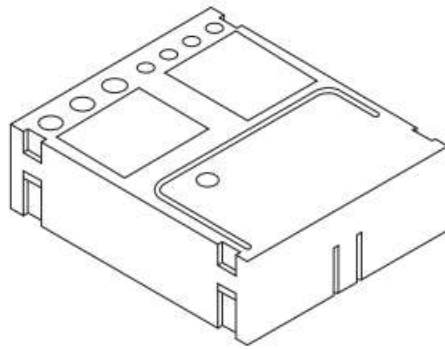


Smart Dual Relay Switch Module Engineering Specifications



V1.0

The Switch Module based on Z-Wave™ Slave library of V7.18.03. This Switch integrated Z-Wave communication module to connect with Z-Wave gateway.

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

Features:

- Manual or Z-Wave on/off control of 2 electrical loads.
- Add Z-Wave to two wall switches with a single device.
- Installs behind your existing wall switch.
- Remembers and restores on/off status after power failure.
- Built-in Z-Wave signal repeater.
- SmartStart and S2 Security for a safer network.

1 Technical Specifications

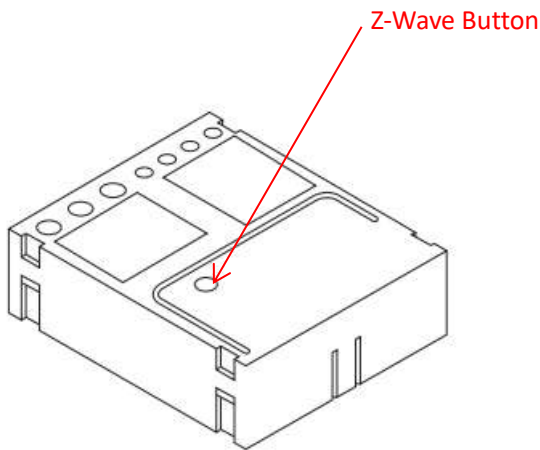
Model Number	ZWN-RSM2-PLUS
Z-Wave Signal Frequency	908.42MHz
Range	Up to 131 feet line of sight
Power	120~277VAC, 50/60Hz
Maximum Load	100W LED bulbs,500W incandescent,5A resistive per relay
Operating Temperature	32-104° F (0-40° C)
Operating Humidity	Up to 85% non-condensing

2 Z-Wave Specifications

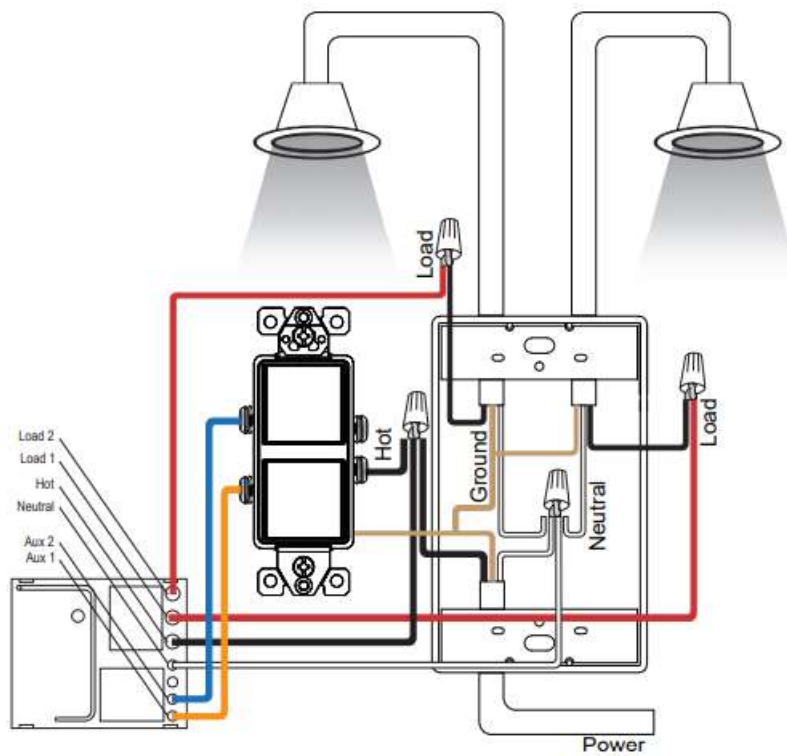
SDK Version	7.18.03
SDK Library	libZWaveSlave
Explorer Frame Support	Yes
Routing	Yes
SmartStart	Yes
Device Type	Binary Switch
Basic Device Class	BASIC_TYPE_ROUTING_SLAVE

Generic Device Class	GENERIC_TYPE_SWITCH_BINARY
Specific Device Class	SPECIFIC_TYPE_NOT_USED
Role Type	Always On Slave (AOS)

3 Familiarize yourself with Switch



3.1 Installation



4 Security and non-Security features

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 S0/S2 Z-Wave network, the node supports S0/S2 unauthenticated class, S0/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.

4.1 Supported Security Levels

- SECURITY_KEY_S0_BIT
- SECURITY_KEY_S2_AUTHENTICATED_BIT
- SECURITY_KEY_S2_UNAUTHENTICATED_BIT

4.2 Commands List

Command Classes	Version	Required Security Class
COMMAND_CLASS_ZWAVEPLUS_INFO_V2	2	None
COMMAND_CLASS_TRANSPORT_SERVICE_V2	2	None
COMMAND_CLASS_SECURITY_V1	1	None
COMMAND_CLASS_SECURITY_2_V1	1	None
COMMAND_CLASS_SUPERVISION_V1	1	None
COMMAND_CLASS_APPLICATION_STATUS_V1	1	None
COMMAND_CLASS_BASIC_V2	2	Highest granted Security Class
COMMAND_CLASS_SWITCH_BINARY_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_V3	3	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_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_MULTI_CHANNEL_V4	4	Highest granted Security Class

COMMAND_CLASS_INDICATOR_V3	3	Highest granted Security Class
ENDPOINT 1/2		
COMMAND_CLASS_ZWAVEPLUS_INFO_V2	2	None
COMMAND_CLASS_SUPERVISION_V1	1	None
COMMAND_CLASS_SECURITY_V1	1	None
COMMAND_CLASS_SECURITY_2_V1	1	None
COMMAND_CLASS_SWITCH_BINARY_V2	2	Highest granted Security Class
COMMAND_CLASS_ASSOCIATION_V2	2	Highest granted Security Class
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V3	3	Highest granted Security Class
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3	3	Highest granted Security Class

5 All functions of each trigger

5.1 SmartStart

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.

Add the Switch into the Z-Wave network via SmartStart (SmartStart Inclusion):

- a. Add Switch DSK into the primary controller SmartStart Provisioning List (If you don't know how to do this, refer to its manual, DSK usually print on the main body).
- b. Remove the battery from the Switch. A few seconds later, reinsert battery in the DUT.
- c. The Switch will send "Z-Wave protocol Command Class" frame to start SmartStart Inclusion.

LOAD will blink during the inclusion, and then solid for 2 seconds to indicate that the inclusion is successful, otherwise the LOAD will blink for 2 times in which you need to repeat the process form step b

5.2 Power on

In the network:

LOAD will blink 1 time.

Not in the network:

LOAD will blink 1 time and start SmartStart..

5.3 Short press Z-Wave Button three times

Add the Switch into the Z-Wave network (**Manual Inclusion**):

- a. Power on your Switch, set your Z-Wave controller into add/inclusion mode.
- b. Short press Z-Wave Button three times(or Short press any external key five times).
- c. LOAD will blink during the inclusion, and then solid for 2 seconds to indicate that the inclusion is successful, otherwise the LOAD will blink for 2 times in which you need to repeat the process form step a

Remove Switch from a Z-Wave network (**Manual Exclusion**):

- a. Power on your Switch, and let the Z-Wave primary controller into remove/exclusion mode.
- b. Short press Z-Wave Button three times(or Short press any external key five times).
- c. LOAD will blink during the inclusion, and then solid for 2 seconds to indicate that the inclusion is successful, otherwise the LOAD will blink for 2 times in which you need to repeat the process form step a.

5.4 Reset Switch to factory default

Press and hold Z-Wave button at least 10 seconds, LOAD start blinking quickly, release Z-Wave button. The Switch will reset itself to factory default by sending a "Device Reset Locally Notification" to gateway when the button is released.

Note: Please use this procedure only when the network primary controller is missing or otherwise inoperable.

6 Special Rule of Each Command

6.1 Basic Command Class

Basic CC is maps to Switch Binary CC

6.2 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: 0x0700 (ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH)

User Icon Type: 0x0700 (ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH)

6.3 Association Command Class

Below is an overview of the different association groups for each the endpoints.

Endpoint	Grouping Identifier	Max Nodes	Mapping	Send Commands
Root Device	1(Lifeline Group)	0x05	Endpoint1 Endpoint2	1. Switch Binary Report. Switch will send Switch Binary Report when Switch status changed. 2. Device Reset Locally. Press and hold Z-Wave button at least 10 seconds. 3.Indicator Report
	2	0x05	Endpoint1	1. Basic Set. Switch will send Basic Set when Switch status changed.
	3	0x05	Endpoint2	1. Basic Set. Switch will send Basic Set when Switch status changed.
Endpoint 1	1	0x00		1. Switch Binary Report. Switch will send Switch Binary Report when Switch status changed.
	2	0x05		1. Basic Set. Switch will send Basic Set when Switch status changed.
Endpoint 2	1	0x00		1. Switch Binary Report. Switch will send Switch Binary Report when Switch status changed.
	2	0x05		1. Basic Set. Switch will send Basic Set when Switch status changed.

6.4 Indicator Command Class

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

6.5 Configuration Command Class

#	Name	Size	Range	Description	Default
0x05	Power on status	1	0~2	When the device is powered on, the initial status. 0= Off 1= On 2= Last State	0

0x13	Child lockout enable	1	0~1	Child lockout feature can enabled and disabled local control. 0= Disable 1= Enable	0
0x14	Delayed off time	1	0~240	Delay off means when users press button to turn off the load, there's a reaction time.	0

Name	Info	Parameter Number	Default Value(dec)	Max Value(dec)	Min Value(dec)	Size	ReadOnly	Format	Altering capability
Power on status	Power on status	0x05	0	2	0	1	No read-only	Unsigned integer	false
Child lockout enable	Child lockout enable	0x13	0	1	0	1	No read-only	Unsigned integer	false
Delayed off time	Delayed off time	0x14	0	240	0	1	No read-only	Unsigned integer	false