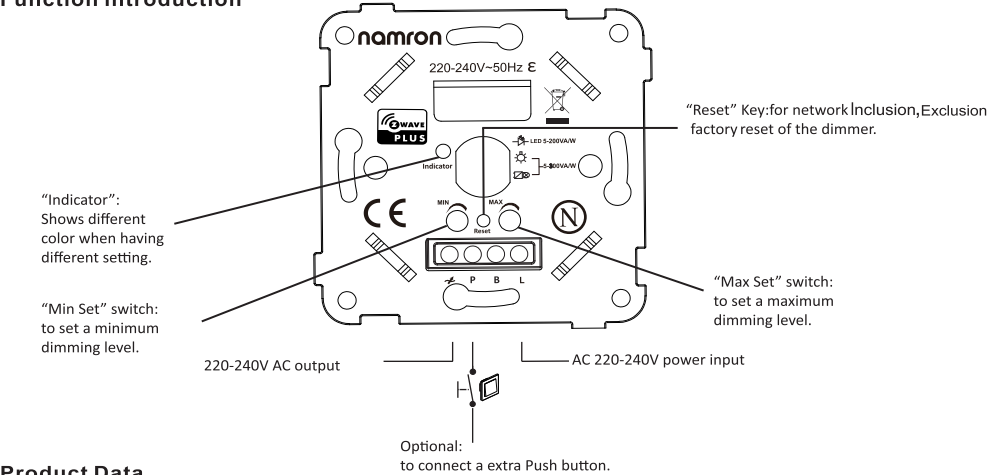


Smart Z-Wave™ LED Dimmer



Important: Read All Instructions Prior to Installation

Function introduction



Product Data

Z-Wave Frequency	868.42 MHZ (EU)
Input Voltage	AC 220-240V
Output Voltage	AC 220-240V
Output Current	1.6A max.
Operating temperature	0 to 40°C
Relative humidity	8% to 80%
Dimensions	84*84*46.65mm

Compatible Load Types			
Load Symbol	Load Type	Maximum Load	Remarks
	Dimmable LED lamps	200W	Due to variety of LED lamp designs, maximum number of LED lamps is further dependent on power factor result when connected to dimmer.
	Dimmable LED drivers	200W	Maximum permitted number of drivers is 200W divided by driver nameplate power rating.
	Incandescent lighting, HV Halogen lamps	300W	
	Low voltage halogen lighting with electronic transformers	300W	

Product Description

This product can be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

The Dimmer controller is a switch multilevel device based on **Z-Wave** enhanced 232 slave library of V6.81.03, and it can be easy configuration, operate and can make traditional LED dimmable lighting to be intelligent control. This Dimmer integrated **Z-Wave** communication module to connect with **Z-Wave** gateway. The Dimmer controller can be included and operated in any **Z-Wave** network with other **Z-Wave** certified devices from other manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network. Meanwhile this controller is a security enable **Z-Wave** Plus Product (S0,S2) that is able to use encrypted **Z-Wave** plus messages to communicate to other security enable **Z-Wave** Plus products which means a security enabled controller is needed for taking full advantage of all functionality. It also supports the OVER THE AIR(OTA) feature for the product's firmware upgrade. If require the dimmer controller to be a security device that use secure/encrypted message to communicate in a **Z-Wave** network, then a security enabled **Z-Wave** controller is needed.

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

SmartStart Inclusion

SmartStart enabled products can be added into a **Z-Wave** network by scanning the **Z-Wave** QR code present on the product with a controller providing SmartStart inclusion. No further action is required and the SmartStart product will be added automatically within 10 minutes of being switched on in the network vicinity.

1. Add the dimmer controller DSK into the primary controller SmartStart Provisioning list. (If your controller does not support SmartStart inclusion, please proceed inclusion manually)
2. Power cycle once for dimmer controller and the dimmer controller will send "Explorer Auto Inclusion" frame to start SmartStart Inclusion.
3. Wait a moment, the dimmer controller should be added to the controller.

Note: The dimmer controller will Start SmartStart Inclusion when it is removed from a **Z-Wave** network. The Dimmer has a DSK string, you can key in first five digit to increment SmartStart process, or you can scan QR code. The QR code can be found on the Dimmer controller or in the box.
Ex: 65286-19008-32952-20593-44872-18102-41266-46651

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 in-wall dimmer.
3. Triple Press the reset button on the dimmer, it will set the dimmer into inclusion mode. The purple indicator light will stay solid on for 10 seconds 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 reset button, the dimmer will be set to exclusion mode, and waiting to be excluded, then the dimmer will be excluded from the network.
Method 2: Factory reset the dimmer 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 reset button for over 5 seconds, the dimmer 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

Association Groups	Group Name	Max Nodes	Description
Group 1	Lifeline	5	The ASSIC of Lifeline: 4C 69 66 65 6C 69 6E 65 1. When press and hold down "Reset" button over 5s to reset the dimmer send "Device Reset Locally Notification CC" to associated devices of this group to report factory reset information. 2. When load state changes send "Switch Multilevel Report CC" to associated devices of this group.
Group 2	Basic Set	5	Basic Set: 42 61 73 69 63 20 53 65 74 1. Short press "Knob" turn on the dimmer Sends Basic Set (0xFF) to associated devices. 2. Short press "Knob" turn off the dimmer Sends Basic Set (0x00) to associated devices.
Group 3	Switch Multilevel	5	Switch Multilevel: 53 77 69 74 63 68 20 4D 75 6C 74 69 6C 65 76 65 6C 1. "Turn knob to the left" sends Switch Multilevel Set (to keep associated devices in sync with this device) to associated devices. 2. "Turn knob to the right" Sends Switch Multilevel Set (to keep associated devices in sync with this device) to associated devices.
Group 4	External Button	5	External Button: 45 78 74 65 72 6E 61 6C 20 42 75 74 74 6F 6E 1. External Button hold send Switch Multilevel Start Level Change (Switchover dimmer Up/Down) 2. External Button release send Switch Multilevel Stop Level Change.

Set and unset associations:
(Note: All association information will be cleared automatically once the dimmer is excluded from a network.)
Set association by operating primary controller/gateway to send packets to the dimmer:
The primary controller/gateway sends packets to the dimmer using "Command Class ASSOCIATION"

Technical Data	
Wireless Range	up to 100 m outside, on average up to 40 m inside buildings
SDK	6.81.03
Explorer Frame Support	Yes
Device Type	Light Dimmer Switch
Generic Device Class	GENERIC_TYPE_SWITCH_MULTILEVEL
Specific Device Class	SPECIFIC_TYPE_POWER_SWITCH_MULTILEVEL
Role Type	Always On Slave (AOS)
Routing	Yes

SUPPORTED COMMAND CLASS

The function of the Dimmer as a security and Non-security device is identical.

When a node includes into a S0 or S2 **Z-Wave** network, the node supports S0 or S2 unauthenticated class, S2 authenticated and so does the supported CCs.

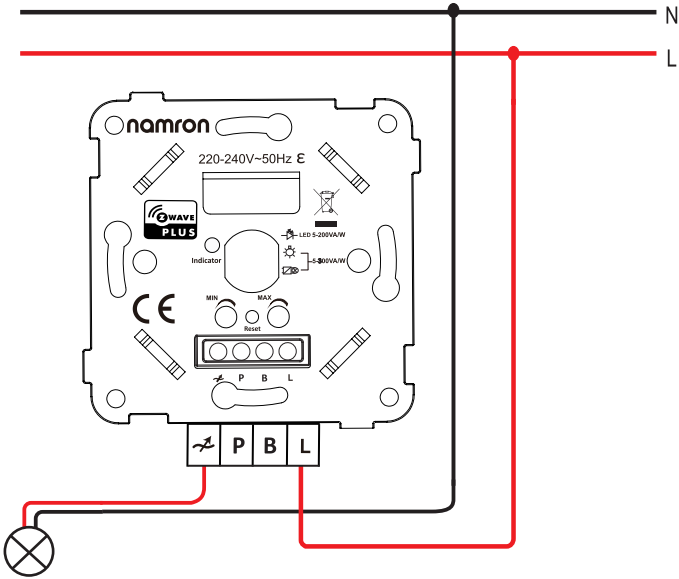
Node Info		Security Command Supported Report	
COMMAND_CLASS_ZWAVEPLUS_INFO	V2	COMMAND_CLASS_MANUFACTURER_SPECIFIC	V2
COMMAND_CLASS_TRANSPORT_SERVICE	V2	COMMAND_CLASS_VERSION	V2
COMMAND_CLASS_SECURITY	V1	COMMAND_CLASS_SWITCH_MULTILEVEL	V4
COMMAND_CLASS_SECURITY_2	V1	COMMAND_CLASS_METER	V3
COMMAND_CLASS_SUPERVISION	V1	COMMAND_CLASS_CONFIGURATION	V2
		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

Configuration Command Class

Parameter	Size	Description	Default Value
1	1	State After Power Restored:The state the switch should return to once power is restored after power failure. 0 - off 1 - on 2 - Returns to level before Power Outage	00
2	1	Notification when load status change: The Dimmer will send notification to associated device(Group Lifeline)when status of Dimmer load is changed. 0 - The function is disabled. 1- Send Switch Multilevel Report.	01
3	1	Default dimming speed,unit is second. Valid Value:0-100 0 - Instantly. 1- Fast. ... 100 - Slow.	05
5	1	Enable or Disable external switch to pair network. 0 - Disable. 1- Enable.	0
6	1	Setting dimming way. 0- Linear dimming. 1- Logarithmic dimming.	0
7	1	Setting default brightness when turn on the dimmer from off status Setting of 0 means that the dimmer will use parameter 1. Valid value: 0-99	0
8	1	Setting delay time when turn off the load,unit is second. Valid value: 0-60	0

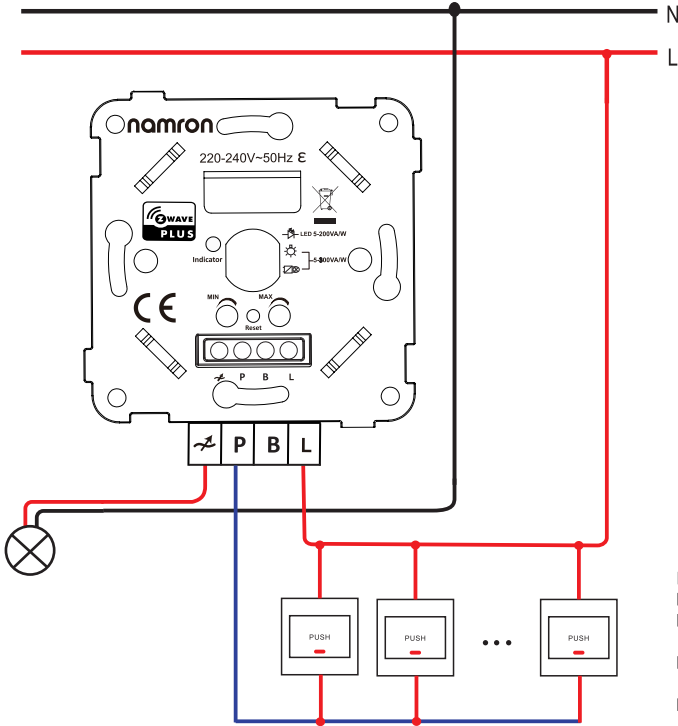
10. Wiring diagram

One-way wiring connection



Multiway master&Slave wiring connection

Once connected with a push switch, click the push switch to switch ON/OFF; press and hold down it to increase/decrease light intensity.



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