



Wireless Door Bell Button

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User Manual

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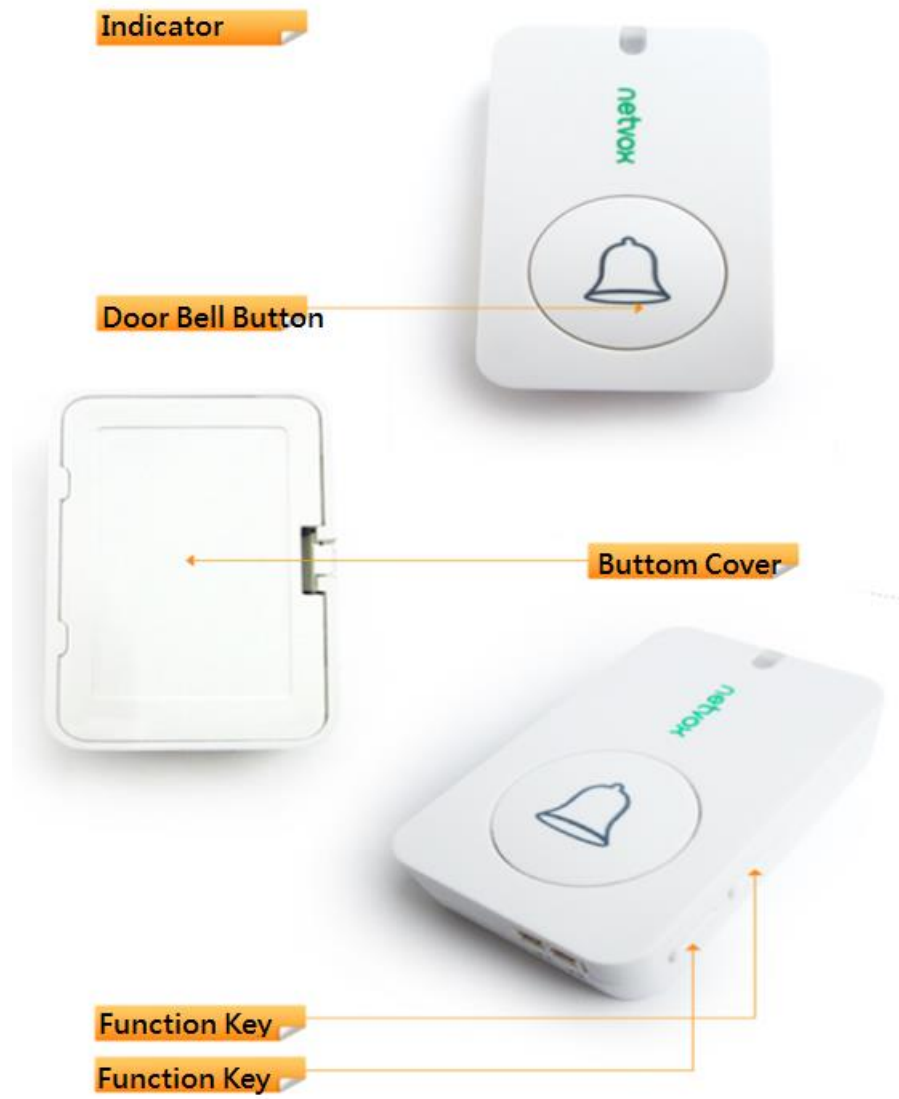
1. Introduction

The R312 is a door bell button device for Netvox ClassA type devices based on the LoRaWAN open protocol and is compatible with the 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.

2. Appearance



3. Main Features

- Compatible with LoRaWAN
- 2 sections of 3V CR2450 button battery power supply
- Detectable voltage value and door bell button status
- Simple operation and setting

4. Set up Instruction

4.1 Power on and Turn on / off

(1) **Power on:** Insert batteries: open the battery cover (users may need a flat blade screwdriver to open); insert two sections of 3V CR2450 button batteries and close the battery cover.

(2) **Turn on:** If the device had never joined in any network or at factory setting mode, after powering on, the device is at off mode by default setting. Press any function key and release to turn on the device. Both green and red indicator will flash once to show that R312 is turned on.

(3) **Power-off operation after turn-on:** after the battery is removed, the battery is discharged for about 10 seconds and reload batteries again. At this time, the device is turned on by default (it has been turned on, no need to press the button again to enter the turn-on state). Both red and green lights are on and off.

(4) **Turn off:** Press and hold both function keys for 5 seconds till the green indicator flashes quickly and release. The green indicator will flash 20 times to show that R312 is turned off.

Note:

(1) 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.

(2) Do not power on the device and press any function key at the same time, otherwise it will enter engineering test mode.

4.2 Join Into Lora Network

To join R312 into LoRa network to communicate with LoRa gateway. The network operation is as following:

(1) If R312 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 R312 had been joined into a LoRa network, remove and insert the batteries; the green indicator will stay on for 5 seconds to show it joins into the network.

4.3 Function Key

- (1) Press and hold both function keys for 5 seconds to reset to factory setting. After restoring to factory setting successfully, the green indicator will flashes quickly 20 times.
- (2) Press any function key and it will send a data report. The green indicator will flash once.
- (3) Press the door bell button and the red indicator flashes once and sends a data report.

4.4 Data Report

When the device is powered on and activated, it will immediately send a version package and a cluster data report.

Data will then be reported once per hour by default setting.

Maximum time: 3600s

Minimum time: 3600s (The current voltage value is detected every 3600 seconds by default)

Default reportchange:

Battery ---- 0x01 (0.1V)

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

Emergency button trigger:

Press and hold the emergency button for 3 seconds, and immediately send a report. The emergency status bit is: 1

When the emergency button is not pressed, the emergency status bit is: 0

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. Control Command

FPort: 0x0D

ConfigButtonPressTime(Bi-Direction)

Default: 2s

Description	CmdID	PayLoad(Fix byte,1byte)
SetButtonPressTimeReq	0x01	PressTime (1bytes, 0x00_QuickPush_Less then 1 Second, 0x01_1 Second push, 0x02_2 Seconds push, 0x03_3 Seconds push, 0x04_4 Seconds push, 0x05_5 Seconds push, Other value is reserved)
SetButtonPressTimeRsp	0x81	Status(0x00_Success 0x01_Failure)
GetButtonPressTimeReq	0x02	
GetButtonPressTimeRsp	0x82	PressTime(1bytes, 0x00_QuickPush_Less then 1 Second, 0x01_1 Second push, 0x02_2 Seconds push, 0x03_3 Seconds push, 0x04_4 Seconds push, 0x05_5 Seconds push, Other value is reserved)

6. Restore to Factory Setting

R312 saves data including network key information, configuration information, etc. To restore to factory setting, users need to execute below operations.

1. Press and hold both function keys for 5 seconds till the green indicator flashes and then release; LED flashes quickly 20 times.
2. R312 will be off after restoring to factory setting. Press function key to turn on R312 and to join a new LoRa network.

7. Sleeping Mode

R312 is designed to enter sleeping mode for power-saving in some situations:

- (A) While the device is in the network → the sleeping period is Min Interval. (During this period, if the reportchange is larger than setting value, it will wake up and send a data report).
- (B) When it is not in the network → R312 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.

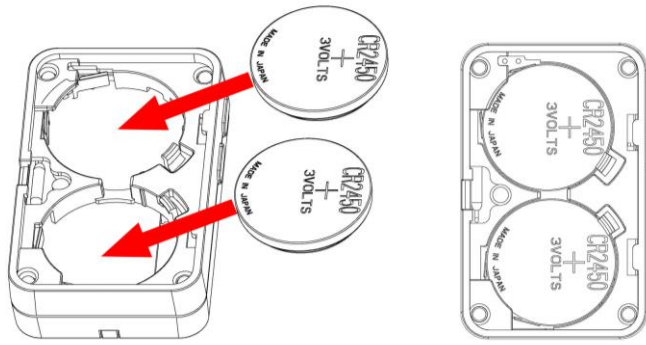
If it's at (B) status, to prevent this unwanted power consumption, we recommend that users remove the batteries to power off the device.

8. Low Voltage Alarming

The operating voltage threshold is 2.4V. If the voltage is lower than 2.4V, R312 will send a low-power report to the Lora network.

9. Installation

- (1) This product does not have a waterproof function. After the screening is completed, please place it indoors.
- (2) The dust at the equipment installation position needs to be wiped clean and then pasted.
- (3) The battery installation method is as shown below (the battery has a "+" side facing outward)
- (4) Users may need a flat blade screwdriver to open the battery cover.



1. Remove the 3M glue on the back of the device and attach the device to the smooth wall (please do not stick it to the rough wall to avoid falling off after a long time use).

Note:

- Wipe the wall surface before installation to avoid dust on the wall surface and affect the paste capability.
- Do not install the device in a metal shielded box or other electrical equipment around it to avoid affecting the wireless transmission of the device.

The figure shows the smart doorbell (R312) applied to the home entrance door scene.

It can also be applied to the following scenarios:

- Villa
- Office front desk
- Hotel
- Apartment



2. When the doorbell (R312) button is pressed, the message "Alarm" is sent.

When the device reports data periodically, it restores the "normal" status and sends "normal" status information.

Note: With the sound and light alarm (R602A), the audible and visual alarm will ring the door after the doorbell is pressed.

10. 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.
- Do not throw the battery into a fire to prevent the battery from exploding. Damaged batteries may also explode.

All of the above suggestions apply equally to your device, battery and accessories. If any device is not working properly.

Please take it to the nearest authorized service facility for repair.