Aeotec Pico Smart Things integrated Shutter Instructions

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Aeotec Pico Smart Things integrated Shutter

Specifications

- **Product Identifier:** Pico Shutter
- **Color:** Blue
- **Usage:** Home automation

Product Usage Instructions

Interfaces & Accessories

- **Action Button:** Used for networking and resetting.
- **Indicator Light:** Used for indicating the current state of the product.

Features & Specifications

Structural Characteristics

- **Product Identifier:** Pico Shutter
- **Dimensions:** Not specified
- **Color:** Blue
- **Usage:** Home automation
- **Operating Temperature:** Not specified
- **Relative Humidity:** Not specified

Hardware Characteristics

- **ZigBee Module:** EFR32MG21
- **RF TX Power:** Max: 20dBm
- **Indicator Light Color:** Blue
- **Buttons and Connectors:** Action Button (x1)

- **Input Voltage:** AU EU US (100-240V), 50/60Hz
- **Battery Included:** No
- **Output Rating:** 2 Channel @ Support Momentary Button/Rocker Switch(On-off Switch)/SPDT Switch MAX: 150mA @ 230VAC, 50Hz MAX: 1.0W Support Temperature Sensor which to overheating protection. Support

Software Characteristics

- **Wireless Technology Stack:** ZigBee [2.4Ghz]
- **ZigBee logical device type:** ZigBee 3.0 Router
- **Profile Device Device Type:** Home Automation [0x0104] HA/LO Profile HA Window Covering EFR32MG21x Family EmberZNet 6.10.3 AEOTEC LIMITED [0x1310] Backwards compatible to ZHA (ZigBee Home Automation) Backwards compatible to ZLL (ZigBee Light Link) profile Support Support

Frequently Asked Questions (FAQ)

- **Q: Can the Pico Shutter be used with multiple devices simultaneously?**
  A: Yes, the Pico Shutter can be integrated and controlled with multiple devices in a centralized network.
- **Q: What is the recommended way to wire the Pico Shutter for correct installation?**
  A: The product needs to be wired according to the provided diagram in the user manual.
- **Q: Does the Pico Shutter support over-heat protection?**
  A: Yes, the Pico Shutter includes over-heat protection as part of its hardware characteristics.

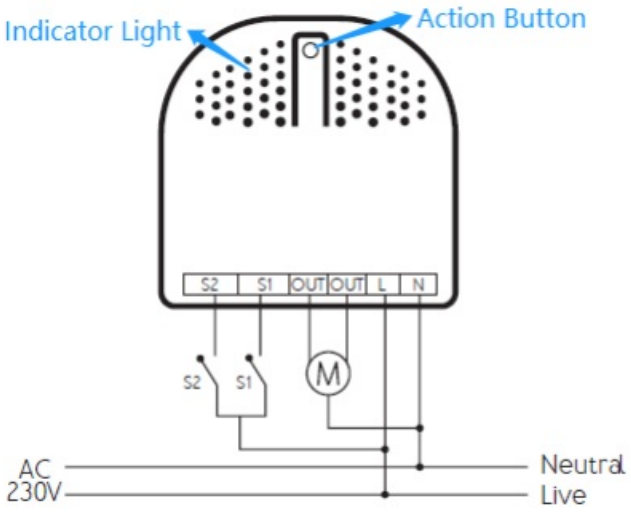
Pico Shutter

Engineering Specification
Pico Switch

Document No.	SPEC-ZGA004
Description	
Written By	
Date	
Reviewed By	
Date	
Approved By	
Date	

REVISION RECORD		
Version	Date	Brief description of changes
0.1	2022.07.05	First revision.
0.2	2022.08.22	modify
0.3	2023.07.28	modify
0.4	2023.08.25	Add scenes
0.5	2023.10.17	modify

INTERFACES & ACCESSORIES



Terminology	Description
Action Button	Used for networking and resetting.
Indicator Light	Used for indicating the current state of the product.

FEATURES & SPECIFICATIONS

Structural Characteristics

Parameter	Value
Product Identifier	Pico Shutter ZGA004
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%

Hardware Characteristics

Parameter	Value
ZigBee Module	EFR32MG21
RF TX Power	Max: 20dBm
Indicator Light Color	Blue
Buttons and Connectors	Action Button (x1)
Input Voltage	AU EU US (100-240V),50/60Hz
Battery Included	No
Output Rating	3.6A
Input Capacity	2 Channel@Support Momentary Button/ Rocker Switch(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 which to overheating protection.
Surge Protection	Support

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	HA Window Covering
ZigBee Compliant Platform	EFR32MG21x Family EmberZNet 6.10.3
Manufacturer	AEOTEC LIMITED [0x1310]
compatible	Backwards compatible to ZHA (ZigBee Home Automation) Backwards compatible to ZLL (ZigBee Light Link) profile
Over The Air (OTA)	Support
Factory Reset	Support

PRODUCT QUICK START

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.

How to install the product
The product needs to be wired according to the diagram above.

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.

Using Action Button

1. Set your ZigBee coordinator open network and allow to join a device into a network during a time. Refer to the Coordinator’s manual if you are unsure of how to perform this step.
2. Make sure the product is powered. Its LED will be breathing blue light all the time.
3. Click Action Button twice, it will quickly flash blue light until it is joined into the network.
4. If joining fails, it will come back to breathing blue light; repeat steps 1 to 3. Contact us for further support if needed.
5. If joining succeeds, it will turn to blue light. Now, this product is a part of your ZigBee home control system. You can configure it and its automations via your ZigBee system; please refer to your software’s user guide for

precise instructions.

Using Install Code

Products can be joined into a ZigBee network by scanning the Install Code QR Code present on the product with a coordinator providing inclusion. No further action is required and the product will be joined 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 reasonably secure fashion. The installation code itself is a random value installed on the joining device at manufacturing time, and is used to encrypt the initial network key transport from the ZigBee network’s centralized Trust Center device (the coordinator) to the joining device.

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 joining device knows it is receiving information securely, such as when a hands-free headset is paired to a smartphone.

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

1. Product is always in touchlink target mode and can be joined to other networks by Touchlink commission;
2. Place the remote device within 10cm of the product.
3. When touchlink in communication, the indicator light will flash;
4. If joining fails, it will come back to breathing blue light;
5. If joining succeeds, it will turn to blue light. Now, this product is a part of your ZigBee home control system. You can configure it and its automations via your ZigBee system; please refer to your software’s user guide for precise instructions.

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

1. Press and hold Action Button for 2 to 5S and release.
2. Indicator Light will become turns on slowly and turns off quickly.
3. Held Close to the ZLL device (10cm apart).

How to create a distributed network

1. Press and hold Action Button for 17S.
2. Indicator Light will become constantly on or off.

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 device open network for 180 seconds, can join other nodes into the existed network.
2. Indicator Light will blink slowly.

How to send On/Off cluster to the binding node

1. Click extern switch 1 time
2. Product will send on off cluster to the binding node;

How to send Level Control cluster to binding node

1. Press and hold extern switch (just apply to momentary type)
2. Product will send the Level Control cluster to the binding node; Send every 200ms, increasing / decreasing step by 5.

How to finding and binding as a initiator

When the value of attribute 0x0012 of 0xFD00 cluster is 0.

1. Click extern switch 1/2 three times, the endpoint 3 enters find and bind initiator mode for 5 seconds, indicator light turns on quickly and turns off slowly.
    - When the value of attribute 0x0012 of 0xFD00 cluster is 1.
2. Click extern switch 1 three times, the endpoint 4 enters find and bind initiator mode for 5 seconds, indicator light turns on quickly and turns off slowly.
3. Click extern switch 2 three times, the endpoint 5 enters find and bind initiator mode for 5 seconds, indicator light turns on quickly and turns off slowly.

How to into identify mode as a find and bind target

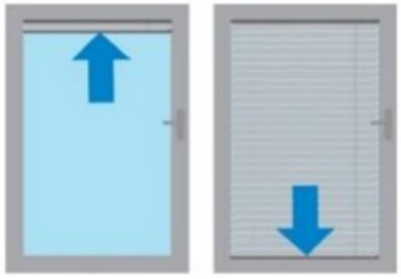
1. Click Action Button 5 times, the endpoint 1 into identify mode, LED will quickly flash.
2. Click Action Button 6 times, the endpoint 2 into identify mode, LED will slowly flash.
3. Product enters the identify mode for 180 seconds.

How to factory reset
If the primary coordinator is missing or inoperable, you may need to reset the device to factory settings.
Make sure the product is powered. To complete the reset process manually, press and hold the Action Button for at least 10s. The Indicator Light will become breathing blue light, which indicates the reset operation is successful. Otherwise, please try again. Contact us for further support if needed.

How to Calibration Travel

Preparation
The movement direction of the motor should be correct, with 0% corresponding to fully open and 100% corresponding to fully closed. You can change the wiring or use the command to reverse (Bit 0 of the mode attribute)

Automatic Calibration (endpoint 1)
There are two ways to enter calibration mode for endpoint 1 (Roll Shade), which are to send the command (Bit 1 of the mode attribute) to endpoint 1, or click external switch 1 six times.
The product will automatically complete calibration, and the intermediate process does not require manual operation.
When the operating mode is 0, this time is from the open limit to the close limit of the motor. When the operating mode is 1, this time includes slats tilting time.

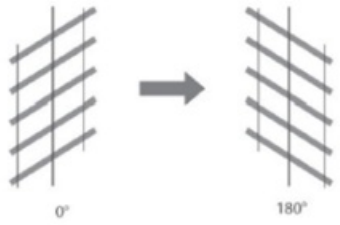


Roller shade

Manual Calibration (endpoint 2) Preparation:

1. The motor must run to closed limit before starting calibration.
2. Please set the operation mode to 1 (shutter mode).

There are two ways to enter calibration mode for endpoint 2 (Shutter), which are to send the command (Bit 1 of the mode attribute) to endpoint 2, or click external switch 2 six times.
During calibration, manual operation is required. When the calibration is started, the shutter moves to 0 degrees, when reaches 0 degrees, press the extern switch 2 once, and the shutter will rotate again. When it reaches 180 degrees, press the extern switch 2 again to complete the calibration. The time is the slats tilting full turn time.



Shutter

SOFTWARE FUNCTION DEFINITION

User Behavior Interaction
ZigBee Button

User behavior	outside network	Inside network
Power OFF	N/A	N/A

Power ON	1. All relays will keep turning off state. 2. The device start the touchlink target process automatically. Touch Link lasts only 3. seconds if no request for Touch Link is scanned. Enter the Zig Bee3.0 initial start up. The LED will blink quickly. That should last for about 180 sec. The LED will flash quickly until the device is joined to the gateway. If device is not joined within 180 sec. The LED will breathing blue light. 3, The led will turn on for 1 seconds, then breathing.	1, All relays will keep turning off state.
Click Action Button 1 time	Normal transfer->Stop->Reserve transfer->stop->Normal transfer->Stop->…Indicator Light will become flash breathing.	Normal transfer->Stop->Reserve transfer->stop->Normal transfer->Stop->… Indicator LED will synchronize to the status of the relays.
Click Action Button 2 times	Support being joined by coordinator or router.Indicator Light will quickly flash blue light until it is joined into the network. It will become constantly blue light after being assigned a Short ID. If joining succeeds, it will become regular light mode (constantly blue light or off). If joining fails, it will return breathing blue light.	Central network mode: Nothing to be done Distribute network mode: The device open network for 180 seconds, can join other nodes into the existed network. Indicator Light will blink slowly.
Click Action Button 3 times	Starting to identify the type of the external switch 1. Indicator Light will blink quickly	Starting to identify the type of the external switch 1. Indicator Light will blink quickly
Click Action Button 4 times	Starting to identify the type of the external switch 2. Indicator Light will blink slowly	Starting to identify the type of the external switch 2. Indicator Light will blink slowly

Click Action Button 5 times	No function	Endpoint 1 into find and bind target mode, this progress will continue to 180s. Indicator Light will blink quickly
Click Action Button 6 times	No function	Endpoint 2 into find and bind target mode, this progress will continue to 180s. Indicator Light will blink slowly
Press and hold Action Button for [1, 2s)	No function, Indicator Light will become off when press, and become breathing when release.	Indicator Light will become off when press, and turns ON/OFF dependent on motor moving state when release.
Press and hold Action Button for [2, 5s)	No function, Indicator LED will become breathing.	Trigger the device to start Touch Link initiator mode. Indicator Light will become on when press, and become turns on slowly and turns off quicklywhen release.
Press and hold Action Button for [5, 10s)	No function, Indicator LED will become breathing.	Indicator Light will flash even faster when press, and become regular light mode when release.
Press and hold Action Buttonfor [10, 12 s)	Factory reset a central network node.When the time reaches 10s, Factory Reset is performed after release. The product will perform factory reset. Indicator Light will become breathing blue light, which indicates the reset operation is successful.	Factory reset a central network nodeWhen the time reaches 10s, Factory Reset isperformed after release. The product will perform factory reset. Indicator Light will becombreathing blue light, which indicates the reset operation is successful. Otherwise, please try
	Otherwise, please try again.	again.
Press and hold Action Button for [17s]	Factory reset and form and join a distributed network. If joining succeeds, it will become regular light mode (constantly blue light or off)	Factory reset and form and join a distributed network. If joining succeeds, it will become regular light mode (constantly blue light or off)

External Switch

User behavior	outside network	Inside network
Press and hold two switch at the same time for 5 seconds	Change between momentary movement / continuous movement modes. Indicator Light will blink quickly 2 seconds.	

Momentary Switch

Switch Action	S1		S2	
	Function 1	Function 2	Function 1	Function 2
Click 1 times	Send Scene recall Id = 1	control local= 1: Local motor up/stop Send covering up/stop to binding node control local= 0: send On Off to binding node	Send Scene recall Id = 6	control local= 1: Local motor down/stop Send covering down/stop to binding node control local= 0: send On Off to binding node
Click 2 times	Send Scene recall Id = 2	If outside network, it will Start to join ZigBee network Indicator Light will blink quickly.	Send Scene recall Id = 7	If outside network, it will Start to join ZigBee network Indicator Light will blink quickly.
Click 3 times	Send Scene recall Id = 3		Send Scene recall Id = 8	
Click 4 times		Find and binding initiator		Find and binding initiator
Click 6 times		Calibration ep1		Calibration ep2
Hold (min. 2 seconds)	Send Scene recall Id = 4	control local= 1: Local motor up Send covering up to binding node control local= 0: send Level Move up/down to binding node	Send Scene recall Id = 9	control local= 1: • Local motor down • Send covering down to binding node • control local= 0: send Level Move up/down to binding node
Release	Send Scene recall Id = 5	control local= 1: Local motor stop Send covering stop to binding node control local= 0: send Level stop to binding node	Send Scene recall Id = 10	control local= 1: • Local motor stop • Send covering stop to binding node • control local= 0: send Level stop to binding node
Switch Action	S1		S2	
	Function 1	Function 2	Function 1	Function 2

Click 1 times	Send Scene recall Id = 1	control local= 1: Local motor up/stop Send covering up/stop to binding node control local= 0: send On Off to binding node	Send Scene recall Id = 6	control local= 1: • Local motor down/stop • Send covering down/stop to binding node • control local= 0: send On Off to binding node
Click 2 times	Send Scene recall Id = 2	If outside network, it will Start to join ZigBee network Indicator Light will blink quickly.	Send Scene recall Id = 7	If outside network, it will Start to join ZigBee network Indicator Light will blink quickly.
Click 3 times	Send Scene recall Id = 3		Send Scene recall Id = 8	
Click 4 times		Find and binding initiator		Find and binding initiator
Click 6 times		Calibration ep1		Calibration ep2
Hold (min. 2 seconds)	Send Scene recall Id = 4	control local= 1: Local motor up Send covering up to binding node control local= 0: send Level Move up/down to binding node	Send Scene recall Id = 9	control local= 1: • Local motor down • Send covering down to binding node • control local= 0: send Level Move up/down to binding node
Release	Send Scene recall Id = 5	control local= 1: Local motor stop Send covering stop to binding node control local= 0: send Level stop to binding node	Send Scene recall Id = 10	control local= 1: • Local motor stop • Send covering stop to binding node • control local= 0: send Level stop to binding node

Toggle Switch and SPDT:

Switch	S1	S2

Action	Function 1	Function 2	Function 1	Function 2
Click 1 times		control local= 1: Local motor up/stop Send covering up/stop to binding node control local= 0: send On Off to binding node		control local= 1: Local motor up/stop Send covering up/stop to binding node control local= 0: send On Off to binding node
Click 2 times	Send Scene recall Id = 1	If outside network, it will Start to join ZigBee network Indicator Light will blink quickly.	Send Scene recall Id = 6	If outside network, it will Start to join ZigBee network Indicator Light will blink quickly.
Click 4 times	Send Scene recall Id = 2		Send Scene recall Id = 7	
Click 6 times	Send Scene recall Id = 3		Send Scene recall Id = 8	
Click 8 times		Find and binding initiator		Find and binding initiator
Click 12 times		Calibration ep1 Indicator Light will blink slowly		Calibration ep2 Indicator Light will blink slowly

Mark:

1. Group ID of send scenes recall command Can be configured, refer to control local attribute of 0xFD00 Cluster.
2. Find and binding initiator mode
   The progress will continue to 3S, indicator light will become turns on quickly and turns off slowly.

Device type

ZigBee Logical Device type	Router	ZigBee Security type	ZigBee 3.0 Security

Device Simple Descriptor

Endpoint	Device id	Cluster id (Server)	Cluster id (Client)
endpoint1	0x0202 HA Window Covering	0x0000 (Basic) 0x0002 (Device Temperature Configuration) 0x0003 (Identify) 0x0004 (Groups) 0x0005 (Scenes) 0x0009 (Alarms) 0x0102 (Window Covering) 0xFD03 (Window Configuration)	• 0x000A (Time) • 0x0019 (OTA Upgrade)
Endpoint2	0x0202 HA Window Covering	0x0000 (Basic) 0x0003 (Identify) 0x0004 (Groups)	

		0x0005 (Scenes) 0x0102 (Window Covering)	
Endpoint3	0x0203 HA Window Covering Controller	0x0000 (Basic) 0x0003 (Identify)	• 0x0003 (Identify) • 0x0004 (Groups) • 0x0005 (Scenes) • 0x0102 (Window Covering)
Endpoint4	0x0830 LO Non-color Scene Controller	0x0000 (Basic) 0x0003 (Identify) 0x1000 (ZLL Commissioning) 0xFD00 (switch type configuration)	• 0x0003 (Identify) • 0x0004 (Groups) • 0x0005 (Scenes) • 0x0006 (On/Off) • 0x0008 (Level Control) • 0x1000 (ZLL Commissioning)
Endpoint5	0x0830 LO Non-color Scene Controller	0x0000 (Basic) 0x0003 (Identify) 0xFD00 (switch type configuration)	• 0x0003 (Identify) • 0x0004 (Groups) • 0x0005 (Scenes) • 0x0006 (On/Off) • 0x0008 (Level Control)
Endpoint242	0x0061 GP Proxy Basic		• 0x0021 (Green Power)

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	ZGA004
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++ • fv counts from 1
sv	Second version	• The second bit, 2 bits, numbers 0 ~ 3, when the tv bit is full, sv++ • Value range: 0 ~ 3

		. sv counts from 0
tv	Third version	. The third, 4 bits, numbers 0-15, test once, tv++ . tv counts from 0

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.

- Command Received: NULL
- Command Generated: NULL

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	600	10

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

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

Scenes [0x0005]
The scenes cluster provides attributes and commands for setting up and recalling scenes.
Maximum Number of Scenes is 16.

Alarm [0x0009]

Id Set Name	Identifier	Name	Type	**Value**	Access	Default
Alarm Information	0x0000	Alarm Count	uint16		R	0

Support alarm code:

Alarm code	Description
0x16	• Over Current L1 (Greater than 3.5A) (need to be explicitly reset by user, and the operation of the relay is prohibited)
0x17	• Over Current L2 (Greater than 3.5A) (need to be explicitly reset by user, and the operation of the relay is prohibited)
0x23	• US: Under Voltage (Less than 95V) • EU/ANZ: Under Voltage (Less than 200V) (reset automatically when the conditions that cause are no longer active
0x24	• US: Over Voltage (Greater than 125V) • EU/ANZ: Over Voltage (Greater than 260V) (reset automatically when the conditions that cause are no longer active
0x86	Temperature Exceeded (Greater than 50°C) Turn Off the Relay(Greater than 80°C) (reset a utomatically when the conditions that cause are no longer active

Time [0x000A]
This cluster provides a basic interface to a real-time clock.

Windows Covering [0x0102]

There are two endpoints that support Windows Covering Cluster Server. The specific information is as follows:

endpoint	Windows Cove ring Type	Receive Command	Attribution Report	Generated Command
Endpoint 1	Roller Shade	Up/Open, Down/Close, St op, Go To Lift Percentage	Current Position – Lift P ercentage	Up/Open, Down/Close, Stop
Endpoint 2	Shutter	Up/Open, Down/Close, St op, Go To tilt Percentage	Current Position – Tilt P ercentage	

Endpoint 1 is used to control Lift, Endpoint 2 is used to control Tilt. If a window support Lift and Tilt, need to control the two endpoints, for example, operate endpoint 1 first and then endpoint 2.

Attribution:

Id Set Name	Identifier	Name	Type	Access	Default
Window Covering Information	0x0000	Window Covering Type	enum8	R	Operating modes = 0: Ep1 :0x00 (Roller shade) Operating modes = 1: Ep1: 0x06(Shutter) Ep2:0x06(Shutter)
	0x0001	Physical Closed Limit – Lift	uint16	R	60000 cm (600S)
	0x0002	Physical Closed Limit – Tilt	uint16	R	10000 cm (100S)
	0x0003	Current Position – Lift	uint16	R	0 cm
	0x0004	Current Position – Tilt	uint16	R	0 cm
	0x0005	Number of Actuations – Lift	uint16	R	0
	0x0006	Number of Actuations – Tilt	uint16	R	0
	0x0007	Config/Status		R	0x0A=00001010
	0x0008	Current Position Lift Percentage	uint8	RSP	0xFF (unknown)
	0x0009	Current Position Tilt Percentage	uint8	RSP	0xFF (unknown)
Window Covering Settings	0x0010	Installed Open Limit – Lift	uint16	R	0 cm
	0x0011	Installed Closed Limit – Lift	uint16	R	6000 cm (60S)
	0x0012	Installed Open Limit – Tilt	uint16	R	0 cm
	0x0013	Installed Closed Limit – Tilt	uint16	R	300 cm (3.0S)
	0x0014	Velocity-Lift	uint16	RW	0
	0x0015	Acceleration Time-Lift	uint16	RW	0
	0x0016	Deceleration Time-Lift	uint16	RW	0
	0x0017	Mode	map8	RW	0x08
	0x0018	Intermediate Set points – Lift	octstr	RW	1,0×0000
	0x0019	Intermediate Set points – Tilt	octstr	RW	1,0×0000

Config/Status

Bit	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Des	0	0=Timer Controlled	0=Timer Controlled	0=Tilt control is Open Loop	1=Lift control is Closed Loop	0=Commands are normal	1=Online	0=Not Operational

Mode

Bit	Bit3	Bit2	Bit1	Bit0
Des	0=LEDs are off 1=LEDs display feedback	0=running normally 1=in maintenance mode	0=run is normal mode 1=run in calibration mode	0 = direction is normal 1=direction is reversed

Receive Command

Command ID	Description 1	Description 2
0x00	Up / Open	Go to Installed Open Limit
0x01	Down / Close	Go to Installed Close Limit
0x02	Stop	Stop run
0x05	Go to Lift Percentage (Only endpoint 1)	Between Installed Open Limit and Installed Closed Limit 0% = Installed Open Limit, 100%= Installed Closed Limit
0x08	Go to Tilt Percentage (Only endpoint 2)	Between Installed Open Limit and Installed Closed Limit 0% = Installed Open Limit, 100%= Installed Closed Limit

Attribution Report

Attribution	Description	Report Interval
0x0008	Current Position – Lift Percentage (Only endpoint 1)	When the motor is running, the attribution will report itself with 1 second period.
0x0009	Current Position – Tilt Percentage (Only endpoint 2)	When the motor is running, the attribution will report itself with 1 second period.

Note: In order to be compatible with third-party platforms, like Home assistant, Smarthings, Endpoint2 also supports use Lift percentage command to control Tilt function,and it will report Lift percentage and tilt percentage of Tilt position.

Generated Command

Command ID	Description	External SW
0x00	Up / Open	SW1
0x01	Down / Close	SW2
0x02	Stop	SW1 or SW2

Note: If the product has not calibration, when a command is sent (or pressed action button or external switch), the product will automatically enter calibration mode before executing the command.

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.
Command Received:

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	0x7C04

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.

- Command Received: NULL
- Command Generated: NULL

Attributes:

Identifier	Name	Type	Range	Access	Default
0x0000	Switch Type	enum8	0x00-0xFF	Read/Write	0x01
0x0010	Switch Actions	enum8	0x00-0xFF	Read/Write	0x02
0x0011	controls	enum8	0x00-0x01	Read/Write	0x01
0x0012	Group ID	uint16	0x0001-0xFFF7	Read/Write	0x0001

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 and endpoint 4/5 enter Bind and find mode
0x01	control local enable and endpoint 3 enter Bind and find mode

Group ID:

Value	Description
0x0001—0xFFF7	Group ID for sending scene commands

Window Configuration Cluster [0xFD03]

ID	Name	Type	Access	Remarks	Default
0x0001	Operating modes	uint8	Read/ Write	• 0x00: Roll Shade mode only up/down functi ons, and endpoint 2 cannot be used 0x01: shutter mode (equipped with up/down function and angle transfer function)	0x00
0x0002	time of slats tilting full t urn	uin16	Read/ Write	Set the time, required by the slats, to make a fu ll turn (180 degrees). The unit is 0.01 second. **NOTE**: If the set time is too long and a full turn was already performed, the device will start to move up or down for the remaining time.	300
0x0003	Slats position	uin8	Read/ Write	0- Slats don't return to the previously set positi on. 1- Slats return to the previously set position onl y	1
				after being activated via the gateway (hub). 2 – Slats return to the previously set position in case they were activated via the gateway (hub) , ZigBee Button, External Switch operation. **NOTE:** Not valid for open/close limit positions. Not valid when operating modes is 0	
0x0004	time of moving up/dow n	uin16	Read/ Write	The time when the motor moves from the open limit to the close limit. The unit is 0.01 second.	6000
0x0005	time of momentary mo vement	uint16	Read/ Write	The time of motor action during momentary mo vement. The unit is 1ms.	500
0x0006	momentary movement/ continuous movement	uint8	Read/ Write	**0x00: momentary movement 0x01: continuo us movement** **NOTE:** Press and hold two external switch at t he same time for 5 seconds, change between 2 modes. Indicator Light will blink quickly.	0x01
0x0007	time of motor response	uin8	Read/ Write	The time of motor response. The unit is 0.01 se cond.	30
0x0008	Automatic verification o f fully open and fully clo sed positions	uin8	Read/ Write	When the curtains are fully open and fully close d, the travel limit switch will be used to determine whether the limit point has been reac hed. If the limit point is reached, it will immediat ely stop. If not, the timeout for running is 5 seco nds. • 0x00: Disable • 0x01: Enable	1

Receive Command

Command ID	Description 1	Description 2
0x00	Reach limit	Reaching limit during manual calibration.

Documents / Resources

	Aeotec Pico Smart Things integrated Shutter [pdf] Instructions Pico Smart Things integrated Shutter, Pico Smart, Things integrated Shutter, integrated Shutter, Shutter

References

- sv.tv
- Aeotec - Pioneers of Smart Home, SmartThings, Matter & Zigbee
- User Manual