# Pico Switch

(ZGA002)

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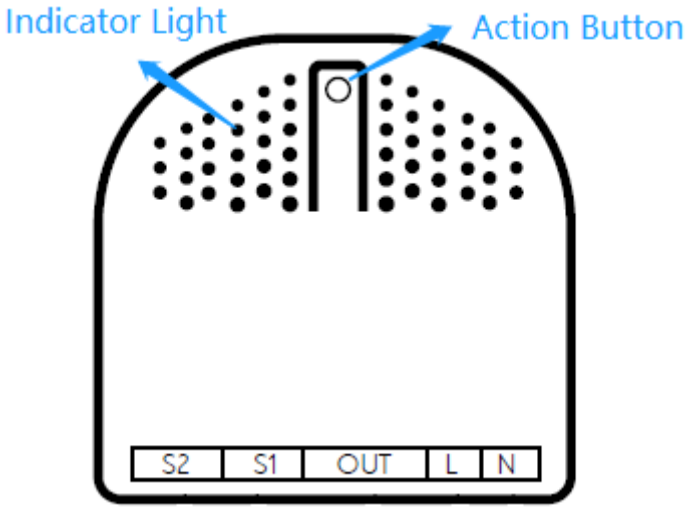
# 1 INTERFACES & ACCESSORIES




| Terminology | Description |
|---|---|
| Action Button | Used for networking, resetting, and other features. |
| Indicator Light | Used for indicating the current state of the product. |

# 2 FEATURES & SPECIFICATIONS

## 2.1 Structural Characteristics

| Parameter | Value |
|---|---|
| Product Identifier | ZGA002 |
| Dimensions | 44mm x 40mm x 21.5mm |
| Color | White |
| Usage | For indoor use. |
| Operating Temperature | 32~104°F (0~40°C) |
| Relative Humidity | 8%~80% |

## 2.2 Hardware Characteristics

| Parameter | Value |
|---|---|
| ZigBee Module | EFR32MG21 |
| RF TX Power | Max: 17.02dBm |
| Indicator Light Color | Blue |
| Buttons and Connectors | Action Button (x1) |
| Input Voltage | AU EU US (100-240V),50/60Hz |
| Battery Included | No |
| Output Capacity | 1,Resistive Ampere Rating: 16A@EU/15A@US<br>2,General Use Ampere Rating: 10A@cosΦ = 0.75~0.80<br>3,Horsepower Rating: 3.6A, 1/3Hp |
| Input Capacity | 2 Channel@Support Momentary Button/On-off Switch/SPDT Switch |
| Working Current | MAX: 150mA@230VAC,50Hz |
| Power Consumption | MAX: 1.0W |
| Over-Heat Protection | Support |
| Built-in Sensors | Temperature Sensor |
| Surge Protection | Support |

## 2.3 Software Characteristics

| Parameter | Value |
|---|---|
| Wireless Technology | ZigBee [2.4Ghz] |
| Stack | ZigBee 3.0 |
| ZigBee logical device type | Router |
| Profile | Home Automation [0x0104] |
| Device | HA/LO Profile |
| Device Type | On/Off output |
| ZigBee Compliant Platform | EFR32MG21x Family EmberZNet 6.10.3 |
| Manufacturer | AEOTEC LIMITED [0x1310] |
| Compatible | Backwards compatible to ZHA (ZigBee Home Automation)<br>Backwards compatible to ZLL (ZigBee Light Link) profile |
| Over The Air (OTA) | Support |
| Factory Reset | Support |

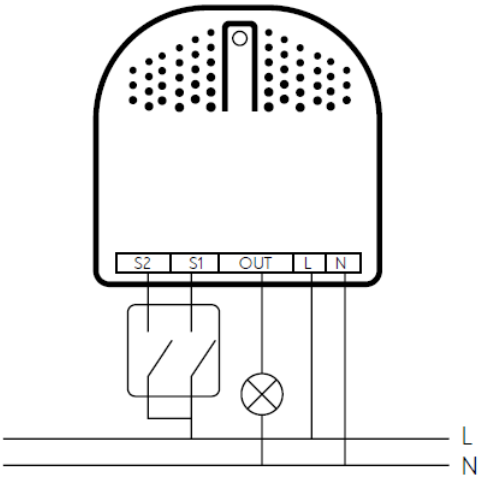
# 3 PRODUCT QUICK START

## 3.1 Important safety information

Please read this Engineering Specification carefully for correct and effective use.

Failure to follow the recommendations set forth by AEOTEC Limited may be dangerous or cause a violation of the law. The manufacturer, importer, distributor, and/or reseller will not be held responsible for any loss or damage resulting from not following any instruction in this guide or in other materials.

## 3.2 How to install the product




The product must be wired according to the diagram above.

## 3.3 How to join the product into centralized network

This product can be included and operated in any ZigBee 3.0 network with other ZigBee certified devices from other manufacturers and/or other applications.

### 3.3.1 Using Action Button

1. Set your ZigBee coordinator into connect mode to a pair a device into a network during a time. Refer to the controller/coordinator's manual if you are unsure how to perform this step.

2. Make sure that Pico Switch is powered. Its LED will breathe slowly to indicate its ready to pair.

3. Click Action Button twice quickly on Pico Switch, it will flash its blue light rapidly until it is joined into the network.

4. If pairing fails, Pico Switch Light Indicator will revert back to slow breathing light;

5. If pairing succeeds, the Light Indicator will become solid on or off depending on the state on/off state of Pico Switch. Now, this product is a part of your ZigBee home control system.

### 3.3.2 Using Install Code

Products can be paired into a ZigBee network by scanning the QR Code / Install Code located on the product with the Zigbee controller/coordinator. No further action is required, and the product will be paired automatically.

Note: What Is an Install Code?

ZigBee installation codes, sometimes also referred to as “install codes,” are provided as a means for a device to join a ZigBee network in a secure fashion. The installation code itself is a random key installed on each device during its

manufacturing. It's used to encrypt the initial network key transported from the ZigBee network's centralized Trust Center device (the coordinator) to the device being paired.

The installation code can be thought of as similar to the PIN code on Bluetooth devices when two devices are paired. The PIN code is provided as an authorization code for the parent device so that the device being paired knows it is receiving information securely, such as when a hands-free headset is paired to a smartphone.

### 3.4 How to join the product into ZLL network (as a Touch Link target)

1. Pico Switch is always in Touchlink target mode and can be joined to other networks with Touchlink commission;

2. Place the remote device within 10cm of Pico Switch. When in Touch Link communication, the indicator light will start to flash rapidly;

3. If pairing fails, Pico Switch Light Indicator will revert back to slow breathing light;

4. If pairing succeeds, the Light Indicator will become solid on or off depending on the state on/off state of Pico Switch. Now, this product is a part of your ZigBee home control system.

### 3.5 How to join other ZLL device into network (as a touch link initiator)

1. Press and hold Action Button for 2 - 5s and then release.

2. Indicator Light will animation will dim on slowly and then turns off quickly.

3. Hold the Pico Switch close to the ZLL device (must be 10cm apart).

### 3.6 How to create a distributed network

A distributed network must be created before this feature is used.

1. Press and hold Action Button for 17s, the LED will become solid.

2. Pico Switch will factory reset and then join a distributed network. If this succeeds, its Light Indicator will remain solid on/off depending on the state of the switch.

### 3.7 How to open network (created a distributed network)

The prerequisite is that a distributed network has been created.

1. Click Action Button 2 times. The Pico Switch will open network for 180 seconds, during this time, it can join other zigbee devices into the existed network.

2. Indicator Light will blink slowly.

### 3.8 How to send On/Off cluster to a binded node

1. Click external switch once.

2. Pico Switch will send on off cluster to the binded node;

### 3.9 How to send Level Control cluster to binded node

1. Press and hold external switch (momentary switch only)

2. Product will send the Level Control cluster to the binded node; Increasing / Decreases step by 5 every 200 ms while the external switch momentary button is held.

## 3.10 How to find and bind a device (as an initiator)

1. Click external switch 1 three times, endpoint 2 will enter bind initiator mode for 5 seconds, indicator light will turn on quickly and turns off slowly.

2. Click external switch 2 three times, endpoint 3 will enter bind initiator mode for 5 seconds, indicator light turns on quickly and turns off slowly.

## 3.11 How to enter identify mode (as a find and bind target)

1. Click Action Button 5 times, endpoint 1 will enter identify mode, during this time, the indicator light will flash quickly.

2. Pico switch will enter identify mode for 180 seconds.

## 3.12 How to factory reset

If the coordinator is missing or inoperable, you may need to reset the device to factory settings in order to pair it to a new Zigbee coordinator.

Make sure the product is powered. To complete the reset process manually:

1. Press and hold the Action Button for at least 10s.

2. The Indicator Light will become a slow breathing light. This indicates the factory reset operation is successful.

# 4 SOFTWARE FUNCTION DEFINITION

## 4.1 User Behavior Interaction

### 4.1.1 ZigBee Button

| User behavior | outside network | Inside network |
|---|---|---|
| Power OFF | N/A | N/A |
| Power ON | 1, If external switch is a 2-state switch, the relays will synchronize the status with the position of the external switch, otherwise all relays will turn off.<br>2, The device start the Touch Link target process automatically. Touch Link lasts only 3 seconds.<br>3. Enter ZigBee3.0 initial start up. The LED will flash quickly for about 180 sec while scanning or until the device is joined to a controller If device is not joined within 180 sec. The LED will start slow breathing. | The status of the relays is determined by the priority as follows:<br>1, If the external switch endpoint has any binded devices, and if the external switch is a 2-state switch, the relays will synchronize it.<br>2, Refer to the attribute StartUpOnOff belong to On/off cluster to determine the status of the relays.<br><br>The led will turn on for 1 second,<br>then synchronize to the status of the relays. |
| Click Action Button<br>1 time | Toggles on or off.<br><br>Indicator Light will continue slow breathing. | Toggles on or off.<br><br>Indicator light will synchronize to the status of the relays. |
| Click Action Button<br>2 times | Pair to Zigbee Controller/Coordinator:<br>Indicator Light will quickly flash blue light until it is join into the network or times out if nothing is detected after 180 seconds.<br><br>If pairing fails, Light Indicator will return to a slow breathe animation.<br><br>If pairing succeeds, the Light Indicator will enter regular light mode (constantly blue light or off based on the state of the Pico Switch). | Central network mode:<br>Nothing to be done.<br><br>Distribute network mode:<br>The device open network for 180 seconds, can join other nodes into the existed network.<br>Indicator Light will blink slowly. |
| Click Action Button<br>3 times | No function | External Switch 1 (S1) identify mode:<br>Start identify mode of external switch 1 (S1). The Light Indicator will flash rapidly while attempting to identify the switch automatically.<br><br>You may toggle/push external switch 1 to identify faster. |
| Click Action Button<br>4 times | No function | External Switch 2 (S2) identify mode:<br>Start identify mode of external switch 2 (S2). The Light Indicator will flash rapidly while attempting to identify the switch automatically.<br><br>You may toggle/push external switch 2 to identify faster. |
| Click Action Button<br>5 times | No function | Endpoint 1 Find and Bind target mode (Initiator):<br>Endpoint 1 enters find and bind target mode, this progress will continue to 180s.<br><br>Indicator Light will blink quickly while Pico Switch is scanning. |
| Press and hold Action Button<br>for [1, 2s) | No function<br>Indicator Light will turn off when pressed/held, and return to breathing light when released between 1-2s. | No function<br>Indicator Light will turn off when pressed/held, and then return to its regular light mode when released ( Light Indicator follows switch state of Pico Switch). |

| | | |
|---|---|---|
| Press and hold Action Button for [2, 5s) | No function,<br>Indicator Light will start breathing. | **Touch Link initiator mode.**<br>Trigger the device to start Touch Link initiator mode. Indicator Light will turn on solid when held between 2-5s, and fades on slowly then off quickly 5x times when released. |
| Press and hold Action Button for [5, 10s) | No function,<br>Indicator Light will speed up flashing when held between 5-10s, and returns to breathing light when released. | Indicator Light will flash even faster when held between 5 – 10s, and then returns to regular light mode when released (Light Indicator follows switch state of Pico Switch). |
| Press and hold Action Button for [10, 12s) | No function,<br>Indicator Light will become constantly light when press, and become breathing light when released. | **Factory reset**<br>When Action button is held for 10s or more, Factory Reset is performed on Pico Switch.<br><br>The Indicator Light will return to a slow breathing light, which indicates a successful factory reset operation. |
| Press and hold Action Button for [17s] | **Factory reset, then create and join a Distributed Network**<br>If joining a distributed network succeeds, it will enter regular light mode (Light Indicator follows switch state of Pico Switch). | **Factory reset, then create and join a Distributed Network**<br>If joining a distributed network succeeds, it will enter regular light mode (Light Indicator follows switch state of Pico Switch). |

### 4.1.2 External Switch

| User behavior | outside network | Inside network |
|---|---|---|
| Click 1 time | Toggles Pico Switch on/off | 1. Binding ON/OFF (server) delivery.<br>2. Toggles Pico Switch on/off |
| Click 2 times | N/A | switch 1 : Multicast delivery (group 1, recall scenes, ID 1)<br>switch 2 : Multicast delivery (group 1, recall scenes, ID 2) |
| Click 3 times | N/A | **Endpoint 2/3 Find and Bind target mode (Initiator):**<br>Switch 1 : enter endpoint 2 bind initiator mode for 5s.<br>Switch 2 : enter endpoint 3 bind initiator mode for 5s.<br><br>Indicator Light will turn on quickly and turn off slowly while in this mode. |
| Click 6 times | **Pair to Zigbee Controller/Coordinator:**<br>Indicator Light will quickly flash blue light until it is join into the network or times out if nothing is detected after 180 seconds.<br><br>If pairing fails, Light Indicator will return to a slow breathe animation.<br><br>If pairing succeeds, the Light Indicator will enter regular light mode (constantly blue light or off based on the state of the Pico Switch). | N/A |
| Press and hold | N/A | Binding Level control (server) delivery (Momentary switch only) |

## 4.2 Device type

| | | | |
|---|---|---|---|
| ZigBee Logical Device type | Router | ZigBee Security type | ZigBee 3.0 Security |

## 4.3 Device Simple Descriptor

| Endpoint | Device id | Cluster id (Server) | Cluster id (Client) |
|---|---|---|---|
| endpoint1 | 0x0002<br>HA On/Off Output | 0x0000 (Basic)<br>0x0002 (Device Temperature Configuration) | 0x0003 (Identify)<br>0x000A (Time)<br>0x0019 (OTA Upgrade) |

| | | | |
|---|---|---|---|
| | | 0x0003 (Identify)<br>0x0004 (Groups)<br>0x0005 (Scenes)<br>0x0006 (On/off)<br>0x0009 (Alarm)<br>0x0B04 (Electrical Measurement)<br>0x0702 (Simple Metering) | |
| Endpoint2 | 0x0830<br>LO Non-color Scene Controller | 0x0000 (Basic)<br>0x0003 (Identify)<br>0x1000 (ZLL Commissioning)<br>0xFD00 (switch type configuration) | 0x0003 (Identify)<br>0x0004 (Groups)<br>0x0005 (Scenes)<br>0x0006 (On/Off)<br>0x0008 (Level Control)<br>0x1000 (ZLL Commissioning) |
| Endpoint3 | 0x0830<br>LO Non-color Scene Controller | 0x0000 (Basic)<br>0x0003 (Identify)<br>0xFD00 (switch type configuration) | 0x0003 (Identify)<br>0x0004 (Groups)<br>0x0005 (Scenes)<br>0x0006 (On/Off)<br>0x0008 (Level Control) |
| Endpoint242 | 0x0061<br>GP Proxy Basic | | 0x0021 (Green Power) |

## 4.4 Basic Cluster [0x0000]

This cluster supports an interface to the node or physical device. It provides attributes and commands for determining basic information, setting user information such as location, and resetting to factory defaults.

Command:

| Command Identifier | Description | Remarks |
|---|---|---|
| 0x00 | Reset to Factory Defaults | Reset to Factory Defaults |

Command Generated: NULL

Attributes:

| Identifier | Name | Type | Range | Access | Default |
|---|---|---|---|---|---|
| 0x0000 | *ZCL Version* | uint8 | 0x00-0xff | Read Only | 0x08 |
| 0x0001 | *Application Version* | uint8 | 0x00-0xff | Read Only | 0x41 |
| 0x0002 | *Stack Version* | uint8 | 0x00-0xff | Read Only | 0x00 |
| 0x0003 | *HW Version* | uint8 | 0x00-0xff | Read Only | 0x01 |
| 0x0004 | *Manufacturer Name* | string | 0-32 bytes | Read Only | AEOTEC |
| 0x0005 | *Model Identifier* | string | 0-32 bytes | Read Only | ZGA002 |
| 0x0006 | *Date Code* | string | 0-16 bytes | Read Only | -- |
| 0x0007 | *Power Source* | enum8 | 0x00-0xff | Read Only | 0x01 |
| 0x0008 | *Generic Device-Class* | enum8 | 0x00-0xff | Read Only | 0xff |
| 0x0009 | *Generic Device-Type* | enum8 | 0x00-0xff | Read Only | 0xff |
| 0x000a | *Product Code* | octstr | 8 bytes | Read Only | (MAC) |
| 0x000b | *Product URL* | string | | Read Only | www.aeotec.com |
| 0x000d | *Serial Number* | string | 20 bytes | Read Only | (SN) |
| 0x000e | *Product Label* | string | 40 bytes | Read Only | (Install Code) |
| 0x0012 | *Device Enabled* | bool | 0/1 | Read Write | 1 |
| 0x0013 | *Alarm Mask* | map8 | 000000xx | Read Write | 0 |
| 0x0014 | *Disable Local Config* | map8 | 000000xx | Read Write | 0 |
| 0x4000 | *SW Build ID* | string | 0 to 16 bytes | Read Write | 1.0.1 |

Note:

Application Version format: fv.sv.tv (0.0.0 –3.3.15)

| Shortened name | Full name | Description |
|---|---|---|
| fv | First version | . The first bit, 2 bits, numbers 1 ~ 3, when sv bit is full, fv++<br>. fv counts from 1 |
| sv | Second version | . The second bit, 2 bits, numbers 0 ~ 3, when the tv bit is full, sv++<br>. Value range: 0 ~ 3<br>. sv counts from 0 |

| | | |
|---|---|---|
| tv | Third version | . The third, 4 bits, numbers 0-15, test once, tv++<br>. tv counts from 0 |

## 4.5 Device Temperature Configuration [0x0002]

Attributes for determining information about a device's internal temperature, and for configuring under/over temperature alarms for temperatures that are outside the device's operating range.

Attributes:

| Identifier | Name | Type | Range | Access | Default |
|---|---|---|---|---|---|
| 0x0000 | Current temperature | int16 | -200 to +200 | Read Only | 25 (C) |
| 0x0002 | Max Temp Experienced | int16 | -200 to +200 | Read Only | 80 (C) |
| 0x0003 | Over Temp Total Dwell | unt16 | 0x0000 to 0xffff | Read Only | 0x0000 |
| 0x0010 | Device Temp Alarm Mask | map8 | 0000 00xx | Read Write | 0x02 (too high) |
| 0x0012 | High Temp Threshold | int16 | -200 to +200 | Read Write | 50 (C) |
| 0x0014 | High Temp Dwell Trip Point | Unt24 | 0 to 0xffffff | Read Write | 60 (S) |

Reporting:

| Client/Server | Attribute | Min Interval(S) | Max Interval(S) | Reportable change |
|---|---|---|---|---|
| Server | Current temperature | 1 | 65534 | 10 |

## 4.6 Identify Cluster [0x0003]

Attributes and commands to put a device into an Identification mode (e.g., flashing a light), that indicates to an observer – e.g., an installer - which of several devices it is, also to request any device that is identifying itself to respond to the initiator.

Identify effect:

| events | effect |
|---|---|
| Blink | Flashing 2 times |
| Breathe | Flashing 4 times |
| Okay | Flashing 6 times |
| Channel change | Flashing 8 times |

## 4.7 Groups [0x0004]

The cluster provides the capability for group addressing.

Attributes:

| Identifier | Name | Type | Range | Access | Default |
|---|---|---|---|---|---|
| 0x0000 | Name Support | map8 | x0000000 | Read Only | 0 |

## 4.8 Scenes [0x0005]

The scenes cluster provides attributes and commands for setting up and recalling scenes.

Maximum Number of Scenes is 10.

## 4.9 On/Off [0x0006]

Attributes and commands for switching devices between 'On' and 'Off' states.

Attributes:

| Identifier | Name | Type | Range | Access | Default |
|---|---|---|---|---|---|
| 0x4000 | *Global Scene Control* | bool | 0x00-0x01 | Read Only | 0x01 |
| 0x4001 | On Time | uint16 | full-non | Read Write | 0x0000 |
| 0x4002 | Off Wait Time | uint16 | full | Read Write | 0x0000 |
| 0x4003 | Start up on off | emum8 | desc | Read Write | 0xFF (previous value) |

Reporting:

| Client/Server | Attribute | Min Interval(S) | Max Interval(S) | Reportable change |
|---|---|---|---|---|
| Server | On/off | 1 | 65534 | 0 |

## 4.10 Alarm [0x0009]

Attributes and commands for sending alarm notifications and configuring alarm functionality.

Support alarm code:

| Alarm code | Description |
|---|---|
| 0x16 | US: Over Current L1 (Greater than 15.5A)<br>EU/ANZ: Over Current L1 (Greater than 16.5A)<br>(need to be explicitly reset by user, and the operation of the relay is prohibited) |
| 0x23 | US: Under Voltage (Less than 95V)<br>EU/ANZ: Under Voltage (Less than 200V)<br>(reset automatically when the conditions that cause are no longer active） |
| 0x24 | US: Over Voltage (Greater than 125V)<br>EU/ANZ: Over Voltage (Greater than 260V)<br>(reset automatically when the conditions that cause are no longer active） |
| 0x86 | Temperature Exceeded (Greater than 80℃)<br>(reset automatically when the conditions that cause are no longer active） |

## 4.11 Time [0x000A]

This cluster provides a basic interface to a real-time clock.

## 4.12 Electrical Measurement Cluster [0x0B04]

| Id Set Name | Identifier | Name | Type | Range | Access | Default |
|---|---|---|---|---|---|---|
| Basic Information | 0x0000 | *Measurement Type* | map32 | 0-0xFFFFFFFF | Read Only | 0 |
| AC (Single | 0x0505 | *RMS Voltage* | uint16 | 0x0000-0xFFFF | Read Only | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Phase or Phase A) Measurements | 0x0508 | *RMS Current* | uint16 | 0x0000-0xFFFF | Read Only | 0 |
| | 0x050b | *Active Power* | int16 | -32768—32768 | Read Only | 0 |
| AC Formatting | 0x0600 | *AC Voltage Multiplier* | uint16 | 0x0001-0xFFFF | Read Only | 1 |
| | 0x0601 | *AC Voltage Divisor* | uint16 | 0x0001-0xFFFF | Read Only | 10 |
| | 0x0602 | *AC Current Multiplier* | uint16 | 0x0001-0xFFFF | Read Only | 1 |
| | 0x0603 | *AC Current Divisor* | uint16 | 0x0001-0xFFFF | Read Only | 1000 |
| | 0x0604 | *AC Power Multiplier* | uint16 | 0x0001-0xFFFF | Read Only | 1 |
| | 0x0605 | *AC Power Divisor* | uint16 | 0x0001-0xFFFF | Read Only | 10 |

Reporting:

| Client/Server | Attribute | Min Interval(S) | Max Interval(S) | Reportable change | Remarks |
|---|---|---|---|---|---|
| Server | rms voltage | 10 | 600 | 200 | Threshold: 20.0V |
| Server | rms current | 10 | 600 | 200 | Threshold: 0.500A |
| Server | active power | 10 | 600 | 500 | Threshold: 50.0W |

## 4.13 Simple Metering Cluster [0x0702]

| Id Set Name | Identifier | Name | Type | Access | Default | Remarks |
|---|---|---|---|---|---|---|
| Reading Information Set | 0x0000 | *Current Summation Delivered* | uint48 | Read Only | -- | |
| Meter Status | 0x0200 | *Status* | map8 | Read Only | 0x00 | BIT3= Power Failure<br>BIT4= Power Quality |
| Formatting | 0x0300 | *Unit of Measure* | enum8 | Read Only | 0x00 | Unit = kWh |
| | 0x0301 | *Multiplier* | uint24 | Read Only | 0x01 | *Multiplier* |
| | 0x0302 | *Divisor* | uint24 | Read Only | 1000 | *Divisor* |
| | 0x0303 | *Summation formatting* | map8 | Read Only | 0xAB | Formatting=<br>1-0101-011 |
| | 0x0306 | *Metering device type* | map8 | Read Only | 0x00 | Electric Metering |
| Alarm Mark | 0x0801 | *Electricity Alarm Mask* | map32 | Read Write | Single=<br>0x6040 | 0x16=Over Current L1<br>0x23=Under Voltage<br>0x24=Over Voltage |

Reporting:

| Client/Server | Attribute | Min Interval(S) | Max Interval(S) | Reportable change | Remarks |
|---|---|---|---|---|---|
| Server | *Current Summation Delivered* | 10 | 600 | 1000 | Threshold:<br>1.000kwh |

## 4.14 ZLL commissioning [0x1000]

The *touchlink commissioning* cluster shall have a cluster identifier of 0x1000. Those commands in the touchlink commissioning command set shall be sent using the profile identifier, 0xc05e whereas those commands in the commissioning utility command set shall sent using the profile identifier, 0x0104.

## 4.15 Over the Air (OTA) Upgrade [0x00019]

The main goal of Over The Air Upgrade cluster is to provide an interoperable mean for devices from different manufacturers to upgrade each other's image. Additionally, the OTA Upgrade cluster defines a mechanism by which security credentials, logs and configuration file types are accessible by offering a solution that utilizes a set of optional and mandatory commands.

Firmware information:

| Command Identifier | Description |
|---|---|
| Manufacture ID | 0x1310 |
| Image Type | 0x0802 |

## 4.16 Switch Type Configuration [0xFD00]

Manufacturer ID is required when reading and writing attributes. The manufacturer code is 0x1310.

Attributes and commands for configuring switch type.

Attributes:

| Identifier | Name | Type | Range | Access | Default |
|---|---|---|---|---|---|
| 0x0000 | Switch Type | enum8 | 0x00-0xFF | Read/Write | 0x00 |
| 0x0010 | Switch Actions | enum8 | 0x00-0xFF | Read/Write | 0x02 |
| 0x0011 | controls | enum8 | 0x00-0x01 | Read/Write | 0x01 |

Switch Type:

| Value | Description |
|---|---|
| 0x00 | Toggle |
| 0x01 | Momentary |
| 0x04 | Into Auto Recognize Mode |
| 0x02-0x03, 0x05-0xFF | Not support |

Switch Actions:

| Value | State 2 (Press) | State 1 (release) |
|---|---|---|
| 0x00 | On | Off |
| 0x01 | Off | On |
| 0x02 | Toggle | Toggle |

controls:

| Value | Description |
|---|---|

| | |
|---|---|
| 0x00 | control local disable |
| 0x01 | control local enable |