



## Outdoor Smart Plug

(ZWA042-A)



# Engineering Specifications

This product can be operated in any Z-Wave™ network with other Z-Wave Plus™ certified devices from other manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network. Each module is designed to act as a repeater, which will re-transmit a radio frequency (RF) signal by routing the signal around obstacles and radio dead spots to ensure that the signal is received at its intended destination. ZWA042-A is a security enabled Z-Wave Plus device. A security Enabled Z-Wave Plus Controller must be used in order to fully utilize the product.

## 1 Library and Command Classes

### 1.1 Embedded SDK

v 7.16

### 1.2 Device Type

- ROOT device type  
Generic Type: GENERIC\_TYPE\_SWITCH\_BINARY(0x10)  
Specific Type: SPECIFIC\_TYPE\_NOT\_USED(0x00)
- Endpoint #1 type  
GENERIC\_TYPE: GENERIC\_TYPE\_SWITCH\_BINARY(0x10)  
SPECIFIC\_TYPE: SPECIFIC\_TYPE\_NOT\_USED(0x00)
- Endpoint #2 type  
GENERIC\_TYPE: GENERIC\_TYPE\_SWITCH\_MULTILEVEL(0x11)  
SPECIFIC\_TYPE: SPECIFIC\_TYPE\_COLOR\_TUNABLE\_MULTILEVEL(0x02)

### 1.3 Role Type

Always On Slave (AOS): ROLE\_TYPE\_SLAVE\_ALWAYS\_ON (0x05)

### 1.4 Command Class

- ROOT CC List

Command Class Name	Version	Required Security Class
Z-Wave Plus Info	V2	none
Security 2	V1	none
Supervision	V1	none
Transport Service	V2	none

Association	V2	highest granted
Association Group Information	V3	highest granted
Multi-Channel Association	V3	highest granted
Version	V3	highest granted
Manufacturer Specific	V2	highest granted
Device Reset Locally	V1	highest granted
Power Level	V1	highest granted
Indicator	V3	highest granted
Firmware Update Meta Data	V5	highest granted
Configuration	V4	highest granted
Notification	V8	highest granted
Multi-Channel	V4	highest granted
Switch Binary	V2	highest granted
Clock	V1	highest granted
Scene Activation	V1	highest granted
Scene Actuator Configuration	V1	highest granted

- Endpoint #1 CC List

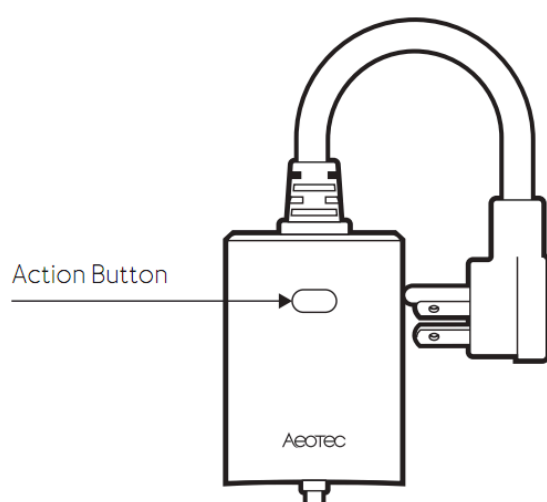
Command Class Name	Version	Required Security Class
Z-Wave Plus Info	V2	none
Security 2	V1	none
Supervision	V1	none
Association	V2	highest granted
Association Group Information	V3	highest granted
Multi-Channel Association	V3	highest granted
Switch Binary	V2	highest granted
Scene Activation	V1	highest granted
Scene Actuator Configuration	V1	highest granted
Notification	V8	highest granted

- Endpoint #2 CC List

Command Class Name	Version	Required Security Class
Z-Wave Plus Info	V2	none
Security 2	V1	none

Supervision	V1	none
Association	V2	highest granted
Association Group Information	V3	highest granted
Multi-Channel Association	V3	highest granted
Color Switch	V3	highest granted
Switch Multilevel	V4	highest granted

## 2 Familiarize yourself with your Outdoor Plug



## 3 Z-Wave Network Operation

Functions	Action Button		Description
Inclusion	1x tap	Out of network	Send NIF for network pairing/ inclusion (yellow LED remains solid state). If pairing is successful, the LED will flash white/green for 2s, then deactivates.
		In network	Controls/ toggles output ON/OFF
Exclusion	2x tap	In network	Send NIF for network unpairing/ exclusion (purple LED keeps ON for 2s and then OFF).
		Out of network	N/A
Nothing	Press and hold for 1 - 5s		N/A.
Entering RF power level test mode	Press and hold for 5 - 9s		Cyan led will remain solid, then release the button, the Plug starts power level testing. The led will be light up with 1 of 3 colors for 2 seconds after the diagnosing is complete. (Red = bad, Yellow = ok, Green = Good)

Nothing	Press and hold for 9 – 15s	N/A. Red Led remains solid on.
Nothing	Press and hold for 15-20s	N/A. Red Led will blink.
Factory reset	Press and hold for more than 20s	Blue LED will blink, it starts the factory reset process, then return to factory reset LED status.  Note: Please use this procedure only when the network primary controller is missing or otherwise inoperable.

1) This device must be used in conjunction with a Security 2 Enabled Z-Wave Controller in order to fully utilize all implemented functions.

## 4 Association Groups

The device supports 1 association group that supports max 5 associated nodes.

Group 1 is Lifeline group, all nodes associated in this group will receive the messages sent by device through Lifeline.

The Command Class supported by each association group is shown in the table below:

- **ROOT device:**

ID	Name	Node Count	Profile	Function
1	Lifeline	5	General: Lifeline	<b>Device Reset Locally Notification:</b> Issued when Factory Reset is performed. <b>Indicator Report:</b> Issued when included successfully. <b>Switch Binary Report:</b> Issued when output status is changed. <b>Basic Report:</b> Issued when output status is changed. <b>Multilevel Switch Report:</b> Issued LED brightness report. <b>Color Switch Report</b> Issued LED color report.

- **Endpoint #1:**

ID	Name	Node Count	Profile	Function
1	Lifeline	0	General: Lifeline	Switch Binary Report

- **Endpoint #2:**

ID	Name	Node Count	Profile	Function
1	Lifeline	0	General: Lifeline	Multilevel Switch Report Color Switch Report

## 5 Basic Command Map

- Basic CC is mapped to Switch Binary Command Class.
- Basic Set is mapped to Switch Binary Set.

## 6 Indicator Command Class

Indicator ID	Property ID
0x50 (NODE IDENTIFY)	0x03(ON OFF PERIOD)
0x50 (NODE IDENTIFY)	0x04(ON OFF CYCLES)
0x50 (NODE IDENTIFY)	0x05(ONE TIME ON OFF PERIOD)

## 7 Manufacturer Information

Parameter	Value
Manufacturer ID 1	0x03
Manufacturer ID 2	0x71
Product Type ID 1	0x01
Product Type ID 2	0x03
Product ID 1	0x00
Product ID 2	0x2A

## 8 Configuration

User can change the default settings by the below configuration parameters. After device reset, all these parameters will be set to their default values.

Parameter Number	Name	Information	Size	MIN	MAX	Default	Description
1	Change LED light setting	Setting to change the reaction of LED setting	1	0	2	2	0- Disable LED completely 1- Turn on between particular times only (Night Light Mode) 2- Display ON/OFF status 3- Display the reverse state of ON/OFF status 4- Display always ON state.
2	Night Light Mode	Night Light ON time	4	0	4294967295	1572864 (18: 00)	0xRRHHMMSS: RR= reserved HH =Hours MM = Minutes SS = Seconds  Default= 0x00180000 (18:00)
3	Night Light Mode	Night Light OFF time	4	0	4294967295	393216 (6:00)	0xRRHHMMSS: RR= reserved HH =Hours MM = Minutes SS = Seconds  Default= 0x00060000 (6:00)

4	Flash/Strobe LED light	Set the Duration / Play	1	0	255	0	0- indicates that it is not blinking 1-255 set the duration and start the blinking process
5	Flash/Strobe LED light	Set the amount of blinks per second	1	1	24	5	1-24 blink times per second
7	Action Button control the Plug	Plug always on - prevents the plug from being turned off via its button	1	0	2	1- 0	0- the plug will operate as normal and can be turned on or off 1- the button on smart plug will be disabled for on and off commands, but still work for network removal or inclusion 2- the plug will ignore any commands to turn it off AND it'll ignore any use of the button (but the button will still work for network removal or inclusion)
8	Power Restore	Status after power failure.	1	0	2	2	0- returns to last known state when repowered 1- return to ON 2- return to OFF
30	Alarm settings	Determines if alarms are enabled in Switch, and what Switch will react to which alarms.	1	0	128	0	0 - Disable all alarm settings 1 - smoke alarm 2 - CO alarm 4- CO2 alarm 8 - Heat alarm 16 - Water alarm 32 - Access Control (DW Sensor open) 64 - Home Security (intrusion) 128 - Motion Sensor trigger
31	Alarm Response in Device	Enabled by (Alarm settings), and determines what the switch does in the case an alarm is triggered	1	0	3	0	0 - disable, no reaction to alarm settings 1 - Switch is ON 2 - Switch if OFF 3 - 255: Sets rate at which Switch turns ON and OFF in seconds (ie. if set to 3, then switch will turn ON in 0.3 seconds, and then turn OFF in 0.3 seconds in a cycle until user disables the alarm manually, if set to 255, then it will cycle every 25.5 seconds).
32	Setting to disable alarm	Determines the method of disabling the alarm of the device	1	0	255	1	0 - Can be disabled by 1x tapping switches action button once 1 - Can be disabled by 2x tapping Switches action button within 1 second. 2 - Can be disabled by 4x tapping Switches action button within 2 seconds 3 - Can be disabled by pressing and holding Switches action button for 10 seconds. 4 - Can be disabled by Z-Wave commands. (State idle 0x00 event) 5 - 255: Sets the duration of the alarm in seconds (ie. Customer sets this setting to 50, the alarm state of the Switch will disable after 50 seconds)
40	Auto Turn Off Timer	Timer that auto turn off once turned on.	4	0	86400	0	0- disabled 1 – 86400 Auto turn off after 1-86400s once

							turned on
41	Auto Turn On Timer	Timer that auto turn on once turned off.	4	0	86400	0	0- disabled 1 – 86400 Auto turn on after 1-86400s once turned off

## 9 Security Network

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.

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

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	Yes

## 10 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. You can find the QR code on the bottom of the product, like this:



PIN: XXXXX

And the DSK information will be shown like this:

DSK: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

## 11 Specifications

Power Supply	AC120V, 60Hz
Max Amperage	Max 15A
Max Wattage	1800W (US)
Max Standby Power	0.8W
IP Rating	IP65
LED	RGB LED



<b>Communication Frequency</b>	908.40MHz, 916.00MHz (US)
<b>Communication Range</b>	Up to 70m+ indoors (line of sight) or 150m outdoors.
<b>Communication Certification</b>	Z-Wave Plus v2 with SmartStart
<b>Operational Temperature</b>	0 - 40°C / 32 - 104°F
<b>Operating Humidity</b>	8% to 80%