OFF, DIM or BRIGHTEN, the load attached.
- Include or exclude the module from the Z-Wave network.
- Configure to Control Shades or Window Coverings via Z-Wave network.
- Control other Z-Wave enabled devices.

Also, when a controller prompts you to "Send Node ID" or to "Press Button on Unit", quickly tap 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 paddle 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 ZDW103 returns to previous known state.

LED indication

The LED on the ZDW103 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 ZDW103 will flicker its LED when it is transmitting to any of its 4 groups. This can be changed if desired.

Auxiliary Switch

The ZDW103 supports 3 and 4-way control using the AS101 auxiliary switch.

Remote Control

The ZDW103 will respond to BASIC and MULTILEVEL commands that are part of the Z-Wave system. Refer to your controller's instructions as to whether your controller can transmit those commands.

All On/All Off

The ZDW103 supports the ALL ON/ ALL OFF commands.

The ZDW103 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 ZDW103 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 ZDW103 can be setup to respond to ALL ON and ALL OFF commands are:

- ZDW103 will not respond to ALL ON or the ALL OFF command.
- ZDW103 will respond to ALL OFF command but will not respond to ALL ON command.
- ZDW103 will respond to ALL ON command but will not respond to ALL OFF command.
- ZDW103 will respond to ALL ON and the ALL OFF command (default).

Association

The ZDW103 supports the Association command.

The ZDW103 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” into 1 of 4 groups within the ZDW103.

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

Group 1

If you **associate** a Z-Wave device into Group 1, you can turn that device on and off by tapping the switch on or off once. The load attached to the ZDW103 will also turn on or off. Associating nodes into group 2 or 3 will cause a very slight delay before the command is transmitted to group 1 nodes.

You can brighten the controlled device by pushing and holding the top of the switch, dim by pushing and holding the bottom of the switch.

Group 2

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 ZDW103 is not affected.

Group 3

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 ZDW103 is not affected.

Group 4

Only **associate** transmitters or controllers into Group 4. Group 4 should be used only to update a transmitter or controller on the status of the ZDW103 which might have been controlled from another device.

You can **associate** up to **5** Z-Wave devices into each of these four 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).

A note about dimming, 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 1st to ensure that the dimming operates correctly.

Configuration

The ZDW103 supports the Configuration command.

The ZDW103 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

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

The ZDW103 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 if this bit is set to 0. If the bit is set to 1, the dimmer will ignore the start level and instead start dimming from its current level.

Suspend Group 4

- **Parameter No: 2**
- **Length: 1 Byte**
- **Valid Values = 0 or 1 (default 0)**

You may wish to disable transmitting commands to Z-Wave devices that are in Group 4 without “un-associating” those devices from the group. Setting parameter 2 to the value of 1 will stop the ZDW103 from transmitting to devices that are “associated” into Group 4.

It is possible that you may only want the units in Group 4 to track when the dimmer is being turned ON and OFF and not when dimming.

Disable Group 4 During a Dim Command

- **Parameter 13**
- **Length: 1 Byte**
- **Valid Values = 0 or 1 (default 0)**

After the ZDW103 is commanded to stop dimming, it will then command the Z-Wave devices in Group 4 to the ZDW103's new level. To prevent the ZDW103 from commanding the Z-Wave devices in Group 4 during this particular occurrence, set Parameter 13 to the value of 1.

Night Light

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

The LED on the ZDW103 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.

Invert Switch

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

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

Ignore Start Level When Receiving Dim Commands

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

The ZDW103 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 ZDW103 to stop ignoring the start level and cause it to dim based on the command sent.

Don't Send Level Command After Transmitting Dim Commands

- **Parameter 6**
- **Length: 1 Byte**
- **Valid Values = 0 or 1 (default 1)**

When you press and hold the bottom of the ZDW103 switch once, the Z-Wave devices that are **associated** into Group 1 are sent the Dim command. By setting this parameter to 0 you can have the ZDW103 follow up the dim command with a command to set the devices to the same level as the ZDW103.

Adjusting Dim Rate

- **Parameter 7-12**
- **Length: 1 Byte**
- **Valid Values: (See next)**

There are 3 sets of parameters that can adjust the dimming rate of the ZDW103.

1. One set to control how fast the dim rate is when the dimmer receives a Z-Wave command excluding ALL ON or ALL OFF command (Parameter 7 and 8).
2. One set to control how fast the dim rate is when the dimmer is locally controlled (Parameter 9 and 10).
3. One set to control how fast the dim rate is when the dimmer receives an ALL ON or ALL OFF command (Parameter 11 and 12).

These values can be changed instantly to allow various scenes and effects.

The first of these parameters is the "dim step" (dim rate) parameter. It can be set to a value of 1 to 99. This value indicates how many levels the dimmer will change when the timer (discussed below) expires.

The second parameter is the timing (how fast the dim rate) parameter. It can be set to a value of 1 to 255.

This value indicates in 10 millisecond resolution, how often the dim level will change. For example, if you set this parameter to 1, then every 10mS the dim level will change. If you set it to 255, then every 2.55 seconds the dim level will change.

With the combination of the two parameters that can control the dim rate, the dimmer can be adjusted to dim from maximum to minimum or minimum to maximum at various speeds between 10 millisecond and 252.45 seconds (over 4.25 minutes).

On/Off Command dim rate (excluding ALL ON/ALL OFF commands)

Parameter 7 Dim step Parameter (default = 1)

Valid Values: 1-99

Parameter 8 Dim timer Parameter (default = 3)

Valid Values: 1-255

Local Control dim rate

Parameter 9 Dim step Parameter (default = 1)

Valid Values: 1-99

Parameter 10 Dim timer Parameter (default = 3)

Valid Values: 1-255

ALL ON/ALL OFF dim rate

Parameter 11 Dim step Parameter (default = 1)

Valid Values: 1-99

Parameter 12 Dim timer Parameter (default = 3)

Valid Values: 1-255

Enable Shade Control Group 2

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

The ZDW103 can control shade control devices via its group 2 if this configuration parameter is set to 1.

Enable Shade Control Group 3

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

The ZDW103 can control shade control devices via its group 3 if this configuration parameter is set to 1.

LED Transmission Indication

- **Parameter 19**
- **Length: 1 Byte**
- **Valid Values = 0 , 1, 2 (default 2)**

The ZDW103 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 ZDW103 is set to flicker for only 1 second.

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 ZDW103 is reset from the Z-Wave system.

Powerlevel

The ZDW103 supports the Powerlevel command.

The Powerlevel command allows controllers to set and get the RF transmit power level of a node and test specific links between nodes with specific RF transmit power. Refer to your controller's instructions, if it supports this command, for more information. This command is typically used by professional installer

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 ZDW103. Refer to your Controller's instructions on how to do this (if it supports it). Assigning an SUC Route to the ZDW103 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 ZDW103 will only request an update when a transmission fails.

SPECIFICATIONS

Power	120 VAC, 60 Hz
Signal (Frequency)	908.42 MHz
Range	Up to 100 feet line of sight between the Controller and /or the closest HomePro Receiver Module

INTEROPERABILITY WITH Z-WAVE™ DEVICES

A Z-Wave™ network can integrate devices of various classes, and these devices can be made by different manufacturers. The ZDW103 can be incorporated into existing Z-Wave™ networks.

The top or bottom of the paddle switch on the face of the ZDW103 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 ZDW103'S CERTIFICATION

The ZDW103 has been thoroughly tested by the ETL SEMKO division of Intertek, a nationally recognized testing laboratory. This product was found to be in compliance with safety standards ANSI/UL STD 1472 and CAN/CSA C22.2 No. 184.1.

In addition to compliance with product safety standards, the ZDW103 is also 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:

- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

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.

