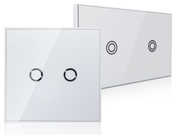
NEO Coolcam

Light Switch

User Manual



Thank you for your support
Please read the user manual carefully before operating.
Please keep the user manual for future reference.

Product Introduction

Light Switch is an intelligent device that can be remotely controlled through Z-Wave network and radio waves. In the Z-Wave network communications, light switch can be connected to any Z-Wave gateway.
When using radio waves, light switch can be used in conjunction with Z-Wave gateway. The frequency of radio waves used by gateway and switch is like this: different countries or areas, the radio frequency is different. Each light switch has a unique ID code.When we add or remove the switch from the alarm host, just place light switch in the Z-Wave network range of gateway.
Then we can easily find the switch through the device ID code. In communication with gateway, light switch not only can send signals to Z-Wave gateway, but also can receive signals from it. When touch the button on light switch, it would send signals to Z-Wave gateway, then gateway can correctly display the switch on / off state; when light switch receives signals from gateway, the switch state would be remotely switched on/off.

Technical Parameters

- Power: 110 – 230V AC, ±10%, 50/60Hz
- Rated Load Current: 10A
- Power consumption: 0.8W
- Power Output: 2000W
- Operating mode: touch-sensitive
- Working temperature: 0-70℃
- Wireless protocol: Z-Wave
- Wireless frequency: 908.4MHz US, 868.4MHz EU
- Wireless range: Outdoor 80 meters, indoor 45 meters
- Dimensions (Dx Wx H):
  EU:86mm x 86mm x 34mm
  US:120mm x 74mm x 37mm

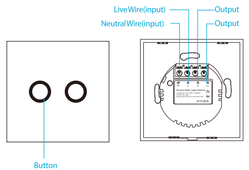
Technical Information

- State "on" or "off" of switch can be remotely switched through app
- State "on" or "off" of switch can be viewed through app
- Conveniently and quickly switch power supply
- Assure household electrical safety
- Can be controlled by Z-Wave Gateway

What's in the box ?

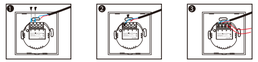
- Light Switch 1pcs
- Screws 4pcs
- User manual 1pcs

Product Configuration



Installation Steps

Light Switch(EU) Installation

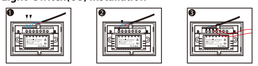


Remove the screws, connect Live wire to L,Neutral wire to N.

Screw on the screws

Connect household loads to the L1 and L2 of light switch

Light Switch(US) Installation

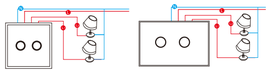


Remove the screws, connect Live wire to L,Neutral wire to N.

Screw on the screws

Connect household loads to the L1 and L2 of light switch

Connection Sketch Map



Note:
1.Please disconnect the power before operation.
2.Below blue wire is neutral wire (N); The red wire is live wire(L).
3.In the state of electricity, do not directly touch the wiring part by hand.
4.The maximum current can not exceed 16A.

Network Configuration

Z-Wave Network Inclusion/Exclusion/Reset

Light Switch EU/US 1CH

Add	1. Set Z-Wave Controller into inclusion mode 2. Power on the device. 3. Touch the button 3 times within 1.5s. 4. The device will be entered into inclusion mode automatically.	All Led lights will be blinked with 1s interval until inclusion successful.
Remove	1. Set Z-Wave Controller into exclusion mode 2. Power on the device. 3. Touch the button 3 times within 1.5s 4. The Bulb will be entered into exclusion mode automatically.	All Led lights will be blinked 3 times with 0.5s interval.
Factory Reset[1]	1. Power on the device. 2. Keep holding touched the button for 10s until the led turn to red, then release.	
Product Test Mode	1. Press and hold the buttton. 2. Power on the device, device will enter factory product test mode	Led will blink with 100ms interval.

Notice 1: Factory Reset will clear all Z-Wave Network data of the light switch (include home id, node id, etc…) saved in memory, and restore all configuration parameters to factory default. Please use this procedure only when the network primary controller is missing or otherwise inoperable.

Light Switch EU/US 2CH

Add[1]	1. Set Z-Wave Controller into inclusion mode 2. Power on the device. 3. Touch any button 3 times within 1s. 4. The device will be entered into inclusion mode automatically.	All Led lights will be blinked with 0.4s first and then 1s interval until inclusion successful.
Remove	1. Set Z-Wave Controller into exclusion mode 2. Power on the device. 3. Touch any button 3 times within 1s 4. The Bulb will be entered into exclusion mode automatically.	All Led lights will be blinked 3 times with 0.4s interval.
Factory Reset[2]	1. Power on the device. 2. Keep holding touched the button for 10s until the led turn to red, then release.	SWITCH_BINARY_REPORT DEVICE_RESET_LOCALLY_NOTIFICATI ON All Led lights will be light on and blink.
Product Test Mode	Touch any button 3 times within 1s	All Led lights will be blinked 5 times with 0.4s interval

Notice 1: When device enters into inclusion mode, the device all functionality will be useless. The inclusion mode will be timeout after 30s, user can press the button 3 times within 1s to terminate inclusion mode.

Notice 2: Factory Reset will clear all Z-Wave Network data of the light switch (include home id, node id, etc…) saved in memory, and restore all configuration parameters to factory default. Please use this procedure only when the network primary controller is missing or otherwise inoperable.

Associations

Light Switch EU/US 1CH

This device supports 1 association groups, and supports max 5 associated nodes in group 1. The Command Class supported by each association group is shown in the table below:

Group	Command Class	Command
1 (Lifeline)	COMMAND_CLASS_SWITCH_BINARY COMMAND_CLASS_DEVICE_RESET_LOCALLY	SWITCH_BINARY_REPORT DEVICE_RESET_LOCALLY_NOTIFICATI ON

Light Switch US/EU 2CH

Root (Endpoint 0) Group

The device supports 3 association groups, and each group supports max 2 associated nodes in root group.Group 1, Lifeline – All nodes which associated in group 1(lifeline group) will receive the messages that send by device through lifeline.
The Command Class supported by each association group is shown in the table below:

Group	Command Class	Command
1 (Lifeline)	COMMAND_CLASS_SWITCH_BINARY COMMAND_CLASS_DEVICE_RESET_LOCALLY	SWITCH_BINARY_REPORT DEVICE_RESET_LOCALLY_NOTIFICATI ON
2 (Mapping to EP 1)	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_REPORT
3 (Mapping to EP 2)	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_REPORT

Endpoint 1 Group

This Endpoint supports 2 groups, and each group supports max 5 associated nodes. Group 1 is endpoint 1 lifeline group. This group is mapping to group 1 in root group. The Command Class supported by each association group is shown in the table below:

Group	Command Class	Command
1 (Lifeline)	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_REPORT
2	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_REPORT

Endpoint 2 Group

This Endpoint supports 2 groups, and each group supports max 5 associated nodes. Group 1 is endpoint 2 lifeline group. This group is mapping to group 1 in root group. The Command Class supported by each association group is shown in the table below:

Group	Command Class	Command
1 (Lifeline)	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_REPORT
2	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_REPORT

Light Switch Functionality

1.Switch

There are two ways for controlling the Light Switch.The one is touch button to turn on/off switch. Another is Z-Wave command class via network.
The commands that operated the switch via Z-Wave Controller or Others Devices that associated it by Command Class are listed as below table.

Light Switch EU/US 1CH

State	Command Class	Command	Value
ON	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_SET	0xFF
	COMMAND_CLASS_BASIC	BASIC_SET	0xFF
	COMMAND_CLASS_SWITCH_ALL	SWITCH_ALL_ON	
OFF	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_SET	0x00
	COMMAND_CLASS_BASIC	BASIC_SET	0x00
	COMMAND_CLASS_SWITCH_ALL	SWITCH_ALL_OFF	

Light Switch US/EU 2CH

State	Command Class	Command	Value
ON	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_SET	0xFF
	COMMAND_CLASS_BASIC	BASIC_SET	0xFF
OFF	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_SET	0x00
	COMMAND_CLASS_BASIC	BASIC_SET	0x00

2.Timing

The device also provides the function of timing, and users can turn off the device by opening this function and setting the time cycle, the setting method of which is shown in "Command Class Configuration".

Advanced Configuration

Light Switch EU/US 1CH

The device supports the controller to configure parameters of the device through Configuration Command Class, and the device has 6 parameters available for users to set according to their different needs:

1. Relay On/Off Status Saved Enable
This parameter defines the on/off status of relay is need to save or not. The status will be saved when relay status is changed if this parameter is set to '1'; otherwise the relay status is not saved. The Light Switch will restore the relay On/Off status previous when power on again.

Parameter	NumberSize (Byte)	Available Settings	Default value
1	1	0, 1	1

2. Backlight Enable
This parameter defines the backlight state for touch button. The backlight led is on when Light Switch power on if this parameter is set to '1'; otherwise the backlight led is off. The default value is '1'.

Parameter	NumberSize (Byte)	Available Settings	Default value
2	1	0, 1	1

3. Relay On/Off Indicate
This Parameter defines the relay state. The led will be turn on with pink color when the button is touched to turn on relay if this parameter is set to '1'; otherwise the led is off. The default value is '1'.

Parameter	NumberSize (Byte)	Available Settings	Default value
3	1	0, 1	1

4. Button Switch Function Disable
Setting this configuration as '0' will be disabling to turn on and off the relay by pressed button.

Paramter	NumberSize (Byte)	Available Settings	Default value
4	1	0, 1	1

5. Timer Enable
Setting this configuration as '1' will start the timing function of the plug, and the length of time is determined by the setting of "Configuration: No.7".
This function can only provide the time to turn off device function when the device is open.

Parameter	NumberSize (Byte)	Available Settings	Default value
1	1	0, 1	0

6. Time Length Setting
This configuration sets the time length for turning off the device. This configuration is only valid when "Configuration No.5" is set to '1'. Unit: minute.

Parameter	NumberSize (Byte)	Available Settings	Default value
6	2	32767	150

Light Switch EU/US 2CH

The device supports the controller to configure parameters of the device through Configuration Command Class, and the device has 8 parameters available for users to set according to their different needs:

1. Relay On/Off Status Saved Enable
This parameter defines the on/off status of relay is need to save or not. The status will be saved when relay status is changed if this parameter is set to '1'; otherwise the relay status is not saved. The Light Switch will restore the relay On/Off status previous when power on again.

Parameter	NumberSize (Byte)	Available Settings	Default value
1	1	0, 1	1

2. Backlight Enable
This parameter defines the backlight state for touch button. The backlight led is on when Light Switch power on if this parameter is set to '1'; otherwise the backlight led is off. The default value is '1'.

Parameter	NumberSize (Byte)	Available Settings	Default value
2	1	0, 1	1

3. Relay On/Off Indicate
This Parameter defines the relay state. The led will be turn on with pink color when the button is touched to turn on relay if this parameter is set to '1'; otherwise the led is off. The default value is '1'.

Parameter	NumberSize (Byte)	Available Settings	Default value
3	1	0, 1	1

4. Root Device Controlled Settings
This parameter defines which endpoint is mapped to root device (Endpoint 0). The valid values are explained as follows. The defaul value is '1:0 – No endpoint is mapped to root endpoint
1 – Endpoint 1 is mapped to root endpoint
2 – Endpoint 2 is mapped to root endpoint
3 – Both endpoint 1 and 2 are mapped to root endpoint.
For example, assumes this parameter is set to '1' (default value). Controller or other devices (such as door/window sensor, motion sensor, etc) that associated the Light Switch send a command BASIC_SET = 0xFF to Light Switch, the relay in endpoint 1 will be turned on; other relay status will not be changed.

Parameter	NumberSize (Byte)	Available Settings	Default value
4	1	0-3	1

5. Button Switch Function Disable
Setting this configuration as '0' will be disabling to turn on and off the relay by pressed button.

Parameter	NumberSize (Byte)	Available Settings	Default value
5	1	0, 1	1

6. Timer Enable
Setting this configuration as '1' will start the timing function of the plug, and the length of time is determined by the setting of "Configuration: No.7".
This function can only provide the time to turn off device function when the device is open.

Parameter	NumberSize (Byte)	Available Settings	Default value
6	1	0, 1	0

7. Channel 1 Off Time Setting
This configuration sets the time delay to turn off switch channel 1 when channel 1 is turned on. This configuration is only valid when "Configuration No.6" is set to '1'. Unit: minute.

Parameter	NumberSize (Byte)	Available Settings	Default value
7	2	32767	0

8. Channel 2 Off Time Setting
This configuration sets the time delay to turn off switch channel 2 when channel 2 is turned on. This configuration is only valid when "Configuration No.6" is set to '1'. Unit: minute.

Parameter	NumberSize (Byte)	Available Settings	Default value
8	2	32767	0

Multi Channel Command Class
This device supports 2 endpoints, and both endpoints are supported the same device type, command class descript as blow:
Device Type: On/Off Power Switch
Support Command Class:
1) Non-Security Include in No-Security
ControllerCOMMAND_CLASS_ZWAVEPLUS_INFO,
COMMAND_CLASS_ASSOCIATION,

COMMAND_CLASS_ASSOCIATION_GRP_INFO,
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION,
COMMAND_CLASS_SWITCH_BINARY,
COMMAND_CLASS_SUPERVISION

2) No-Security Include in Security Controller:
COMMAND_CLASS_ZWAVEPLUS_INFO,
COMMAND_CLASS_SECURITY, COMMAND_CLASS_SECURITY_2,
COMMAND_CLASS_SUPERVISION

3) Security Include in Security Controller:
COMMAND_CLASS_ASSOCIATION,
COMMAND_CLASS_ASSOCIATION_GRP_INFO,
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION,
COMMAND_CLASS_SWITCH_BINARY,
COMMAND_CLASS_SUPERVISION

Usage:
All Commands must be encapsulated by Multi Channel Command Class. Two Endpoints are same device type and same control method.
Endpoint 1 control method:
On: SWITCH_BINARY_SET = 0xFF or BASIC_SET = 0xFF OFF: SWITCH_BINARY_SET = 0x00 or BASIC_SET = 0x00
Endpoint 2 control method:
On: SWITCH_BINARY_SET = 0xFF or BASIC_SET = 0xFF OFF: SWITCH_BINARY_SET = 0x00 or BASIC_SET = 0x00

SmartStart & S2 Security Function

SmartStart

This device supports SmartStart function. QR code printed by laser can be found on surface of product and the outside of packing box. And the full DSK code is printed can be found on the packing box.
The device will enter SmartStart if the device is not included in network after power up. And then
2nd SmartStart time delay approximately 16s
3rd SmartStart time delay approximately 32s
4th SmartStart time delay approximately 64s
5th SmartStart time delay approximately 128s
6th SmartStart time delay approximately 256s
7th SmartStart time delay approximately 512s
Afterwards, the Smartstart mode will be auto running with 512 second interval until device is included successfully.

Security Network

The device supports the security function with and S2 + SmartStart encrypted communication. The device will auto switch to the security mode when the device included with a security controller. In the security mode, the follow commands must use security or security_2 command class wrapped to communicate, otherwise the device will not response any commands.

Security Keys

This device supports security levels are listed in below table:

Light Switch EU/US 1CH

Security Levels	Support (Yes/No)
SECURITY_KEY_S0	No
SECURITY_KEY_S2_UNAUTHENTICATED	Yes
SECURITY_KEY_S2_AUTHENTICATED	Yes
SECURITY_KEY_S2_ACCESS	No

Light Switch EU/US 2CH

Security Levels	Support (Yes/No)
SECURITY_KEY_S0	No
SECURITY_KEY_S2_UNAUTHENTICATED	Yes
SECURITY_KEY_S2_AUTHENTICATED	No
SECURITY_KEY_S2_ACCESS	No

Command Classes

All Supports Command Class

This device supports Z-Wave Command Class as follows:
* COMMAND_CLASS_ZWAVEPLUS_INFO (V2)
* COMMAND_CLASS_SECURITY_2 (V1)
* COMMAND_CLASS_TRANSPORT_SERVICE (V2)
* COMMAND_CLASS_VERSION (V3)
* COMMAND_CLASS_POWERLEVEL (V1)
* COMMAND_CLASS_ASSOCIATION (V2)
* COMMAND_CLASS_MULTI_CHANNEL (V4)
* COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION (V3)
* COMMAND_CLASS_ASSOCIATION_GRP_INFO (V1)
* COMMAND_CLASS_MANUFACTURER_SPECIFIC (V2)
* COMMAND_CLASS_DEVICE_RESET_LOCALLY (V1)
* COMMAND_CLASS_SWITCH_ALL (V1) [Only for 1CH]
* COMMAND_CLASS_SWITCH_BINARY (V2)
* COMMAND_CLASS_CONFIGURATION (V1)
* COMMAND_CLASS_SUPERVISION (V1)

All Security Command Class in Security Network

The Z-Wave Command Classes are secured in security network as follows:
* COMMAND_CLASS_VERSION (V2)
* COMMAND_CLASS_POWERLEVEL (V1)
* COMMAND_CLASS_ASSOCIATION (V2)
* COMMAND_CLASS_MULTI_CHANNEL (V4)
* COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION (V3)
* COMMAND_CLASS_ASSOCIATION_GRP_INFO (V1)
* COMMAND_CLASS_MANUFACTURER_SPECIFIC (V2)
* COMMAND_CLASS_DEVICE_RESET_LOCALLY (V1)
* COMMAND_CLASS_SWITCH_ALL (V1) [Only for 1CH]
* COMMAND_CLASS_SWITCH_BINARY (V2)
* COMMAND_CLASS_CONFIGURATION (V1)

Non-Secure Command Class in Secure Network

Unsecure Command Class which included in a secure Z-Wave Network is listed in unsecure node information.
* COMMAND_CLASS_ZWAVEPLUS_INFO (V2)
* COMMAND_CLASS_SECURITY_2 (V1)
* COMMAND_CLASS_TRANSPORT_SERVICE (V2)
* COMMAND_CLASS_SUPERVISION (V1)

Guarantee

1.The Guarantee is provided by our company (hereinafter "Manufacture").
2.The Manufacturer is responsible for equipment malfunction resulting from physical defects (manufacturing or material) for 12 months from the date of its purchasing.
3.During the Guarantee period, the Manufacturer shall repair or replace any defects, free of charge.
4.In special cases, when the device cannot be replaced with the device of the same type (e.g. the device is no longer available in the commercial offer), the Manufacturer may replace it with a different device which has similar technical parameters as the faulty one. Such activity shall be considered as fulfilling the obligations of the Manufacturer. The Manufacturer shall not refund money paid for the device.
5.The guarantee shall not cover:
a. mechanical damages (cracks, fractures, cuts, abrasions, physical deformations caused by impact, falling or dropping the device or other object, improper use or not observing the operating manual);
b. damages resulting from external causes, e.g.: flood, storm, fire, lightning, natural disasters, earthquakes, war, civil disturbance, force majeure, unforeseen accidents, theft, water damage, liquid leakage ,battery spill, weather conditions, sunlight, sand, moisture, high or low temperature, air pollution
c. damages caused by malfunctioning software, attack of a computer virus, or by failure to update the software as recommended by the Manufacturer.

All above is for reference only, please see the subject products.