

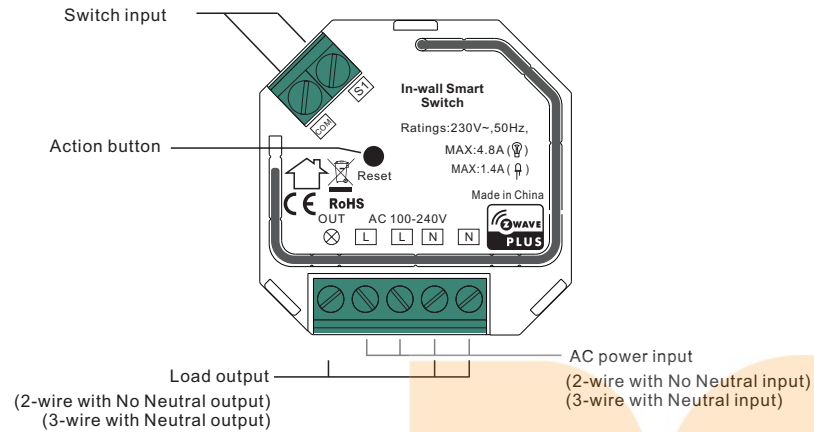
Z-Wave In-Wall Smart Switch

09.ZV9100A.04768



Important: Read All Instructions Prior to Installation

Function introduction



Product Data

Z-Wave Frequency	868.42 MHz (EU)/908.42 MHz (US)/921.42 MHz (ANZ)
Input Voltage	AC100-240V
Output Voltage	AC100-240V
Output Current	Resistive load: max. 4.8A Capacitive/Inductive load: max. 1.4A
Operating temperature	0 to 40°C
Relative humidity	8% to 80%
Dimensions	45.5x45x20.3mm

Safety & Warnings

- DO NOT install with power applied to device.
- DO NOT expose the device to moisture.

Quick Start

How to install:

- Step 1: power on the Z-Wave In-wall Smart switch.
- Step 2: activate inclusion mode on your Z-Wave controller.
- Step 3: activate inclusion mode of the switch by triple press the action button on the switch. The switch will be included to Z-Wave network.

Product Description

The in-wall smart switch is a Z-Wave device designed to work with various types of light sources. It may be connected to two-wire or three-wire configuration so it can operate with or without neutral lead. The switch can switch ON/OFF connected light source either through Z-Wave devices or through the wall switch connected directly to it.

The switch 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.

The encryption mode that the switch supports is S2 Unauthenticated. When the switch is being included into a Z-Wave network, you can use your primary controller/gateway to enable encryption mode or disable encryption. (The primary controller/gateway shall support encryption mode configuration). The switch supports OTA and can update firmware wirelessly.

Main Features:

- Compatible with any Z-Wave or Z-Wave+ Controller,
- Controlled by Sunricher EasyHome or any other Z-Wave controller,
- Soft start function,
- Works with various types of switches – momentary, toggle, three-way, etc.
- Active element: semiconductor electronic switch,
- To be installed in wall switch boxes of dimensions allowing for installation, conforming to provisions of applicable regulations,
- The Bypass is an extension unit.

The switch operates under the following loads:

- Conventional incandescent and HV halogen light sources
- ELV halogen lamps (with electronic transformers)
- MLV halogen lamps (with ferromagnetic transformers)
- Compact fluorescent CFL tube lamps with electronic ballast
- Fluorescent tube lamps with electronic ballast
- Supported light sources (power factor > 0.5) with minimal power of 3W using the Bypass (depending on the type of load)

Installation Guide

Please read carefully the enclosed user manual before installation of the in-wall switch, in order to ensure an error-free functioning.

ATTENTION: Prior to the assembly of the product, the voltage network has to be switched OFF and ensured against re-switching.

Inclusion (adding to a Z-Wave network)

1. Set primary controller/gateway into inclusion mode (Please refer to your primary controller's manual on how to turn your controller into inclusion).
2. Power on the in-wall switch and set it into inclusion mode. There are two methods to set the in-wall switch into inclusion mode:
 - 1)Repower on the switch, it will be set into inclusion mode automatically, and waiting to be included.
 - 2)Triple press the action button on the switch, it will set the switch into inclusion mode.

Exclusion (removing from a Z-Wave network)

There are two exclusion methods:

Method 1: Exclusion from the primary controller/gateway as follows:

1. Set the primary controller/gateway into exclusion mode (Please refer to your primary controllers manual on how to set your controller into exclusion).

2. Triple press the action button, the switch will be set to exclusion mode, and waiting to be excluded, then the switch will be excluded from the network.

Method 2: Factory reset the switch will force it to be excluded from a network. (please refer to the part "Factory Reset" of this manual)

Note: Factory reset is not recommended for exclusion, please use this procedure only if the primary controller/gateway is missing or otherwise inoperable.

Factory Reset

Press and hold down the action button for over 10 seconds, the switch will be reset to factory defaults.

Association

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed). In case the event happens all devices stored in the respective association group will receive a common wireless command.

Association Groups:

Association Groups	Group Name	Max Nodes	Description
Group 1	Lifeline	5	<p>1. When press and hold down "Reset" button for 10S to reset the switch, send "Device Reset Locally Notification CC" to associated devices of this group to report factory reset information.</p> <p>2. When load state changes, send "Basic Report CC" to associated devices of this group.</p> <p>3. When over temperature is detected, send "Emergency shutoff status" to Lifeline.</p>

Set and unset associations:

(Note: All association information will be cleared automatically once the switch is excluded from a network.)

Set association by operating primary controller/gateway to send packets to the switch:

The primary controller/gateway sends packets to the switch using "Command Class ASSOCIATION"

Operating the device

Short press the action button on the switch to switch ON/OFF the load.

Node Information Frame

The Node Information Frame is the business card of a Z-Wave device. It contains information about the device type and the technical capabilities. The inclusion and exclusion of the device is confirmed by sending out a Node Information Frame. Beside this it may be needed for certain network operations to send out a Node Information Frame.

How to send out Node Information Frame:

When the switch is set to inclusion/exclusion mode again, it will send out Node Information Frame, there are 2

kinds of operation as follows:

1. triple press the action button, the switch will be set to inclusion/exclusion mode, then send out Node Information Frame.

2. When the switch is under inclusion mode, there are two kinds of operation:

1) Triple press inclusion/exclusion button, the switch will be set to inclusion mode again, and send out Node Information Frame.

2) Power off and power on the switch, it will be set to inclusion mode automatically, and send out Node Information Frame.

Technical Data

Wireless Range	up to 100 m outside, on average up to 40 m inside buildings
SDK	6.71.03
Explorer Frame Support	Yes
Device Type	on/off Power Switch
Generic Device Class	GENERIC_TYPE_SWITCH_BINARY
Specific Device Class	SPECIFIC_TYPE_POWER_SWITCH_BINARY
Role Type	Always On Slave (AOS)
Routing	Yes

SUPPORTED COMMAND CLASS

Node Info		Security Command Supported Report	
COMMAND_CLASS_ZWAVEPLUS_INFO	V2	COMMAND_CLASS_MANUFACTURER_SPECIFIC	V2
COMMAND_CLASS_TRANSPORT_SERVICE	V2	COMMAND_CLASS_VERSION	V2
COMMAND_CLASS_SECURITY	V1	COMMAND_CLASS_SWITCH_BINARY	V1
COMMAND_CLASS_SECURITY_2	V1	COMMAND_CLASS_SCENE_ACTIVATION	V1
COMMAND_CLASS_SUPERVISION	V1	COMMAND_CLASS_SCENE_ACTUATOR_CONF	V1
		COMMAND_CLASS_NOTIFICATION	V8
		COMMAND_CLASS_CONFIGURATION	V1
		COMMAND_CLASS_ASSOCIATION_GRP_INFO	V3
		COMMAND_CLASS_ASSOCIATION	V2
		COMMAND_CLASS_FIRMWARE_UPDATE_MD	V4
		COMMAND_CLASS_POWERLEVEL	V1
		COMMAND_CLASS_DEVICE_RESET_LOCALLY	V1

Notification Command Class

The switch supports Emergency shutoff, when inside temperature is over 90°C and detected by the built-in thermistance, the switch will send out Emergency shutoff status to Lifeline.

Notification Type	Notification
System (0x09)	Emergency shutoff status (0x07)

Configuration Command Class

Parameter	Size	Description	Default Value
2	1	Info: Saving load state before power failure 0 – shutoff load 1 – turn on load 2 – save load state before power failure	2
3	1	Info: Enable/disable to send the basic report to the Lifeline when the load state changed 0 – Disable to send Basic report 1 – Enable to send Basic report	1
4	1	Added to and removed from a network through external switch (when enables this function, triple press the external switch within 1.5 seconds to be added to or removed from a network) 0 - disable 1 - enable	1
5	1	External switch type 0 – Push button switch 1 – normal on/off switch 2 – 3-way switch	0

Wiring Diagram

Notes for the diagrams:

L - terminal for live lead




N - terminal for neutral lead

Out - output terminal of the switch (controlling connected light source)

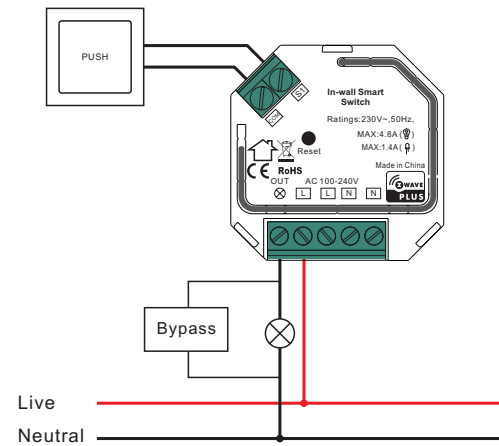
S1 - terminal for switch (has the option of entering the device in inclusion/exclusion mode)

COM - terminal for grounding to the switch connected to the switch

Compatible load types and recommended values of power for supported loads:

Supported load types	100-240V~	
 Resistive loads Conventional incandescent and halogen light sources	20-1000W @ 230V 20-500W @ 110V	
 Capacitive loads Fluorescent tube lamp (compact / with electronic ballast), electronic transformer, LED	Using Bypass: 3-300W @ 230V 3-150W @ 110V	No Bypass Used: 20-300W @ 230V 20-150W @ 110V
 Inductive loads Ferromagnetic transformers	20-300W @ 230V 20-150W @ 110V	

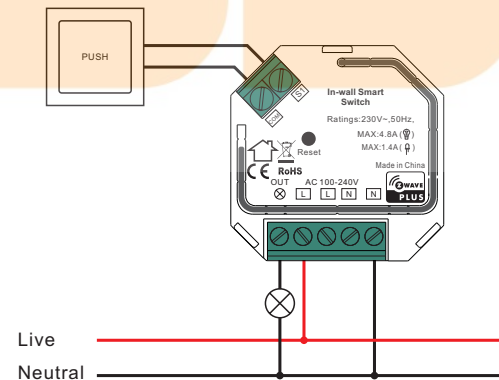
(1) 2-Wire Connection With No Neutral Lead



NOTE: Switch connected to the S1 terminal activates the basic functionality of the switch (turning the light on/off) and starts the inclusion/exclusion mode (Add/Remove).

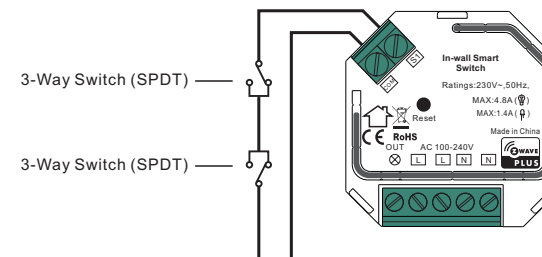
The Bypass is a device designed to work with the in-wall smart switch. It should be used in case of connecting LED bulbs or energy saving compact fluorescent lamps. The Bypass prevents flickering of the LED lights and glowing of the turned off compact fluorescent lamps. In the case of 2-wire connection, the Bypass allows to reduce minimum power of load required by the switch for correct operation. The Bypass provides powering of the switch in case of controlling the low loads of minimum power down to 3W (for $\cos\phi > 0.5$).

(2) 3-Wire Connection With Neutral Lead

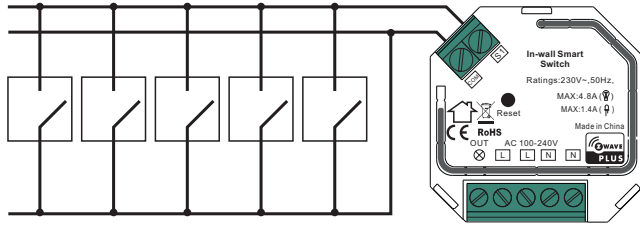


NOTE: Switch connected to the S1 terminal activates the basic functionality of the switch (turning the light on/off) and starts the inclusion/exclusion mode (Add/Remove).

(3) 3-Way Switch Connection



(4) Momentary Wall Switch Connection



ROB
we love smart