SW-ESW01N Z-Wave Energy Switch Installation Guide

SW-ESW01N is a powered Z-Wave Plus electrical power measuring device, which is compatible with certified Z-Wave devices, regardless of the manufacturer. If the device is not part of Z-Wave network, with auto network add, the device will activate "Add" mode as soon as it is powered on. The user can also manually activate "Add" mode by pressing the On/Off button. Once it is included into a Z-Wave network, SW-ESW01N will also act as a repeater in the network.
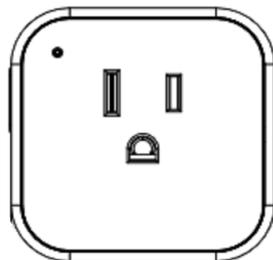
The energy switch can be controlled remotely when added to a Z-Wave controller. The energy switch has built-in over voltage protection, over current protection, and wireless upgrade features.
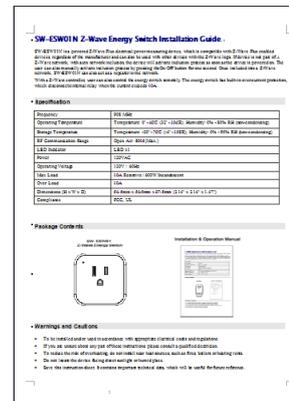
Specification

Frequency	908 MHz / 916 MHz
Operating Temperature	Temperature: 0° - 40℃ (32° - 104℉); Humidity: 0% - 80% RH (non-condensing)
Storage Temperature	Temperature: -20° - 70℃ (-4° - 158℉); Humidity: 0% - 90% RH (non-condensing)
RF Communication Range	Open Air: 80M (Max.)
LED Indicator	LED x1
Power	120VAC
Operating Voltage	120V / 60Hz
Max Load	15A Resistive / 400W Incandescent
Over Voltage Protection (OVP)	132V (Resume normal operation below 126V)
Over Current protection (OCP)	15.5A
Dimensions (H x W x D)	55mm x 55mm x 37.5mm
Compliance	FCC, UL, and Z-Wave Plus

Package Contents


Warnings and Cautions

- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, please consult a qualified electrician.
- To reduce the risk of overheating, do not install near heat sources such as fires, boilers or heating vents.
- Do not install the device facing direct sunlight or in a humid location.
- Save this instruction sheet. It contains important technical data, which will be useful for future reference.

Operation
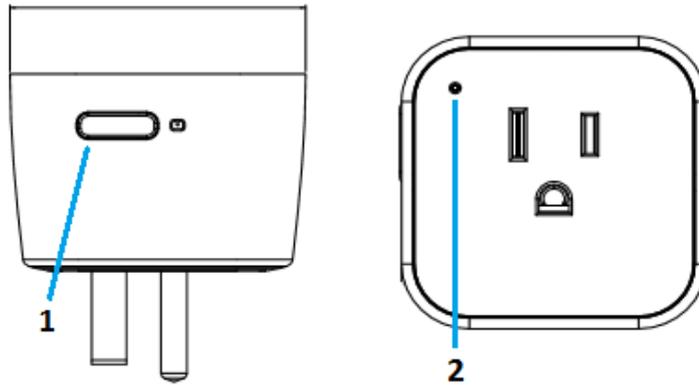
1. On/Off Button	2. Green LED Indicator

Installation

1. Plug the SW-ESW01N into a wall receptacle. Confirm that the receptacle is working properly. If it is controlled by a wall switch, set to ON all the times.
2. Attach the appliance to the SW-ESW01N and make sure the load does not exceed 15A.

Device Functions

The table below summarizes functions supported by the energy switch.

Function	Description
Add (Inclusion)	1. Follow your Z-Wave controller's instructions on how to put the controller into "Add" mode. 2. Power on the device. 3. The LED will blink during the inclusion process. This process may take up to 30 seconds. 4. If the device is successfully added to the network, the LED will turn off. The device will return to normal operation. If the process fails, try repeating steps 1 - 3 again. You can also press the On/Off button once to put the device into "Add" mode again.
Remove (Exclusion)	1. Follow your Z-Wave controller's instructions on how to put the controller into "Remove" mode. 2. Press the On/Off button three times within two seconds. 3. The LED will blink for one second while the device is being removed from the network. 4. If the device was successfully removed from the network, all Z-Wave information will be cleared, and the device will go into "Add" mode for 30 seconds.
Reset to Factory Defaults	1. Press the On/Off button 4 times within two seconds holding the 4th press until the LED lights up. 2. The LED will turn off after three seconds. 3. All Z-Wave information will be cleared and all settings will be reset to factory defaults. 4. The device will go into "Add" mode, and the relay state will turn off. Note: Please use this procedure only when the network's primary controller is missing or otherwise inoperable.

Meter	The device supports the following meter scales:
	  - Accumulated power consumption (kWh)
	  - Power consumption (W)
	  - AC load voltage (V)
	  - AC load current (A)
	  - Load power factor (PF)
	Note: The default scale for version 1 of the Meter Get Command is kWh.

OCP / OVP	LED will blink rapidly every 0.1 seconds during current and voltage protection
Normal Operation	LED will blink slowly every 0.5 seconds

Z-Wave Command Classes

COMMAND_CLASS_BASIC_V1
COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_CONFIGURATION_V1
COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2
COMMAND_CLASS_DEVICE_RESET_LOCALLY_V1
COMMAND_CLASS_POWERLEVEL_V1
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1
COMMAND_CLASS_SWITCH_BINARY_V1
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2
COMMAND_CLASS_METER_V3
COMMAND_CLASS_NOTIFICATION_V4

Association

Support grouping identifier = 1
Support one group with 5 nodes.
All triggering reports will be sent to the associated nodes.

Notification Type

Notification type	Event type
Power Management (0x08)	Over Current Detected (0x06)
	Over Voltage Detected (0x07)

	Alarm V1
Alarm Type	0x08 (Power Management)
Alarm Level	0x00 No Power Management alarm detected 0xFF Power Management alarm detected

Devices From Multiple Vendors In One Network

SW-ESW01N can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

Z-Wave Configuration

Configuration Parameter	Function	Size (Byte)	Configuration Value	Default Setting	Description
1	Relay state when power up	1	0~2	0	0 : Last relay state 1 : Relay on 2 : Relay off
2	Auto report relay state	1	0~1	1	0 : Disable 1 : Enable

Command Class Report

Command Class	Report Type	Status	Description
Switch Binary	Relay State	Relay on: FF Relay off: 00	When relay state changes or device powers up.
Meter	OVP, OCP triggered	Scale: Depend on scale type. Value: Depend on metering result.	When OCP or OVP kicks in, the device will send meter and alarm reports sequentially.
Alarm	OVP, OCP triggered	Alarm Type: 08 (Power Management) Alarm Level: FF (Open), 00 (Close)	

FCC Statement

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.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment.

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.

Caution!

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

SW-ESW01N QIG V1.0

Canada Statement

This device complies with Industry Canada's licence-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage;

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 rf, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.