



SMARTWINGS

Z-wave Programming Guide

INS-C033



The Remote Based on Z-Wave™Slave library of V7.16.03.

The Curtain Motor 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 Curtain Motor is a security Z-Wave device (S0,S2), so a security enabled controller is needed for take full advantage of all functionality for the Curtain Motor.

Features:

- The Curtain Motor Support to control curtains or blinds.
- The Curtain Motor Support Smart Start.

Technical Specifications

1 Technical Specifications

Communication Protocol	Z-Wave
Radio Frequency	908.42MHz (US) 868.42MHz (EU) 921.42MHz (AU)
Wireless Range	More than 200m outdoors About 70m indoors (depending on building materials)
Working current	~25mA
Operating Temperature	-10°C to + 45°C
Operating Humidity	Up to 85% non-condensing

2 Z-Wave Specifications

SDK Version	7.16.03
SDK Library	libZWaveSlave
Explorer Frame Support	Yes
Routing	No
SmartStart	Yes
Device Type	Window Covering
Basic Device Class	BASIC_TYPE_ROUTING_SLAVE
Generic Device Class	GENERIC_TYPE_SWITCH_MULTILEVEL
Specific Device Class	SPECIFIC_TYPE_CLASS_C_MOTOR_CONTROL
Role Type	Always On Slave (AOS)

3 Security and non-Security features of Curtain Motor

This device is a security enabled Z-Wave Plus™ product that is able to use encrypted Z-Wave Plus messages to communicate to other security enabled Z-Wave Plus products.

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

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.

3.1 Supported Security Levels

- SECURITY_KEY_S2_AUTHENTICATED_BIT
- SECURITY_KEY_S2_UNAUTHENTICATED_BIT

3.2 Commands List

This device requires the following command classes to be supported and recognized by your Z-Wave controller:

Command Classes	Version	Required Security Class
COMMAND_CLASS_ZWAVEPLUS_INFO_V2	2	None
COMMAND_CLASS_TRANSPORT_SERVICE_V2	2	None
COMMAND_CLASS_SECURITY_2_V1	1	None
COMMAND_CLASS_SUPERVISION_V1	1	None
COMMAND_CLASS_APPLICATION_STATUS_V1	1	None
COMMAND_CLASS_WINDOW_COVERING_V1	1	Highest granted Security Class
COMMAND_CLASS_SWITCH_MULTILEVEL_V4	4	Highest granted Security Class
COMMAND_CLASS_BASIC_V2	2	Highest granted Security Class
COMMAND_CLASS_CONFIGURATION_V4	4	Highest granted Security Class
COMMAND_CLASS_ASSOCIATION_V2	2	Highest granted Security Class
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1	1	Highest granted Security Class
COMMAND_CLASS_VERSION_V3	3	Highest granted Security Class
COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2	2	Highest granted Security Class
COMMAND_CLASS_DEVICE_RESET_LOCALLY_V1	1	Highest granted Security Class
COMMAND_CLASS_BATTERY_V1	1	Highest granted Security Class
COMMAND_CLASS_NOTIFICATION_V8	8	Highest granted Security Class
COMMAND_CLASS_POWERLEVEL_V1	1	Highest granted Security Class
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V5	5	Highest granted Security Class
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3	3	Highest granted Security Class
COMMAND_CLASS_INDICATOR_V3	3	Highest granted Security Class

4 All functions of each trigger

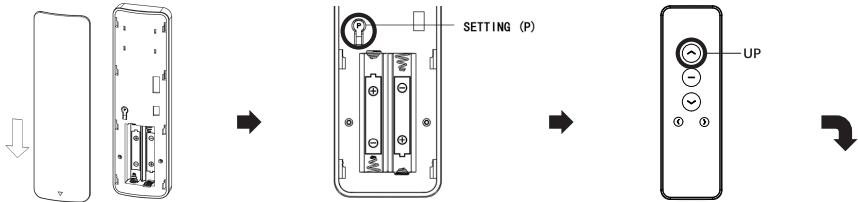
NOTE: Only on the condition that all the blinds has been set up with upper and lower limits and can be controlled by remote, the following operations with the smart speakers can be moved on !!!

Honeycomb Shade

Connect or Disconnect Z-wave

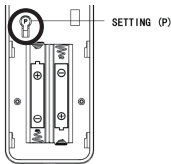
Method one:

Remove the rear battery cover of the remote, Press the left P button (1 jog), UP (1 jog), and P (1jog), Indicates that you entered the pairing mode.



Note: the motor jogs once

Note: the motor jogs once



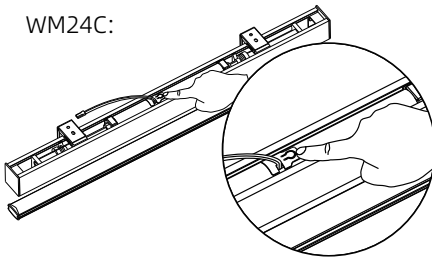
Note: the motor jogs once

**Acitvate Zigbee
Network Pairing
Mode**

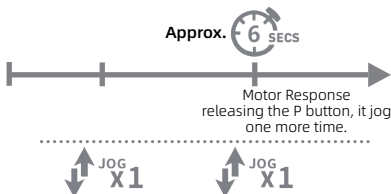
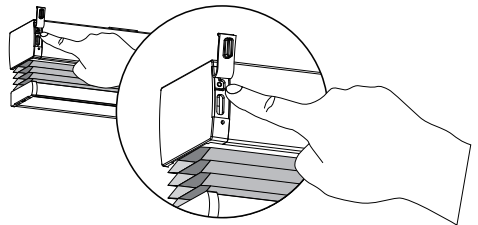
Method two:

Press and hold the P1 button on the motor head for 6 seconds until the motor jog twice, and after releasing the P button, it jog one more time.

WM24C:



WM24D:



Approx. 6 SECS

Motor Response
releasing the P button, it jog
one more time.

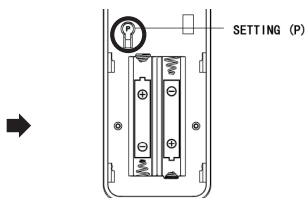
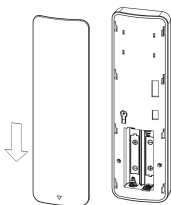
**Activate Z-Wave
Network Pairing Mode**

Roller Shade

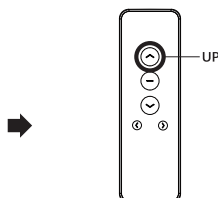
Connect or Disconnect Z-wave

Method one:

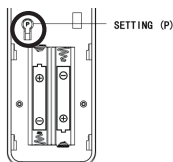
Remove the rear battery cover of the remote, Press the left P button (1 jog), UP (1 jog), and P (1jog), When the Red led light on indicates that you entered the pairing mode.



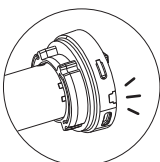
Note: the motor jogs once



Note: the motor jogs once



Note: the motor jogs once

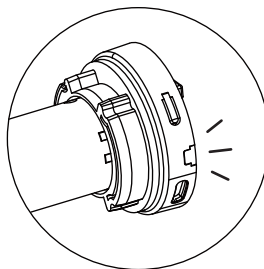
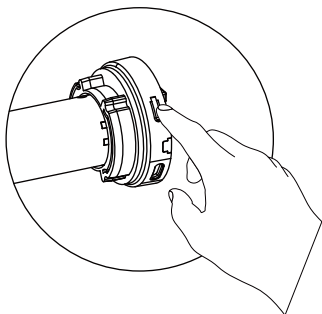


Note: Red led light on

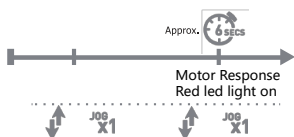
Activate Zigbee Network Pairing Mode

Method two:

Press and hold the P1 button on the motor head for 6 seconds until the motor jog twice then release the button . When the Red led light on indicates that you entered the pairing mode.



Note: Red led light on



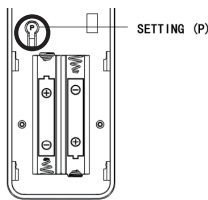
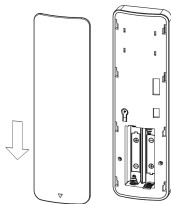
Activate Z-Wave Network Pairing Mode

Drapery

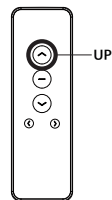
Connect or Disconnect Z-wave

Method one:

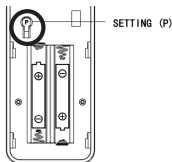
Remove the rear battery cover of the remote, Press the left P button (1 flash and 1 beep), UP (1 flash and 1 beep), and P (1 flash and 1 beep), When the Red led light on indicates that you entered the pairing mode.



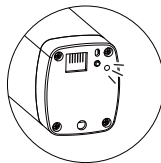
Note: 1 flash and 1 beep



Note: 1 flash and 1 beep



Note: 1 flash and 1 beep



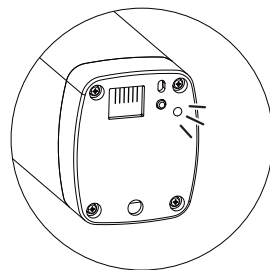
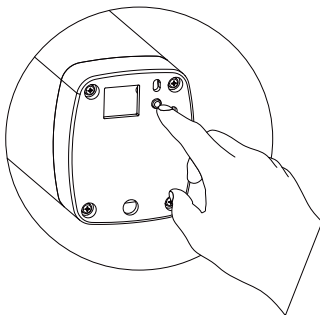
Note: the Red led light on



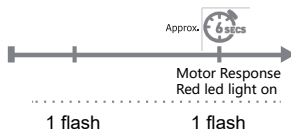
Activate Zigbee
Network Pairing
Mode

Method two:

Press and hold the P1 button on the motor head for 6 seconds until the green led 2 flashes then release the button . When the Red led light on indicates that you entered the pairing mode.



Note: the green led light
flashes

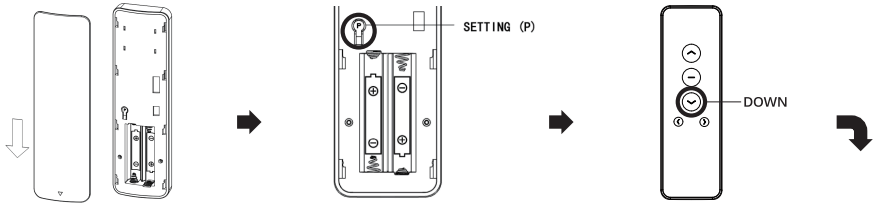


Activate Z-Wave
Network Pairing Mode

Z-wave network factory reset

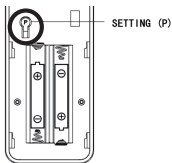
Honeycomb Shade or Roller Shade

Remove the rear battery cover of the remote, Press the left P button (1 jog), DOWN (1 jog), and P (1 jog).



Note: the motor jogs once

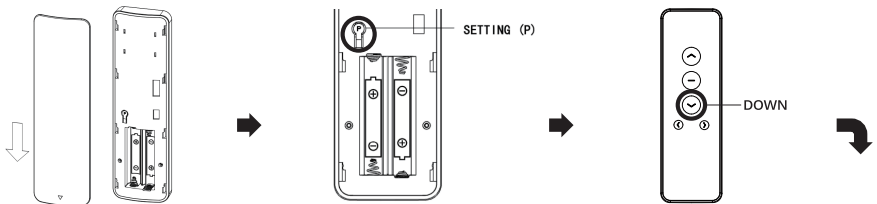
Note: the motor jogs once



Note: the motor jogs once

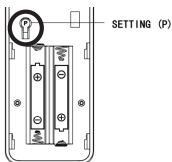
Drapery

Remove the rear battery cover of the remote, Press the left P button (1 flash and 1 beep), DOWN (1 flash and 1 beep), and P (1 flash and 1 beep).



Note: 1 flash and 1 beep

Note: 1 flash and 1 beep



Note: 1 flash and 1 beep

5 Special Rule of Each Command

5.1 Library

- Basic Device Class: BASIC_TYPE_ROUTING_SLAVE
- Generic Device Class: GENERIC_TYPE_SWITCH_MULTILEVEL
- Specific Device Class: SPECIFIC_TYPE_CLASS_C_MOTOR_CONTROL

5.2 Z-Wave Plus Info Report Command Class

Z-Wave Plus Version: 0x02

Role Type: 0x05 (ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON)

Node Type: 0x00 (ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE)

Installer Icon Type: 0x1A00

(ICON_TYPE_GENERIC_WINDOW_COVERING_POSITION_ENDPOINT_AWARE)

User Icon Type: 0x1A00

(ICON_TYPE_GENERIC_WINDOW_COVERING_POSITION_ENDPOINT_AWARE)

5.3 Basic Command Class

Basic Set = 255 maps to Multilevel Switch = 255

Basic Set = 0 maps to Multilevel Switch = 0

Basic Set = 1-99 maps to Multilevel Switch = 1-99

Basic Get/Report maps to Multilevel Switch Get/Report.

5.4 Association Command Class

The Curtain Motor support 1 association group and max 5 nodes.

Grouping Identifier	Max Nodes	Send Commands
Group 1	0x05	<ol style="list-style-type: none"> 1. Switch Multilevel Report. Changes of curtain caused by user action or receiving of Multilevel Set or Basic Set or Window Covering Set will trigger. 2. Device Reset Locally. Config Button is press and hold for 10 seconds. 3. Indicator Report Receiving Indicator Set will trigger this CC.
Group 2	0x05	Basic set Send Basic Set to Group 2 when receiving Basic Set
Group 3	0x05	Switch Multilevel Set Send Switch Multilevel Set to Group 3 when receiving Switch Multilevel Set
Group 4	0x05	Switch Multilevel Start Level Change/Stop Level Change Send Switch Multilevel Start Level Change/Stop Level Change to Group 4 when receiving Switch Multilevel Start Level Change/Stop Level Change

5.5 Notification Command Class

Notification Type	Notification Event/State	Description
Power Management (0x08)	(0x02)AC mains disconnected	When USB disconnected and insert battery again.
	(0x03)AC mains re-connected	When insert the USB cable.

5.6 Indicator Command Class

The Curtain Motor support the Indicator Command Class, version 3 and support the Indicator ID 0x50 (Identify) and Properties ID 0x03, 0x04 and 0x05

5.7 Configuration Set Command Class

#	Version	Size	Range	Description	Default
1	Set to start holding hands	1	0-1	This parameter can be used to set the motor open hand start function 0x01 = open 0x00 = close	0x01
2	Set motor direction	1	1-3	This parameter can be used to set the motor rotation direction. 0x01 = forward 0x02 = opposite 0x03 = reversing	0x01
3	Manually set open borders	1	0-1	Manually set / cancel open borders 0x00 = cancel manually open the border 0x01 = Manually set the open boundary	0x00
4	Manually set close borders	1	0-1	Manually set / cancel close borders 0x00 = cancel manually close the border 0x01 = Manually set the close boundary	0x00
5	Set motor status	1	1-3	Set motor status 0x01 = Open(UP) 0x02 = Close(DOWN) 0x03 = Stop(STOP)	0x03
6	Calibration the limit position	1	1-3	Calibration the limit position 0x01 = Up Limit Position 0x02 = Down Limit Position 0x03 = Third Limit Position	0x01
7	Delete the limit position	1	0-3	Delete the limit position 0x00 = Delete All Limit Position 0x01 = Delete Up Limit Position 0x02 = Delete Down Limit Position 0x03 = Delete Third Limit Position	0x00
8	Low battery level alarm threshold	1	0-50	Configure low battery report threshold, sends low battery report via battery report when battery level drops under setting. Unit %	0x00A
9	Battery auto report interval time	4	0-2678400	Interval time set in seconds. Battery Report will be sent when timeout. 0 - disable	0x00000E10
10	Battery change report threshold	1	0-50	Battery level range = 1% to 50%.	0x05