

## 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 (Lifetime)	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.

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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	
	COMMAND_CLASS_SWITCH_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, that is to 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.

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## 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)

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### 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 "Manufacturer")
- 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.

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.



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. The BASIC\_GET command will be return 0xFF if device is not calibrated. 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 0xFF 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.

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## 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.

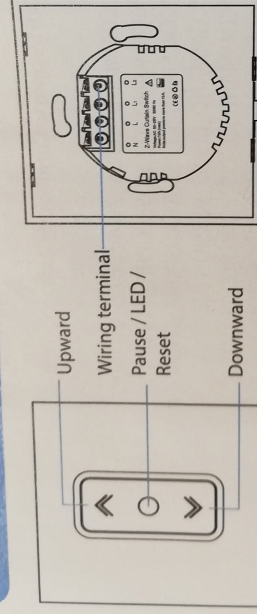
Parameter	NumberSize (Byte)	Available Settings	Default value
2	1	0, 1	0

### 3. Backlight Enable

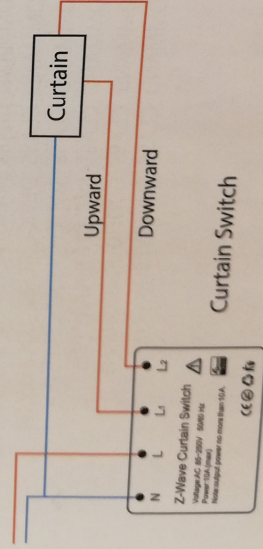
This parameter defines the backlight state for touch button. The backlight led is on when curtain Switch power on if this parameter is set to '1'; otherwise the backlight led is off. The default value is '1'.

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## Product Configuration



## Connection Sketch Map



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## Network Configuration

### Z-Wave Network Inclusion/Exclusion/Reset

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

Add <sup>1</sup>	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-Wave Controller 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 <sup>2</sup>	1. Power on the device. 2. Keep touching the middle button for 10s until the led turn to red, then release.	Led will blink with 100ms interval.
Product Test Mode	1. Short Pin4 of J3 on PCB to earth. 2. Power on the device, device will enter factory product test mode	
Send Node-Info	Touch the middle button 3 times within 1s	

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