netvox™

Wireless 2-Input Dry Contact Interface

DIREKTRONIK

Dataprodukter utöver det vanliga

Wireless 2-Input Dry Contact Interface

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1. Introduction

R718J2 is a ClassA type external 2-way dry contact device based on LoRaWAN open protocol of Netvox. It can externally connect various switches, buttons, relays and reed switch output. It can detect the closing or disconnecting signal of dry contact and is compatible with LoRaWAN protocol.

LoRa wireless technology:
LoRa is a wireless communication technology dedicated to long-distance low-power consumption. Its spread-spectrum modulation method greatly increases the communication distance compared with other communication methods, and can be widely used in long-distance low-rate IoT wireless communication fields in various occasions. Such as automatic meter reading, building automation equipment, wireless security systems, industrial monitoring and control. It has the characteristics of small size, low power consumption, long transmission distance and strong anti-interference ability.

LoRaWAN:
LoRaWAN defines an end-to-end standard specification using LoRa technology to ensure interoperability between devices and gateways from different vendors.

2. Appearance
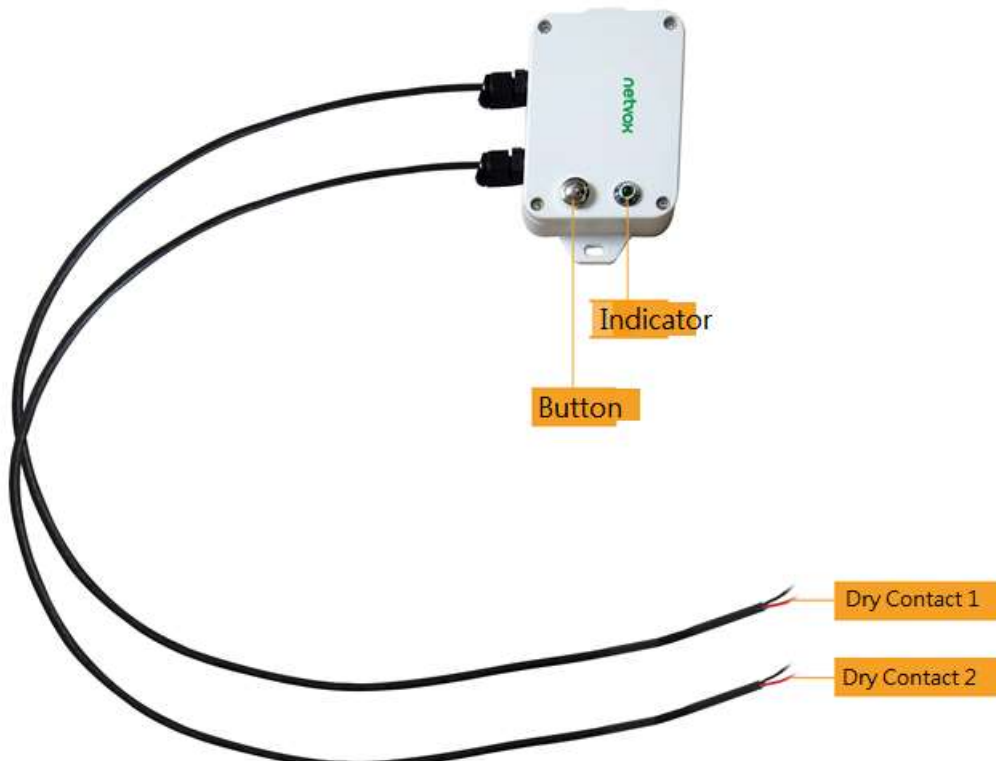
3. Product Property

- Compatible with LoRaWAN
- 2 ER14505 lithium batteries (3.6V / section) parallel power supply
- 2-way dry contact detection
- 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; insert two sections of 3.6V ER14505 AA 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 and hold function key for 3 seconds till the green indicator flashes once and release to turn on device.

(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 the device 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 press function key and insert batteries in the same time, otherwise, it will enter engineer testing mode.

3. Turn off operation is same with "Restore to Factory Setting" operation.

4. Each time the battery is removed, it will be installed in the default "turn off" state, and users can turn on.

4.2 Join into the Network

To join the device into LoRa network to communicate with LoRa gateway.

The network operation is as following:

(1) If the device had never joined any network, 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 the device had been joined into a LoRa network, remove and insert the batteries; it will repeat step (1).

4.3 Function of Keys

(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 to turn on the device which is in the network and the green indicator will flash
once and the device will send a data report.

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.
Maximum time: 3600s
Minimum time: 3600s (Detect the current voltage value every 3600s by default setting)
Default reportchange:
Battery ---- 0x01 (0.1V)

Note:
The device send data cycle depends on real burning configuration.
The interval between two reports must be the minimum interval.

Dry contact detection trigger:
The dry contact detects a change in state and immediately issues a report. Closed: 0, pulled open: 1.

Data report configuration and sending period are as following:

Min. Interval (Unit:second)	Max. Interval (Unit:second)	Reportable Change	Current Change≥ 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

R718J2 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. R718J2 is at off mode by default setting after restoring to factory setting.

Note: The device operation of turning off is the same as the "Restore Factory Settings" operation.

6. Sleeping Mode

The device 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 → R718J2 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 is 3.2V. If the battery voltage is lower than 3.2V, the device will send a low-power warning to the LoRa network.

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9. Installation

The device can be connected with 2 dry contact devices, such as various switches, buttons, and output of the reed switch, to detect the closing or opening signal of the dry contact. Connect the dry contact lead directly to the switch, the button, and the reed switch.

This product comes with waterproof function. When using it, the back of it can be adsorbed on the iron surface, or the two ends can be fixed to the wall with screws.
Note: To install the battery, use a screwdriver or similar tool to assist in opening the battery cover.

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 a 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.