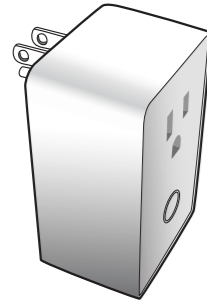


# Model: 86-100 | Plug-In, Wireless Appliance Control Module Owner's Manual



This product speaks with other Z-Wave certified devices.

## INTRODUCTION

Satco 86-100 is a member of the Z-Wave® family and communicates with other Z-Wave certified devices in a control network. 86-100 can be used to turn On or Off lamps or AC operated appliances. 86-100 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 Satco 86-100 in your system 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 86-100 offers.

## FEATURES

- Works with incandescent, florescent (CFL) or LED lighting and AC operated appliance
- ON/OFF status and location LED indicator
- Can be controlled wirelessly or manually
- Tamper resistant screws
- Plug and play, simple setup
- Lightweight and compact. Does not block the second AC outlet.
- Grounded 3-pin AC power receptacle and plug to enhance safety
- Over-The-Air firmware upgrade available with compatible gateway, Z-Wave static controller, PC and software
- Powered by Z-Wave 500 Series module inside
- Internal resettable fuse to protect from surge current
- Manual reset capability

## WARNING

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

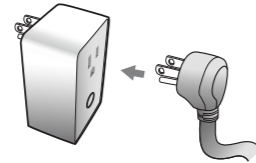
No user serviceable parts are in this module.

To reduce the risk of electric shock, this product has a grounding type plug that has a third (grounding) pin. This plug will only fit into a grounding type power outlet. If the plug does not fit into the outlet, contact a qualified electrician to install the proper outlet. Do not change the

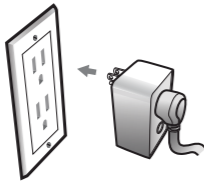
plug in any way. The appliance connected to this Z-Wave module must not exceed 900W incandescent, 200W CFL/LED, ½ horsepower motor and 15A, 1800W resistive load.

## SETUP

**STEP 1:** Plug in the AC power plug of the appliance to the receptacle of 86-100.



**STEP 2:** Insert the 86-100's 3-pin plug into an AC outlet of your preferred location. In normal operating mode, the LED on the front panel will be lit.



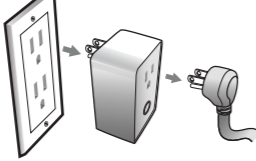
**STEP 3:** Add (Include) the module into your network by a Z-Wave certified controller. Please refer to your gateway or controller's instructions manual for details. Normally, the sequence is as follows:

1. Place your network controller into inclusion mode by following the controller manufacturer's instructions.
2. When the controller is ready, single click the button on the front of 86-100.
3. The controller should indicate that the new device was added successfully.

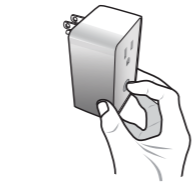
If the controller shows it was a fail, repeat the procedure.

**NOTE:** If Inclusion still fails after the 2nd attempt, you need to first reset the 86-100 before repeating the above step. The manual reset method is as follows,

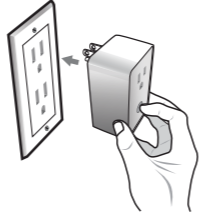
1. Unplug 86-100 from the AC outlet and also unplug the power plug of the appliance from the module (if plugged in).



2. Press and hold the button on the module.



3. Plug the module back into the AC outlet with the button pressed.



After 3 seconds, release the button. If you see the button blinks, that means the module has been reset successfully and you may retry Step 3 above to add the module into your network.

Before repeating the above steps, try moving the 86-100 to an AC outlet in the same room as your home gateway in case the preferred outlet is out of range initially. Repeat Steps 1-3 until the 86-100 is added to your network. Once the 86-100 has been successfully added to your home network, you can move it to the preferred location in the home.

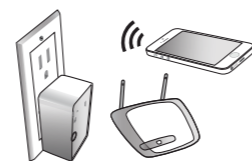
**NOTE:** Once the 86-100 is Added (Included) in your network, resetting it locally does not mean it has been removed from your network. If you wish to remove 86-100 from your network, you will need to Delete(Exclude) the module from the network by your controller. Use the manual reset procedure only in the event that the network primary controller is lost or otherwise inoperable.

## BASIC OPERATION

The connected appliance can be controlled manually with a push button - OR - Press Here



- OR - Wirelessly with a remote controller



Once the 86-100 has been added to your network, you may assign it to a Group. Change its status when the All ON or OFF command is received from the controller. It

can also be set in Association with another Z-Wave device to perform a specific duty. Please refer to the instructions manual of your gateway or remote controller for detail procedures on how these functions can be set.

## About the push button:

There is a single button on 86-100 for manual operation that:

A) Manually turns the connected appliance ON/OFF by pressing the button. It functions as a toggle switch; if the appliance is ON, pressing the button turns the appliance OFF and vice versa.

B) Adds (Includes) or Deletes (Excludes) your 86-100 to/from your Z-Wave network. Please refer to the instructions manual of your gateway or remote controller for detail procedures on how these actions can be done.

This push button is also backlit with an LED indicator that will be ON whenever the connected appliance is Off, and turns OFF when the connected device is ON. By changing the following configuration with your primary controller (if supported), the default status of the LED indicator can be changed as follows:

Parameter 3 Length: 1 Byte Valid Values: 0, 1 or 2 (default = 0)

When value = 0, the LED indicator will be OFF when the connected appliance is ON, and the LED indicator will be ON when the connected appliance is OFF

When value = 1, the LED indicator will be ON when the connected appliance is ON, and the LED indicator will be OFF when the connected appliance is OFF

When value = 2, the LED indicator is always OFF regardless of the load condition

## About the Z-Wave 500 Series module with Z-Wave Plus features:

You can use a Z-Wave certified portable or static controller to communicate with the module. Depending on the capability of your controller or gateway software, the following simple to advanced operations can be performed. Please refer to the controller or gateway's manual for details.

1. Turn the appliance On/Off.
2. Add (Include) or Delete (Exclude) your 86-100 to/from your network.
3. Assign your 86-100 to a specific Group and/or to include your 86-100 as part of your All ON or OFF command.
4. Over-the-Air firmware update by your gateway or static controller.
5. Lifeline function which automatically notifies the associated modules and the network that a manually reset device is no longer in the network, thus, the corresponding association becomes invalid.

## Association:

1. 86-100 supports association command class.
2. 86-100 only supports group #1 for lifeline communication.

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

Please note that the module will be OFF after a power failure.

## SPECIFICATIONS

Model: 86-100

Input power: 120 VAC, 60 Hz.

Max output loading: 900W incandescent, 200W CFL/LED, ½ horsepower motor and 15A, 1800W resistive load.

Radio frequency: 908.4/916 MHz.

Wireless range: up to 130' 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 Satco product introduced in this instructions manual has a Z-Wave certification which guarantees such an interoperability.

FCC ID: 2ABWCPA100

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:

1. This device may not cause interference
2. 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-PA100

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

Satco Products, Inc. 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.

Satco'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 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, call **1-800-43-SATCO**.

All brand names shown are trademarks of their respective owners.

Warranty period: limited 1 year from date of purchase.



Satco Products, Inc.  
Brentwood, NY 11717

