



Wireless Emergency Push Button Detector

**Wireless Emergency Push Button
Detector**

User Manual

Version History

Date	Description	Version
2018-01-25	Initial release	1.0

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1. Introduction

RB02I is a long-distance wireless emergency alarm triggering device of Netvox Class-A equipment based on LoRaWAN open protocol. When people encounter danger and need emergency assistance, press RB02I alarm key, RB02I immediately sends out alarm information to gateway, RB02I is compatible LoRaWAN protocol.

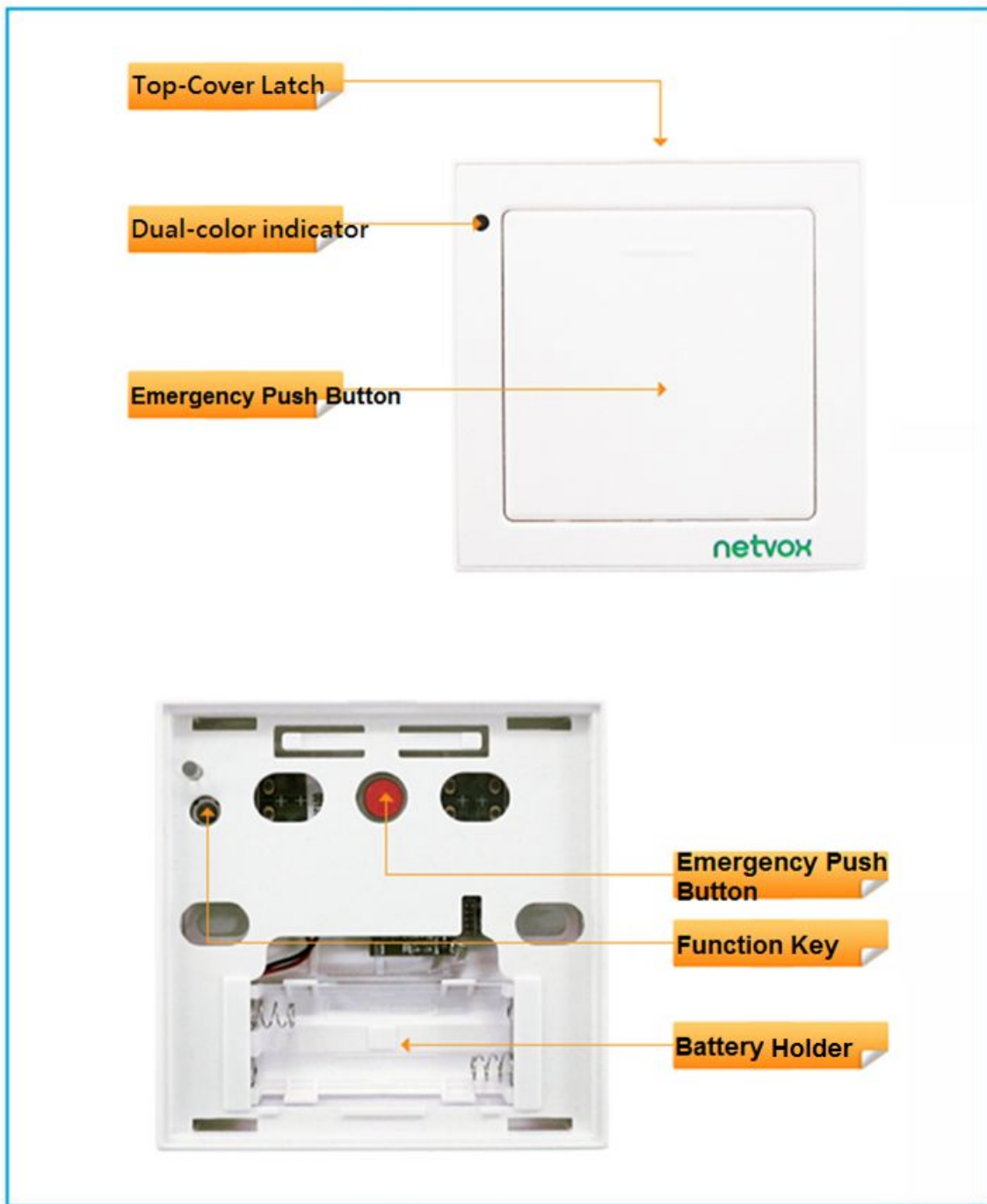
LoRa Wireless Technology:

LoRa is a wireless communication technology dedicated to long distance and low power consumption. Compared with other communication methods, LoRa spread spectrum modulation method greatly increases to expand the communication distance. Widely used in long-distance, low-data wireless communications. For example, automatic meter reading, building automation equipment, wireless security systems, industrial monitoring. Main features include small size, low power consumption, transmission distance, anti-interference ability and so on.

LoRaWAN:

LoRaWAN uses LoRa technology to define end-to-end standard specifications to ensure interoperability between devices and gateways from different manufacturers.

2. Appearance





3. Main Features

- Compatible with LoRaWAN
- AAA battery power
- To send emergency message
- Simple Installation

4. Set up Instruction

4.1. Power on and Turn on / off

(1) Power on=> install two AAA batteries on the equipment. Operation method: open the front cover

latch of the battery; take two AAA batteries, and put them into the battery holder in the correct direction to cover the front cover.

(2) Turn on => the device (had never joined in any network) is powered off by default when the battery is installed. At this moment, press any of the buttons on the device. After releasing, the green and yellow indicators flash at the same time to indicate that turning on is successful.

(3) Turn off => Press and hold function key for 5 seconds till the green indicator flashes quickly and release. The green indicator will flash 20 times to show that RB02I is turned off.

Remark:

A. The interval between shutting down twice or power off/on is suggested to be about 10 seconds to avoid the interference of capacitor inductance and other energy storage components.

B. Do not power on the device while either button is pressed, otherwise the device will enter the engineering test mode.

4.2 Join Into Lora Network

To join RB02I into LoRa network to communicate with LoRa gateway.

The network operation is as following:

(1) If RB02I had never joined any network or at factory setting mode, turn on the device; it will search an available LoRa network to join. The green indicator will stay on for 5 seconds to show it joins into the network, otherwise, the green indicator will be off.

(2) If RB02I had been joined into a LoRa network, remove and insert the batteries; the green indicator will stay on for 5 seconds to show it's in the network.

4.3 Function Key

(1) Press and hold function key for 5 seconds to reset to factory setting. After restoring to factory setting successfully, the green indicator will flashes quickly 20 times.

(2) Press function key; the green indicator flashes once to show it's in the network.

(3) Press emergency button to send a data report to gateway; it will show yellow indicator will flash once to show successful.

4.4 Data Report

When the device is turned on, it will immediately send a version package.

Data will be reported once per hour by default setting before configuration.

Maximum time: 3600s

Minimum time: 3600s

Default reportchange:

Battery ---- 0x01 (0.1V)

Note: MinInterval is the sampling period for the Sensor. Sampling period \geq MinInterval.

Data report configuration and sending period are as following:

Min Interval (Unit:second)	Max Interval (Unit:second)	Reportable Change	Current Change \geq Reportable Change	Current Change < Reportable Change
Any number between 1~65535	Any number between 1~65535	Can not be 0.	Report per Min Interval	Report per Max Interval

5. Restore to Factory Setting

RB02I saves data including network key information, configuration information, etc. To restore to factory setting, users need to execute below operations.

1. Press and hold function key for 5 seconds till the green indicator flashes and then release; LED flashes quickly 20 times.
2. RB02I will stay off after restoring to factory setting. Press function key to turn on RB02I and to join a new LoRa network.

6. Sleeping Mode

RB02I is designed to enter sleeping mode for power-saving in some situations:

- (A) While the device is in the network \rightarrow the sleeping period is one hour. (During this period, if the reportchange is larger than voltage change, it will wake up and send a data report).
- (B) When it is not in the network \rightarrow RB02I will enter sleeping mode and wake up every 15 seconds to search a network to join in the first two minutes. After two minutes, it will wake up every 15 minutes to request to join the network.

If it's at (B) status, to prevent this unwanted power consumption, we recommend that users remove the batteries to power off the device.

7. Low Voltage Alarming

The operating voltage threshold of RB02I is 2.1V. If the voltage is lower than 2.1V, RB02I will send a low-power report to the Lora network.

8. Important Maintenance Instruction

Your device is a product of superior design and craftsmanship and should be used with care. The following suggestions will help you use the warranty service effectively.

- Keep the equipment dry. Rain, moisture, and various liquids or moisture may contain minerals that can corrode electronic circuits. In case the device is wet, please dry it completely.
- Do not use or store in dusty or dirty areas. This can damage its detachable parts and electronic components.
- Do not store in excessive heat. High temperatures can shorten the life of electronic devices, destroy batteries, and deform or melt some plastic parts.
- Do not store in excessive cold place. Otherwise, when the temperature rises to normal temperature, moisture will form inside, which will destroy the board.
- Do not throw, knock or shake the device. Rough handling of equipment can destroy internal circuit boards and delicate structures.
- Do not wash with strong chemicals, detergents or strong detergents.
- Do not apply with paint. Smudges can block debris in detachable parts and affect normal operation.