Curtain Switch

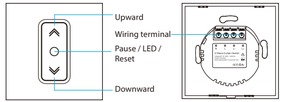
User Manual

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

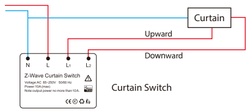
Technical Parameters

- Curtain switch can be controlled remotely by APP
- Compatible with any Z-Wave gateway
- Switching power supply is convenient and fast
- To protect the safety of household electricity
- Power: 80 – 250V AC, 50/60Hz
- Current Output: 10A
- Power consumption: 1.2W
- 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 40 meters
- Dimensions (Dx Wx H): 86mm x 86mm x 34mm

Product Configuration



Connection Sketch Map



Network Configuration

Z-Wave Network Inclusion/Exclusion/Reset

There have 3 touch buttons on front panel and the middle touch button is multi-function for stopping curtain switch, device inclusion, exclusion, factory reset and sending node info.

Add [1]	1.Set Z-Wave Controller into inclusion mode 2.Power on the device. 3.Touch the middle button 3 times within 1s. 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-WaveController into exclusion mode 2.Power on the device. 3.Touch the middle button 3 times within 1s 4.The device will be entered into exclusion mode automatically.	All Led lights will be blinked 3 times with 0.5s interval.
Factory Reset [2]	1. Power on the device. 2. Keep touching the middle button for 10s until the led turn to red, then release.	
Product Test Mode	1.Short Pin4 of J3 on PCB to earth. 2.Power on the device, device will enter factory product test mode	Led will blink with 100ms interval.
Send Node-Info	Touch the middle button 3 times within 1s	

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 1.5s to terminate inclusion mode.

Notice 2: Factory Reset will clear the device all Z-WaveNetwork data (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

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_MULTILEVEL COMMAND_CLASS_DEVICE_RESET_LOCALLY	SWITCH_MULTILEVEL_REPORT DEVICE_RESET_LOCALLY_NOTIFICATION

CURTAIN SWITCH FUNCTIONALITY

1. Switch

There are two ways for controlling the curtain switch:
1.Touch any button to control curtain switch.
Touch the up button to control curtain to move to opened direction. Touch the down button to control curtain to move to closed direction.
Touch stopped button to control curtain to stop move and keep current position.
Notice: If the device is not calibrated, you must keep touch up/down button to control the curtain move to the position you want, then release it. The up/down button released will be caused curtain stop moving if device is not calibrated.

2.The commands that operated the curtain switch via Z-Wave Controller or Others Devices that associated it by Command Class are listed as below table.

State	Command Class	Command	Value
ON/OFF	COMMAND_CLASS_SWITCH_MULTILEVEL	SWITCH_MULTILEVEL_SET	0～99,255
	COMMAND_CLASS_SWITCH_MULTILEVEL	SWITCH_MULTILEVEL_START_LEVEL_CHANGE	0～99
	COMMAND_CLASS_SWITCH_MULTILEVEL	SWITCH_MULTILEVEL_STOP_LEVEL_CHANGE	
	COMMAND_CLASS_BASIC	BASIC_SET	0～99,255
	COMMAND_CLASS_SWITCH_BINARY	SWITCH_BINARY_SET	0, 255

2. On/Off Time Calibration

This device must be calibrated after installation. The calibration method is listed as below:
1. Touch and hold the up button to move curtain to fully opened status.
2. Keep touching the middle button for 5s until two red Led turn on and blue led turn off, then release the button. Meanwhile, blue led will be turned on, that is to say the device has entered in to calibration mode. If device has been calibrated, this operation will reset the calibration value to un-calibrated status.
3. Touch and hold the down button until the curtain move to fully closed status, and then release touched button. The corresponding red led will be turned off.
4. Touch and hold the up button until the curtain move to fully opened status, and then release touched button. The corresponding red led will be turned off.

5. Calibration is finished, the two red led will blink 3 times with 1s interval.

If device has been calibrated, you can touch the button briefly to control curtain to move; need not keep touch the button always during curtain movement.

If the curtain switch is not calibrated, the blue led will blink once with 3s interval.

The timeout for calibration procedure is 600s. If the calibration is not competed during these time, device will restore to the un-calibrated state.

3 Command Class Multilevel Switch

All SWITCH_MULTILEVEL_START_LEVEL_CHANGE and SWITCH_MULTILEVEL_SET commands will be ignored by device if device is not calibrated.

This device support Multilevel Switch Command Class Version 4. Device will ignore some parameter settings encapsulated in this command class.
1. Multilevel Switch Set Command
In this command, the parameter DURATION will be ignored by device.
SWITCH_MULTILEVEL_SET = 0x00 control the motor to move the curtain fully closed. SWITCH_MULTILEVEL_SET = 0xFF control the motor to move the curtain fully opened.
SWITCH_MULTILEVEL_SET = 0x01 … 0x63 control the motor to move the curtain partially opened.
2. Multilevel Switch Start Level Change Command
In this command, the parameters START LEVEL and DURATION will be ignored by

device. Device will control the curtain to move from current position to opened or closed direction; this is decided by parameter UP/DOWN bit value.

4. Command Class Basic

All BASIC_SET command will be ignored by device if device is not calibrated.
BASIC_GET command will be return 0xFE if device is not calibrated.
The Basic Command Class is mapped as follows:
BASIC_SET 0x00 … 0x63 is mapped to SWITCH_MULTILEVEL_SET 0x00 … 0x63
BASIC_SET 0xFF is mapped to SWITCH_MULTILEVEL_SET 0xFF
BASIC_GET is mapped to SWITCH_MULTILEVEL_GET
BASIC_REPORT is mapped to SWITCH_MULTILEVEL_REPORT

5. Command Class Switch Binary

All SWITCH_BINARY_SET command will be ignored by device if device is not calibrated.
SWITCH_BINARY_GET will be return 0xFE if device is not calibrated or curtain is not at fully closed position or curtain is not at fully opened position. 0x00 will be reported if curtain is at fully closed position. 0xFF will be reported if curtain is at fully opened position.

Motor will be stopped if SWITCH_BINARY_SET value is asking motor to move in the opposite direction while it is already in movement state.
SWITCH_BINARY_SET 0x00 will move the curtain to fully closed.
SWITCH_BINARY _SET 0xFF will move the curtain to fully opened.

Advanced Configuration

The device supports the controller to configure parameters of the device through Configuration Command Class, and the device has 4 parameters available for users to set according to their different needs:

1. Up/Down Button Swap Enable
This parameter defines if the action for Up/Down touch button need to exchange. This is very useful setting after the device is installation;'0' – disabled; '1' – enabled.

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

2. Motor Rotation Direction Swap Enable
This parameter defines if the direction for left/right motor rotation need to exchange. This is very useful setting after the device is installation;'0' – disabled; '1' – enabled.

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

3. Backlight Enable
This parameter defines the backlight state for touch button. The backlight led is on when curtain 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
3	1	0, 1	1

4. Curtain Moving Indicate Enable
This parameter defines the led enabled status when curtain is moving.
'1' – Enable Led Indicated. When curtain is moving to opened direction, the led in up button will be lighted on;'0' – Disable Led Indicated;The default value is '1';

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

5. Button Switch Function Disable
Setting this configuration as '0' will be disabled to control the curtain motor by pressed any buttons.

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

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:

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

*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_ASSOCIATION (V3)
*COMMAND_CLASS_ASSOCIATION_GRP_INFO (V1)
*COMMAND_CLASS_MANUFACTURER_SPECIFIC (V2)
*COMMAND_CLASS_DEVICE_RESET_LOCALLY (V1)
*COMMAND_CLASS_SWITCH_MULTILEVEL (V4)
*COMMAND_CLASS_SWITCH_BINARY (V1)
*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 (V3)
*COMMAND_CLASS_POWERLEVEL (V1)
*COMMAND_CLASS_ASSOCIATION (V2)
*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_MULTILEVEL (V4)
*COMMAND_CLASS_SWITCH_BINARY (V1)
*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.