Outdoor Smart Plug

（ZWA042）

FCC

Federal Communications Commission (FCC) Statement FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

WARNING

RISK OF FIRE
RISK OF ELECTRICAL SHOCK
RISK OF BURNS
CONTROLLING APPLIANCES:
EXERCISE EXTREME CAUTION WHEN USING Z-Wave™ DEVICES TO CONTROL APPLIANCES. OPERATION OF THE Z-Wave™ DEVICE MAY BE IN A DIFFERENT ROOM THAN THE CONTROLLED APPLIANCE, ALSO ANUNINTENTIONAL ACTIVATION MAY OCCUR IF THE WRONG BUTTON ON THE REMOTE IS PRESSED. Z-Wave™ DEVICES MAY AUTOMATICALLY BE POWERED ON DUE TO TIMED EVENT PROGRAMMING. DEPENDING UPON THE APPLIANCE, THESE UNATTENDED OR UNINTENTIONAL OPERATIONS COULD POSSIBLY RESULT IN A HAZARDOUS CONDITION. FOR THESE REASONS, WE RECOMMEND DO NOT RETURN THIS PRODUCT TO THE STORE THE FOLLOWING: DO NOT USE Z-Wave™ DEVICES TO CONTROL ELECTRIC HEATERS OR ANY OTHER APPLIANCES WHICH MAY PRESENT A HAZARDOUS CONDITION DUE TO UNATTENDED OR UNINTENTIONAL OR AUTOMATIC POWER ON CONTROL.

Specifications

ITEM	INFORMATION
Model	ZWA042
Power Supply	AC 120V 60HZ
Signal(Frequency)	908.42MHz
Range	Up to 100 feet line of sight between the Wireless Controller and the closest Z-Wave™ receiver module.
Operating Temperature Range	5-104° F (-10-40° C)

- Specifications subject to change without notice due to continuing product improvement
- Website:www.aeotec.com/

Introduction

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.

ZWA037-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.

- **Endpoint ROOT Type**
  - GENERIC_TYPE: GENERIC_TYPE_SWITCH_BINARY(0x10)
  - SPECIFIC_TYPE: SPECIFIC_TYPE_NOT_USED(0x00)
  - APP ICON TYPE: ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH(0x0700)
- **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)

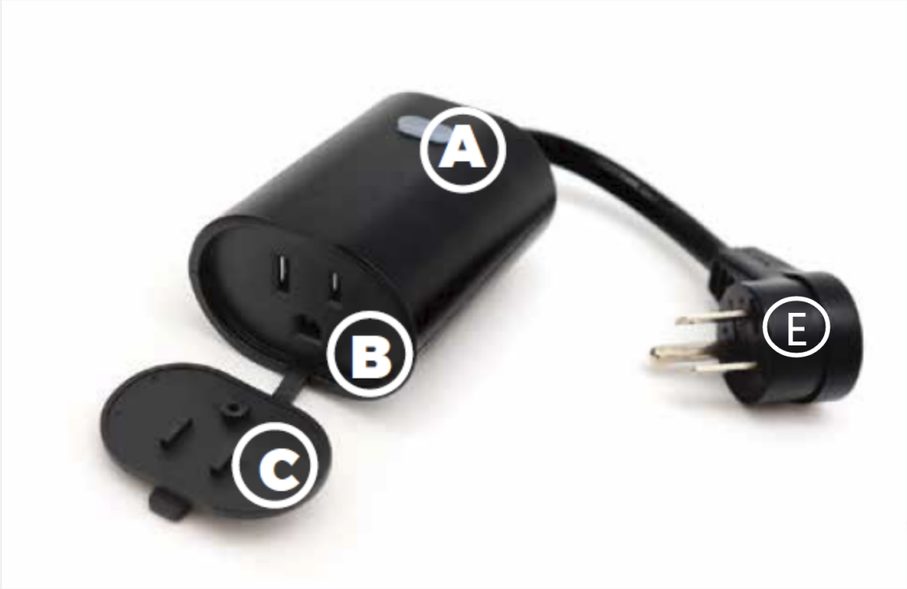
Key Features

- Remote ON/OFF control via the Z-Wave™ controller
- Manual ON/OFF control

- Support Association Group and Auto Report switch status
- Support firmware upgrades via Over-the-air (need Gateways support)
- Support SmartStart

Product Overview

A. on/off button
B. Output Outlet
C. Protector
E. InPut



Button & Indicator Function Description

- **Button Definition**

ITEMS	Action (time unit: second)	Description
1	Tap one time [0.04,1]	Out of network: **Z-Wave network inclusion(ADD)** (send out NIF of full functionality) In network: N/A In/Out of network: controls/toggles output on/off
2	Tap two times [0.04, 1]	Out of network: N/A In network: **Z-Wave network exclusion(REMOVE: Send out NIF) .**
4	Press and hold [5,10]	Enter RF power level test mode
5	Press and hold [15,20]	**Reset to factory default setting and then send Device Reset Locally to primary controller.** Note: Please use this procedure only when the network primary controller is missing or otherwise inoperable.
6	Press and hold [22,∞)	If still do not release the button, nothing will happen. LED should continue to pulse blue for unpaired state.

- **LED indicator**

Action	Press down Action Button	Release Action Button
Tap one time [0.04,1]	Solid Yellow Status	Turns on a solid yellow status, If a new node id is assigned to this device, the yellow LED will keep solid until whole network processing is complete (or entering. If successful, the LED will flash white -> green -> white -> green (at a rate of 250ms per each color change) for 2 seconds. After 2 seconds have finished, use typical paired status LED indicators for ON/OFF status from parameter #1. **Control function:** controls/toggles output on/off
Tap twotimes	Secure / Non-secure network: **Purple Led keeps ON for 2 seconds and then OFF.**	If the exclusion is successful, the Led will pulse a blue LED color based on unpair status.
Press and hold [1,1]	LED should revert back to LED state if paired or unpaired.	
Press and hold [2,5]	Solid orange status	LED should revert back to LED state if paired or unpaired.
Press and hold [5,9]	Solid cyan status	cyan led will remain solid upon releasing the button, which indicates the network quality is entering diagnosing, 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)
Press and hold [9,15]	Solid red led status	
Press and hold [15,20]	red color will blink on and off at a rate of 200ms for 2 seconds and then should pulse blue color based on unpair status.	Reset to factory default setting and then send Device Reset Locally to primary controller Note: Please use this procedure only when the network primary controller is missing or otherwise inoperable.

Action	Press down Action Button	Release Action Button
Press and hold [22,∞)	Pulses Blue Color slowly based on unpaired status.	

Adding Your Device To Hub

- The device support two methods of inclusion, When using a Z-Wave Plus™ certified controller choose Network Wide Inclusion or SmartStart.
  - TAP the button once to **ADD/INCLUDE** the device.
- Network Wide Inclusion To A Z-Wave™ Network
  - TAP the button twice to **REMOVE/EXCLUDE** the device
  - Refer to your primary controller instructions to process the inclusion / exclusion setup procedure.
  - When prompted by your primary controller, click the Z-Wave button one times .
- The device is compatible with SmartStart.
  SmartStart enabled products can be added into a Z-Wave™ network by scanning the Z-Wave QR Code found on the top of the outlet or the back of the box 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 and in the network vicinity.

QR Code and DSK

- The QR code are stocked to the side of the case, DSK is included in the QR code.
- The DSK code can be found on the DSK label which is attached on the packaging box.

PACKAGE	DEVICE

Command Class

- Endpoint 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

Command Class Name	Version	Required Security Class
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

Basic Set Mapping

- Basic CC is mapped to Switch Multilevel CC and Binary Switch CC as below:

Basic Set Node	Mapping
ENDPOINT ROOT	Binary Switch Set EP1
ENDPOINT 1	Binary Switch Set EP1
ENDPOINT 2	Multilevel Switch Set EP2
## Indicator Command Class	

- The indicator (blue color) will flashes according the indicator set command received from HUB.

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)

Notification

Endpoint	Type	Events	Description
0	Heat Alarm(0x04)	0x02(Overheat)	Air temperature is high.
1	Heat Alarm(0x04)	0x02(Overheat)	Air temperature is high.

- **Association**

Endpoint ROOT

Group ID	Name	Node Count	Profile	Function
1	Lifeline	5	General: Lifeline	Device Reset Locally Notification Indicator Report Switch Multilevel Report Basic Report(Issued when Relay triggered by scene activation control) Switch Binary Report Switch Color Report Notification 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	Switch Multilevel Report Switch Color Report

- **Group mapping**

  The endpoint 1 and 2's Lifeline Group are mapping to endpoint root's Lifeline.

Configuration Parameters

Number	Name	Information	Format / Size	Read Only	Altering	Advanced	MIN	MAX	Default	Value Description
0 1	Reaction of led	Parameter setting to change the reaction of LED setting.	1 byte unsigned integer	NO	NO	NO	0	4	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
02	Night led on time	Night Light ON time.	4 bytes unsigned integer	NO	NO	NO	0	0x00240000	0x00180000	Value setting =0xRRHHMMSS RR = reserved HH = Hours MM = Minutes SS = Seconds ● Default = 0x00180000 (6pm)
03	Night led off time	Night Light OFF time.	4 bytes unsigned integer	NO	NO	NO	0	0x00240000	0x00060000	Value setting =0xRRHHMMSS RR = reserved HH = Hours MM = Minutes SS = Seconds ● Default = 0x00060000 (6am)
04	Indicator play duration	Setting indicator play duration.	1 byte unsigned integer	NO	NO	NO	0	255	0	**0 - indicates that it is not blinking** 1- 255 will set the duration and start the blinking process This sets the timeframe of blinking in seconds Once the duration ends, the blinking will stop and will set its configuration value back to 0
05	Indicator speed	Select indicator flash speed.	1 byte unsigned integer	NO	NO	NO	1	24	5	**Sets amount of blinks per second** If set to 5, it should blink 5 times per second **Default = 5**
07	Control turn off	Prevents the plug from being turned off via its button.	1 byte unsigned integer	NO	NO	NO	0	2	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)
08	Restore status after power failure	Action in case of power out.	1 byte unsigned integer	NO	NO	NO	0	2	0	**0 - last status** 1 - power on 2 - power off
30	Alarm setting	Determines if alarms are enabled in Switch, and what Switch will react to which alarms.	1 byte unsigned integer	NO	NO	NO	0	255	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 - Yellow
31	Alarm response in device	Enabled by (Alarm settings), and determines what the switch does in the case an alarm is triggered.	1 byte unsigned integer	NO	NO	NO	0	255	0	**0 - disable, no reaction to alarm settings** 1 - Switch is ON ... 2 - Switch is 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)

Number	Name	Information	Format / Size	Read Only	Altering	Advanced	MIN	MAX	Default	Value Description
32	Alarm disable setting	Determines the method of disabling the alarm of the device.	1 byte unsigned integer	NO	NO	NO	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 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	Auto off after as soon as the switch turns ON.	4 byte unsigned integer	NO	NO	NO	0	86400	0	**0 - no auto off with timer** ... 1- 86400 seconds
41	Auto turn on timer	Auto on after as soon as the switch turns OFF.	4 byte unsigned integer	NO	NO	NO	0	86400	0	**0 - no auto on with timer** ... 1- 86400 seconds