Z-Wave LED Dimmer SR-ZV9101FX-EU

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 LED dimmer, the connected LED light will flash quickly for 6 seconds, triple press the “Inclusion/Exclusion” button, then go on step 2. If it is not, then terminate the operation, please refer to the part “Inclusion” of this manual to learn how to include the dimmer to Z-Wave network.
- Step 2: activate inclusion mode on your Z-Wave controller.
- Step 3: the LED dimmer is waiting to be included to Z-Wave network, the connected LED light stays solid on 3s to indicate successful inclusion.

Product Description

The LED dimmer is a Z-Wave device that is used to switch ON/OFF and adjust light intensity of the connected LED light and can be controlled by other Z-Wave devices. The dimmer 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 device cannot act as Z-Wave network controller (primary or secondary), so a security enabled controller is needed for take full advantage of all functionally for the device. It also supports the Over The Air (OTA) feature for the product’s firmware upgrade.

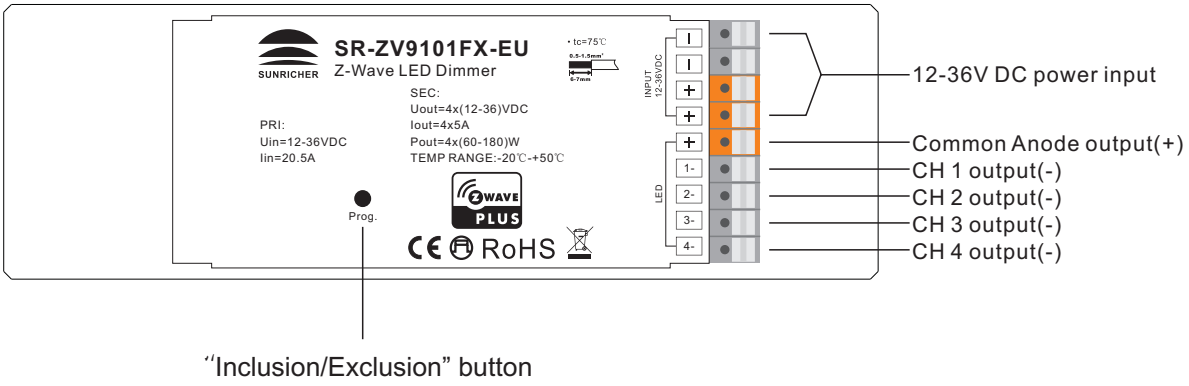
The encryption modes that the LED dimmer supports are S0, S2 Unauthenticated. When the LED dimmer is being included into a Z-Wave network, you can use your primary controller/gateway to enable one encryption mode or disable encryption. (The primary controller/gateway shall support encryption mode configuration).

Product Data

Radio Frequency	868.42 MHz (EU)
Input Voltage	DC12-36V
Output Current	4x5A
Output Power	4x(60-180)W

Output Type	Constant Voltage
Operating temperature	0 to 40°C
Relative humidity	8% to 80%
Dimensions	170x53.4x28mm

Function Introduction



Installation Guide

Please read carefully the enclosed user manual before installation of the LED dimmer, 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 controllers manual on how to turn your controller into inclusion).

2. Power on the LED dimmer, make sure the LED dimmer does not belong to any Z-Wave network (please refer to the part “How to check whether the LED dimmer included to a network” of this manual).

1) When the connected LED light flashes quickly for 6 seconds, it means the LED dimmer does not belong to any network. Triple press the “Inclusion/Exclusion” button, it will be set into inclusion mode automatically, and waiting to be included.

2) When the connected LED light is under solid on status, it means the LED dimmer has already been included into a network. First you have to set the LED dimmer into exclusion mode, once excluded, it will be set into inclusion mode automatically, and waiting to be included.

The connected LED light stays solid on 3s to indicate successful inclusion.

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 “inclusion/exclusion” button, the LED dimmer will be set to exclusion mode, the connected LED light will flash quickly for 6 seconds, and waiting to be excluded, then LED light stays solid on 3s to indicate successful exclusion.

There are 3 methods for the LED dimmer to quit “exclusion mode”. Once the LED dimmer quits “exclusion mode”, the LED light will stop the fast flash status.

1. Automatically quits after successful exclusion.
2. Quits after 10 seconds timeout.
3. Power off and power on the LED dimmer.

(Note: When the LED dimmer already included to a network, triple press “inclusion/exclusion” button, the LED dimmer will be set into exclusion mode and quit exclusion mode alternatively.)

Method 2: Factory reset the LED dimmer will force the LED dimmer 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.

How to check whether the LED dimmer already included to a network

There is one method to check whether the LED dimmer already included to a network: Power off and power on the LED dimmer, if the connected LED light flashes quickly for 6 seconds, it means the LED dimmer does not belong to any network. When the connected LED light is under solid on status, it means the LED dimmer has already been included into a network.

Factory Reset

Press and hold down “inclusion/exclusion” button for over 10 seconds, connected LED light stays solid on 3s to indicate successful factory reset, release “inclusion/exclusion” button, all 4 PWM outputs will restore to 50% brightness.

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:

Group Identifier	Group Name	Max Nodes	Description
1	Lifeline	5	1. LED Dimmer Factory Reset, send Command Class "Device Reset Locally Notification V1" to associated devices of this group to report factory reset information when factory reset the LED dimmer. 2. When LED dimmer ON/OFF or light intensity value changes, send Command Class "Basic Report" to associated devices of this group to report ON/OFF or light intensity value information.

Set and unset associations:

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

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

The primary controller/gateway sends packets to the LED dimmer using “Command Class ASSOCIATION”

Operating the device

1.Short press external button on the LED dimmer to switch ON/OFF the connected LED light.

2.Press and hold down external button on the LED dimmer to adjust light intensity of the connected LED light.

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 LED dimmer is set to inclusion/exclusion mode again, it will send out Node Information Frame, there are 2 kinds of operation as follows:

1. When the connected LED light is under solid on status, triple press the “inclusion/exclusion” button, LED dimmer will be set to inclusion/exclusion mode, then send out Node Information Frame.

2. When the connected LED light is under fast flashing status for 6 seconds, which means the LED dimmer is under inclusion mode, there are two kinds of operation:

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

2) Power off and power on the LED dimmer, LED dimmer 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
Radio Frequency	868.42 MHz (EU)
SDK	6.71.01
Explorer Frame Support	Yes
Device Type	Light Dimmer Switch
Generic Device Class	Switch Multilevel
Specific Device Class	Power Switch Multilevel
Routing	Yes
FLiRS	No

Z-Wave Plus Info

Parameter	Value
Z-Wave Plus Version	1
Role Type	Slave Always On
Node Type	ZWAVEPLUS
Installer Icon Type	0x0600 (ICON_TYPE_GENERIC_LIGHT_DIMMER_SWITCH)
User Icon Type	0x0600 (ICON_TYPE_GENERIC_LIGHT_DIMMER_SWITCH)

Manufacturer Specific

Parameter	Value (hex)
Manufacturer ID	0x0330
Product Type ID	0x0200(EU), 0x0201(US), 0x0202(ANZ), 0x021A(RU)
Product ID	0xD002

SUPPORTED COMMAND CLASS

Node Info		Support S2
COMMAND_CLASS_ZWAVEPLUS_INFO	V2	
COMMAND_CLASS_SECURITY	V1	
COMMAND_CLASS_SECURITY_2	V1	
COMMAND_CLASS_TRANSPORT_SERVICE	V2	
COMMAND_CLASS_SUPERVISION	V1	
COMMAND_CLASS_MANUFACTURER_SPECIFIC	V2	YES
COMMAND_CLASS_VERSION	V2	YES
COMMAND_CLASS_SWITCH_MULTILEVEL	V4	YES
COMMAND_CLASS_SWITCH_COLOR	V3	YES
COMMAND_CLASS_SCENE_ACTIVATION	V1	YES
COMMAND_CLASS_SCENE_ACTUATOR_CONF	V1	YES
COMMAND_CLASS_NOTIFICATION	V8	YES
COMMAND_CLASS_CONFIGURATION	V2	YES
COMMAND_CLASS_ASSOCIATION	V2	YES
COMMAND_CLASS_ASSOCIATION_GRP_INFO	V3	YES
COMMAND_CLASS_POWERLEVEL	V1	YES
COMMAND_CLASS_DEVICE_RESET_LOCALLY	V1	YES
COMMAND_CLASS_FIRMWARE_UPDATE_MD	V4	YES

Notification Command Class

The dimmer supports Emergency shutoff, when a load malfunction is detected, the dimmer will send out Emergency shutoff status to Lifeline.

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

Configuration Command Class

Parameter Number	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	0
3	1	Info: Enable/disable to send the basic report to the Lifeline when the load state changed (When value set as 1, re-power on the dimmer, it will send Basic report automatically) 0-Disable to send Basic report 1-Enable to send Basic report	1
4	1	Info: Select the type of the light band 0=single color light band, 4 channels PWM output to drive 4 channels single color light band 1=CCT light band, 2 channels PWM output, R(B) controls warm white, G(W) controls cool white 2=RGBW light band, 4 channels PWM output to drive RGBW light band	0x02
5	1	Info: Choose a cool light stage mode Choose a cool light stage mode (when receiving Command Class Switch Color, or switching light band type, it recovers to normal lighting mode.) 0=inactive of light stage mode 1=fade in and fade out mode, colors set by parameter 8 2=flash mode, colors set by parameter 8 3=rainbow mode, system fixed changing effect 4=fade in and fade out mode, color changes randomly 5=flash mode, color changes randomly 6=rainbow mode, color changes randomly 7=random mode, the colors switch randomly Remarks: When parameter number 4 is set as single color light band, the valid values of this parameter are 0~2.	0x00

6	1	Info: Speed of stage mode 0~0xFF: 0 is the slowest, 255 is the fastest	0xF3
7	1	Info: Execution times of stage mode 0: unlimited times 1~0xFF: execution times 1~255	0x00
8	1	Info: The hue of stage mode The hue is only valid for fade in and fade out mode, flash mode 0~0xFF: hue	0x00
9	1	Enable/disable external switch to be added to and removed from a network (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	0
Remarks: parameter number 5~8 are united parameters, it is recommended to use Configuration Bulk Set to configure synchronously.			

Parameter Number Definitions

Parameter number 2 defines the load state after re-power on it:
Value 0 is off state.
Value 1 is on state.
Value 2 is the state before re-power on.

Parameter number 3 enables/disables to send Basic report to the Lifeline when load state changed:
Value 0 disables to send .
Value 1 enables to send.

Parameter number 4 defines the light band type to drive:
Value 0 is single color.
Value 1 is CCT color.
Value 2 is RGBW color.

Parameter number 5 defines light stage mode:
Value 0 inactivates light stage mode.
Value 1 is fade in and fade out mode with colors set by configuration parameter 8.
Value 2 is flash mode with colors set by configuration parameter 8.

Value 3 is rainbow mode with system fixed changing effect.
Value 4 is fade in and fade out mode with randomly changing colors.
Value 5 is flash mode with randomly changing colors.
Value 6 is rainbow mode with randomly changing colors.
Value 7 is random mode, colors switch randomly.
Remarks: When parameter number 4 is set as single color light band, the valid value of this parameter are 0~2.

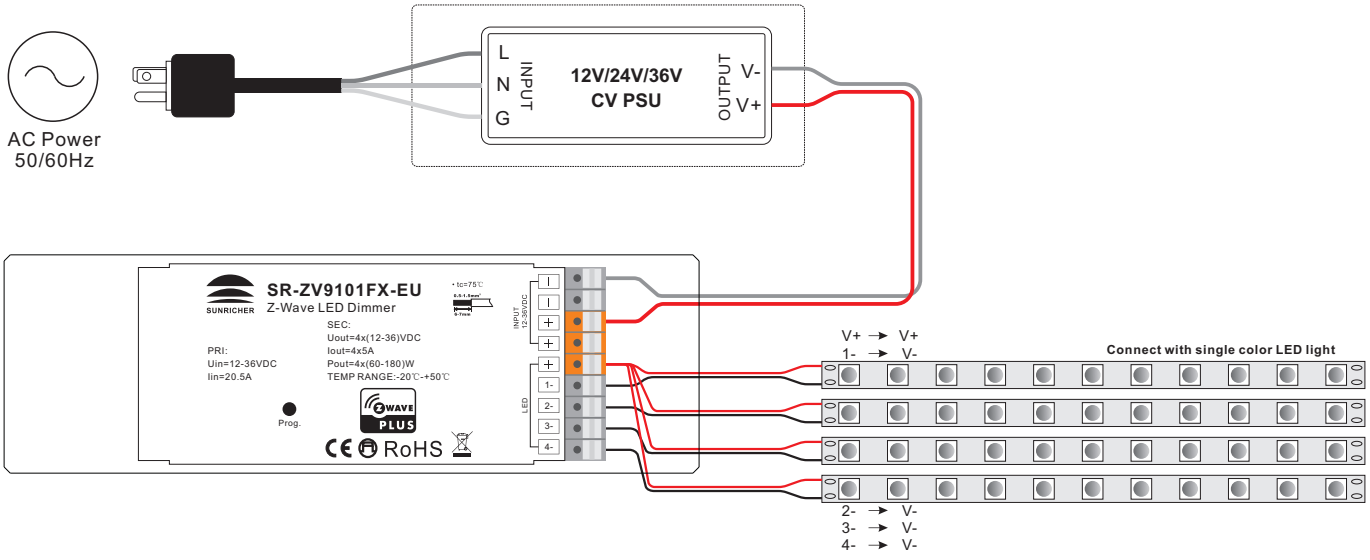
Parameter number 6 defines the speed of stage mode:
Value 0-0xFF configurable, 0 is the slowest, 255 is the fastest.

Parameter number 7 defines execution times of stage mode:
Value 0 is unlimited times.
Value 1~0xFF is 1~255 times.

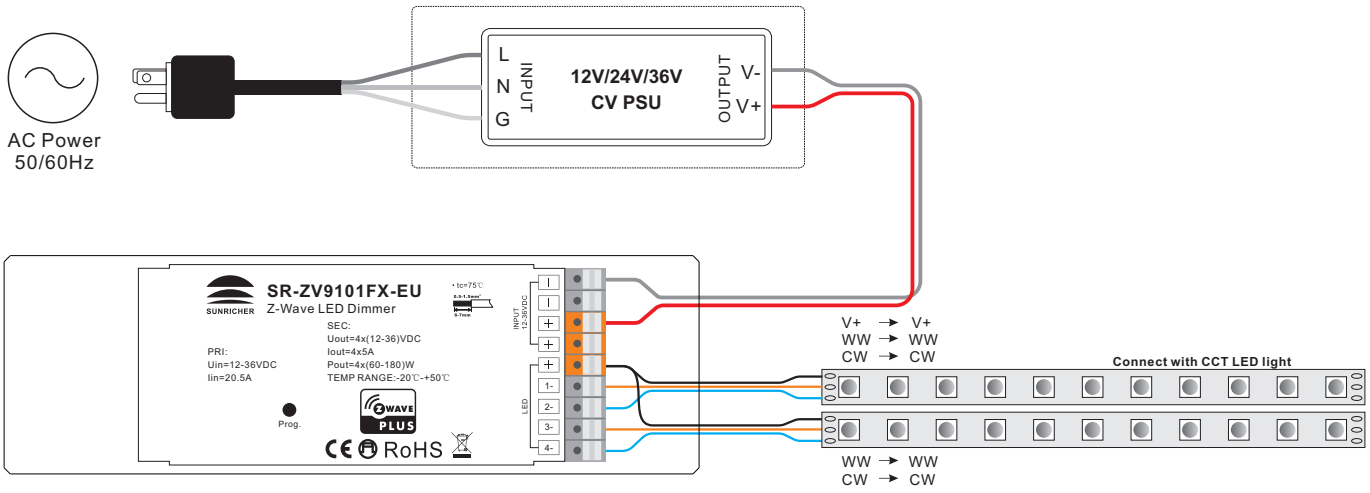
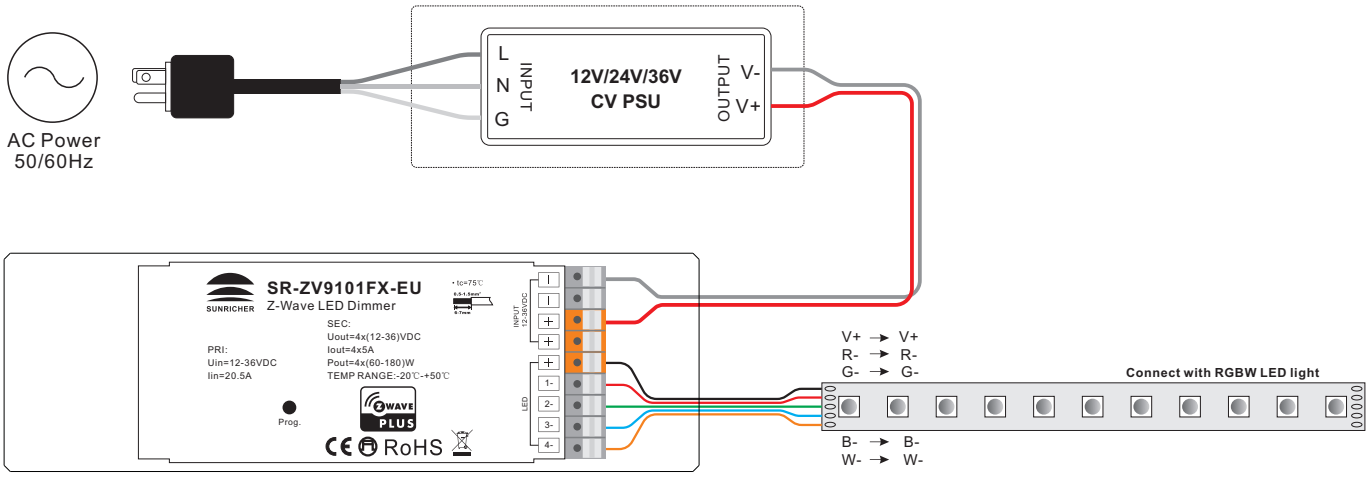
Parameter number 8 defines the hue of stage mode:
Value 0~0xFF is hue 0~255.

Parameter number 9 enables/disables external switch to be added to and removed from a network:
Value 0 disables.
Value 1 enables.

Wiring diagram
Controls single color LED light



Controls CCT LED light



Controls RGBW LED light