

Installation Guide

NookBox I/O Module Zigbee
(P119041 / E6309677)



NookBox

Smart Home Security



NookBox I/O Module Zigbee (P119041 / E6309677)

NookBox I/O Module Zigbee are Input and Output Switches. The switch has built-in Digital Input and Digital Output terminals which can be connected to sensor, switch, or devices to form Normal Open (N.O.) loop. When the Input terminal is triggered, the Switch will transmit signal via ZigBee network to inform the ZigBee network panel/coordinator; the Switch can also receive command signal via ZigBee network to turn on/off the Output terminal to control connected device.

The Switch utilizes ZigBee technology for wireless signal transmission. ZigBee is a wireless communication protocol that is reliable, has low power consumption and has high transmission efficiency. Based on the IEEE802.15.4 standard, ZigBee allows a large amount of devices to be included in a network and coordinated for data exchange and signal transmission.

The Switch serves as an end device in the ZigBee network. It can be included in the ZigBee network to transmit or receive signal, but cannot permit any other ZigBee device to join the network through the Switch.

Parts Identification

1 Function Button / LED indicator

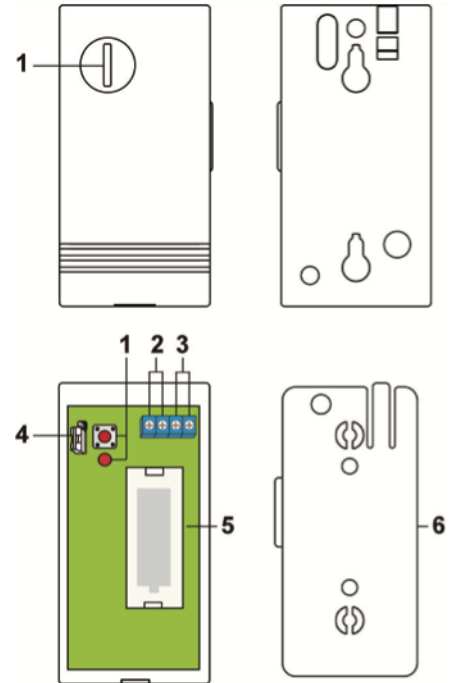
Function Button:

- Press once to send a supervision signal.
- Press and hold for 10 seconds then release to reset the Switch.

LED Indication:

The LED indicator lights up in the following conditions:

- Flashes once after pressing and holding the button for 10 seconds:
The Switch has been reset.
- Flashes twice quickly:
The Switch has successfully joined a ZigBee network.
- Flashes once every 20 minutes:
The Switch has lost connection to its current ZigBee network.



2. Output Terminal

Connect a Normal Open (N.O.) or Normal Close (N.C.) device/switch to the terminal according to Jumper setting.


3. Input Terminal

Connect a Normal Open (N.O.) sensor/switch to the terminal.

4. Jumper Switch

User the Jumper Switch to set Output terminal type. The Jumper has 3 pins.

-  NC
-  COM
-  NO

	Insert the Jumper Switch on top 2 pins to set Output Terminal to Normal Close (N.C.)		Insert the Jumper Switch on bottom 2 pins to set Output Terminal to Normal Open (N.O.) – Factory Default
---	--	---	--

5. Battery Compartment

6. Mounting Bracket

Features

Input and Output Terminal

- **Input Terminal:** When triggered, the Switch will transmit signal to ZigBee network panel/coordinator as following:
When the N.O. loop shorts: The Switch will transmit an “Open” signal.
- When the short loop restores to open status: The Switch will transmit a “Close” signal.
- **Output Terminal:** Use the Jumper Switch to determine whether the terminal should be set to N.C. or N.O. then use the ZigBee network panel/coordinator to transmit ON/OFF signal to control the terminal.
When set to N.O. the Output terminal will close upon receiving ON signal, and open upon receiving OFF signal.
When set to N.C. the Output terminal will close upon receiving OFF signal, and open upon receiving OFN signal.

Battery and Low Battery Detection

The Switch uses one CR123A 3V Lithium battery as its power source. The Switch features Low Battery Detection function. When the battery voltage is low, the Switch will transmit Low Battery signal to notify the user. When changing battery, after removing the old battery, press the Function Button twice to fully discharge before inserting new battery

Supervision

The Switch will transmit a supervision signal to report its condition regularly according to user setting. The factory default interval is 30 minutes. The user can also press the Function Button once to transmit a supervision signal manually.

ZigBee Network Setup

ZigBee Device Guideline

ZigBee is a wireless communication protocol that is reliable, has low power consumption and has high transmission efficiency. Based on the IEEE802.15.4 standard, ZigBee allows a large amount of devices to be included in a network and are coordinated for data exchange and signal transmission.

Joining the ZigBee Network

As a ZigBee device, the Door Contact needs to join a ZigBee network to transmit signal when it is triggered. Please follow the steps below to join the Door Contact into the ZigBee network.

1. Insert battery to power on the Switch.
2. After powering up, press and hold the Function button for 10 seconds, then release it to join the network. Please make sure the permit-join feature on the router or coordinator of your ZigBee network is enabled.
3. If the Switch successfully joins a ZigBee network, the LED Indicator will flash twice to confirm.
4. After joining the ZigBee network, the Door Contact will be registered in the network automatically. Please check the ZigBee coordinator, system control panel or CIE (Control and Indicating Equipment) to confirm if joining and registration is successful.
5. After joining the ZigBee network, if the Switch loses connection to current ZigBee network, the LED will flash every 20 minutes to indicate. Please check your ZigBee network condition and Switch signal range to correct the situation.

Removing Device from ZigBee Network (Factory Reset)

To remove the Switch from current ZigBee network, the device must be put to Factory Reset to complete device removal. Factory Reset function will clear the device of its stored setting information and prompt the Switch to search for new ZigBee network.

Before removing device, make sure the Switch is within current ZigBee network signal range

1. Press and hold the function button for 10 seconds, then release the button to reset the witch.
2. Upon reset, the device will clear current ZigBee network setting and transmit signal to ZigBee coordinator to remove itself from current ZigBee network. It will then actively search for available ZigBee network again and join the network automatically.

Installation

The Switch can be installed on a flat surface, you can choose to mount the switch with or without bracket using screws. or double side adhesive tape without screws.

- **Without Bracket:**
 1. Remove the front cover, use the mounting holes on the back cover as template to mark mounting location.
 2. Screw the back cover onto marked location, drill holes and install wall plugs if required.
 3. Replace the front cover.
- **With Bracket:**
 1. Use the mounting holes on the mounting bracket as template to mark mounting location.
 2. Screw the mounting bracket onto marked location, drill holes and install wall plugs if required.
 3. Hook the switch onto the hooks on the bracket and slide upward to secure.

You can use also choose to mount the Switch with double side adhesive tape instead of screws. Apply the tape to the back cover or mounting bracket, then apply the Switch to the mounting location.

Appendix (For developers only)

Cluster ID

Device ID: On Off Output :0x0002 Endpoint:0x01	
Server Side	Client Side
Mandatory	
Basic (0x0000)	Basic (0x0000)
Power Config(0x0001)	
Identify(0x0003)	
Groups(0x0004)	
On/Off(0x0006)	
Optional	
None	None

Attribute of Basic Cluster Information

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	ZCLVersion	Unsigned 8-bit integer	0x00 –0xff	Read only	0x01	M
0x0001	ApplicationVersion	Unsigned 8-bit integer	0x00 –0xff	Read only	0x00	O
0x0003	HWVersion	Unsigned 8-bit integer	0x00 –0xff	Read only	0	O
0x0004	ManufacturerName	Character String	0 – 32 bytes	Read only	Climax Technology	O
0x0005	ModelIdentifier	Character String	0 – 32 bytes	Read only	(Model Number)	O
0x0006	DateCode	Character String	0 – 16 bytes	Read only		O
0x0007	PowerSource	8-bit	0x00 –0xff	Read only		M
0x0010	LocationDescription	Character String	0 – 32 bytes	Read / Write		O
0x0011	PhysicalEnvironment	8-bit	0x00 –0xff	Read / Write	0x00	O
0x0012	DeviceEnabled	Boolean	0x00 –0x01	Read / Write	0x01	M

Attribute of Identify Cluster Information

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	IdentifyTime	Unsigned 16-bit integer	0x00 –0xffff	Read / Write	0x0000	M

Attributes of the Groups cluster Information

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	NameSupport	8-bit bitmap	x0000000	Read only	-	M

Attribute of On/Off Cluster Information

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	OnOff	Boolean	0x00 –0x01	Read only	0x00	M



NookBox

Smart Home Security

For more information visit:
www.getnookbox.com