

Panic Button (PB-15ZBS)

Introduction

PB15-ZBS is a ZigBee Panic Button designed to activate the system to call for help during emergency situation and support Over-the-Air (OTA) firmware update capability.

The Panic Button utilizes ZigBee technology for wireless signal transmission. ZigBee is a wireless communication protocol that is reliable and has low power consumption and 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 Panic Button serves as an end device in the ZigBee network. It can be included in the ZigBee network to transmit signal upon activation, but cannot permit any other ZigBee device to join the network through the Panic Button.

Device Introduction

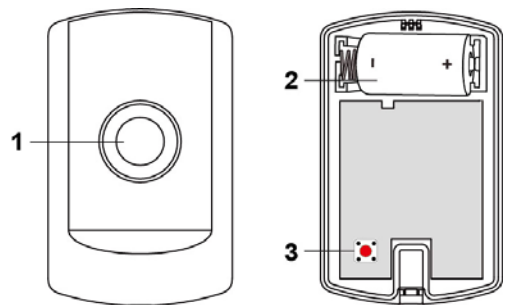
1. Active Button / LED Indicator

Active Button:

- Press the button to signal for help.
- Press and hold the button for 6 seconds before performing firmware update.

LED Indicator:

- One Flash:
The Active Button is pressed.
The device is reset
- Two Flashes:
The Panic Button has successfully joined a ZigBee Network.
- Flashes:
During OTA updates.



2. Battery Compartment

3. ZigBee Button

- Press and hold the button for 10 seconds to reset the device.

Features

● **Battery and Low Battery Detection**

The Panic Button is powered by one CR123A 3V Lithium battery.

The Panic Button features Low Battery Detection function. When the battery voltage is low, the Panic Button will transmit Low Battery signal to the ZigBee network coordinator.

● **Supervision**

The Panic Button 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 Active Button once to transmit a supervision signal manually.

ZigBee Network Setup

● **ZigBee Device Guideline**

ZigBee is a wireless communication protocol that is reliable and has low power consumption and high transmission efficiency. Based on 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.

Due to the fundamental structure of ZigBee network, ZigBee device will actively seek and join network after powering on. Since performing a task in connecting network may consume some power, it is required to follow the instructions to avoid draining battery of a ZigBee device

- Ensure your ZigBee network router or coordinator is powered on before inserting battery into ZigBee device.
- Ensure the ZigBee network router or coordinator is powered on and within range while a ZigBee device is in use.

- Do not remove a ZigBee device from the ZigBee network router or coordinator without removing the battery from a ZigBee device.

● **Joining the ZigBee Network**

As a ZigBee device, the Panic Button needs to join a ZigBee network to connect to the power device. Please follow the steps below to join the Panic Button into the ZigBee network.

1. Press and hold the ZigBee Button for 10 seconds for the Panic Button to search and join an existing ZigBee network. At the 10th second, the LED indicator will flash once. Please make sure to enable the permit-join feature on the router or coordinator of your ZigBee network
2. If the Panic Button successfully joins a ZigBee network, the LED Indicator will flash twice to confirm.
3. After joining the ZigBee network, the Panic Button will be registered in the network automatically. Please check the ZigBee network coordinator, system control panel or CIE (Control and Indicating Equipment) to confirm if joining and registration is successful.
4. If network joining and registration is unsuccessful, please check your ZigBee network coordinator, control panel or CIE setting to ensure the permit-join function is available, and then use the Factory Reset function below to join the ZigBee network.

● **Removing Device from ZigBee Network (Factory Reset)**

To remove the Panic Button from current ZigBee network, the Panic Button 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 Panic Button to search for new ZigBee network.

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

1. Press and hold the ZigBee function button for 10 seconds, then release the button to reset Panic Button.
2. Upon reset, the Panic Button 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.

● **OTA Firmware Upgrade**

The Panic Button supports OTA firmware upgrade feature via ZigBee network, which can be initiated from the ZigBee network coordinator. Follow steps below to perform OTA firmware upgrade.

1. Press and hold the Active Button for 6 seconds. Release the button when the LED flashes once.
2. You have to access your ZigBee Coordinator to perform the firmware upgrade on the air.
3. On the configuration webpage, select the device that you wish to upgrade and select the new ZigBee firmware file provided. Please refer to ZigBee Coordinator User Manual for detail.
4. Press **OK** to start upgrading process, and the LED will keep flashing. During the OTA process, please do not perform any other actions, or power down the panel.
5. The length of an upgrade will take approximately 20 to 30 minutes. Please note that the duration may vary based on file size or distance between your accessory and coordinator.
6. Wait for firmware to complete update. When the progress reaches 100%, the Device will reset automatically. You can also refresh the webpage again to ensure if the device firmware is successfully updated with the newest version displayed.

Operation

- Press the Active Button to transmit signal to ZigBee network coordinator / gateway and activate alarm.
- If the Panic Button is disconnected from the ZigBee network (e.g. being too far away from the ZigBee network), the Panic Button needs to rejoin the ZigBee network by pressing the button.

Installation

● **Mounting the Panic Button**

The Panic Button can be mounted using two methods: Self-adhesive or Screw mounting.

Self-adhesive mounting

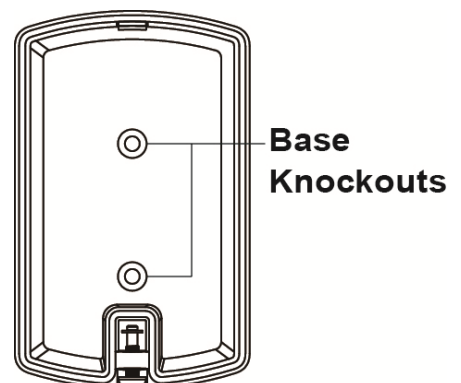
1. Clean the surface with a suitable degreaser.
2. Remove the protective covering from one side of double-sided adhesive pad and firmly apply to the back of the device.
3. Remove the other covering and firmly place/press the device in the desired location.

Do not use the Self-adhesive mounting method on poorly painted and/or rough surfaces.

Screw Mounting

The Button base has two screw knockouts, where the plastic is thinner for mounting purposes. To mount the Panic Button:

1. Loosen the screw using a Philips screwdriver and separate the top cover from the base.
2. Break through the knockouts on the base.



3. Use the holes as a template to drill two holes and insert the wall plugs.
4. Screw the base into the wall plugs.
5. Replace the top cover over the base by hooking the base onto the fixing hook and pushing the cover towards the base.
6. Secure and screw the top cover back on to its base using a Philips screwdriver.

Appendix (For developers only)

• Panic Button Cluster ID

Device ID: IAS Zone 0x0402	
Endpoint: 0x01	
Server Side	Client Side
Mandatory	
Basic (0x0000)	None
Identify(0x0003)	
IAS Zone(0x0500)	
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	0x02	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 Version)	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

• Attribute of IAS Zone Cluster Information

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	ZoneState	8-bit Enumeration	All	Read only	0x00	M
0x0001	ZoneType	16-bit Enumeration	All	Read only		M
0x0002	ZoneStatus	16-bit bitmap	All	Read only	0x00	M
0x0010	IAS_CIE_ADDRESS	IEEE ADDRESS	Valid 64bit IEEE address	Read / Write		M
0x0011	ZONE_ID	Unsigned 8-bit integer	All	Read only	0xFF	M

• **Attribute of Over the Air Upgrading Cluster Information**

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>UpgradeServerID</i>	Extended Universal Identifier-64		Read only		M
0x0001	<i>FileOffset</i>	Unsigned 32-bit integer		Read only		O
0x0002	<i>CurrentFileVersion</i>	Unsigned 32-bit integer		Read only		O
0x0003	<i>CurrentZigBeeStackVersion</i>	Unsigned 16-bit integer		Read only		O
0x0004	<i>DownloadedFileVersion</i>	Unsigned 32-bit integer		Read only		O
0x0005	<i>DownloadedZigBeeStackVersion</i>	Unsigned 16-bit integer		Read only		O
0x0006	<i>ImageUpgradeStatus</i>	8-bit Enumeration		Read only		M
0x0007	<i>Manufacturer ID</i>	Unsigned 16-bit integer		Read only	0x2794	O
0x0008	<i>Image Type ID</i>	Unsigned 16-bit integer		Read only	0x800	O
0xFFFD	<i>Cluster revision</i>	Unsigned 16-bit integer	0x0001-0xfffe	Read only	1	M

• **Attribute of Poll Control Cluster Information**

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>Check-in Interval</i>	Unsigned 32-bit integer	0x0–0x6E0000	Read / Write	0x3840(1hr)	M
0x0001	<i>LongPoll Interval</i>	Unsigned 32-bit integer	0x04–0x6E0000	Read only	0x1C20(30min)	M
0x0002	<i>ShortPollInterval</i>	Unsigned 16-bit integer	0x0–0xffff	Read only	0x000E(3.5sec)	M
0x0003	<i>FastPollTimeout</i>	Unsigned 16-bit integer	0x0–0xffff	Read / Write	0x0020(8sec)	M
0xFFFD	<i>Cluster revision</i>	Unsigned 16-bit integer	0x0001-0xfffe	Read only	1	M

Federal Communication Commission Interference Statement

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 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.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

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.