

R716S

Portable LoRa Field Signal Meter

User Manual

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1. Introduction

R716S is developed based on LoRa technology to detect the network signal of the LoRa network. R716S can detect the LoRa signal strength of the scanned area and display the detected data through LCD.

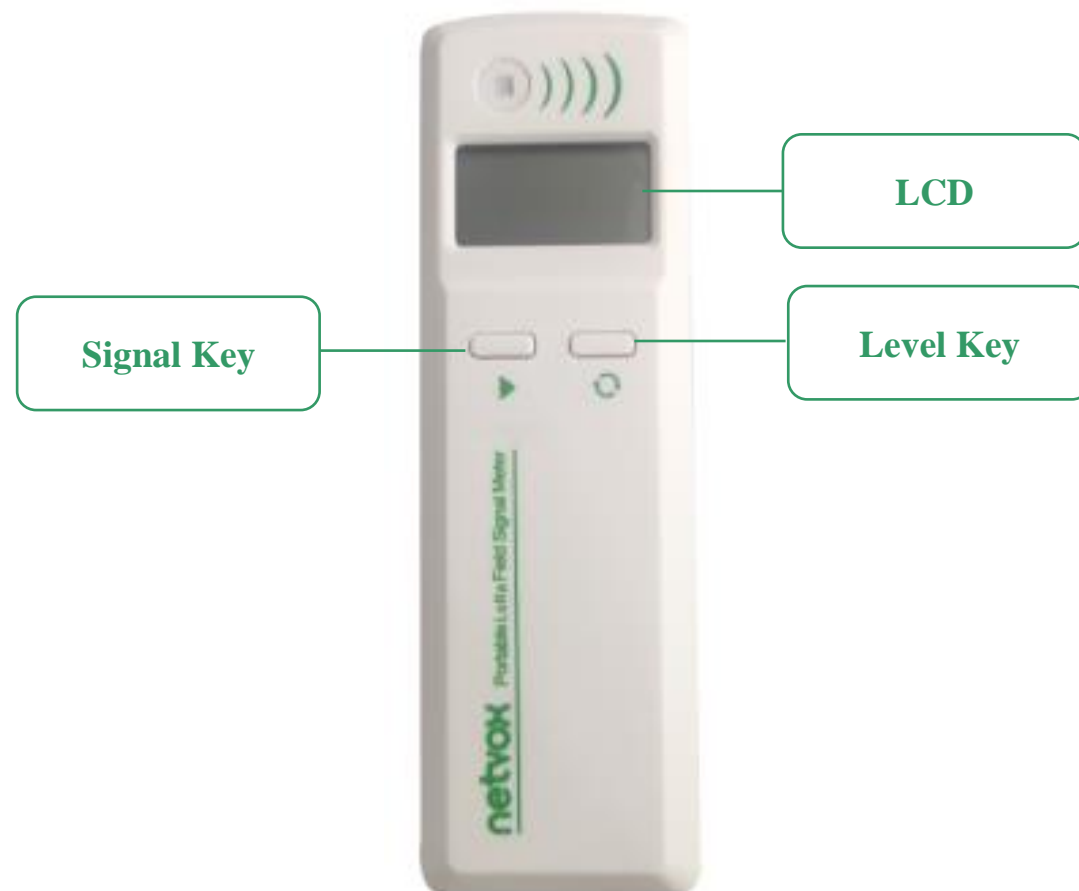
LoRa Wireless Technology:

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. Features

- SX1276 wireless communication module
- 2 x AA batteries (1.5V / section)
- Detect wireless signal strength
- LCD screen
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum technology
- Low power consumption and long battery life

Note:

(1) Actual range may vary depending on environment.

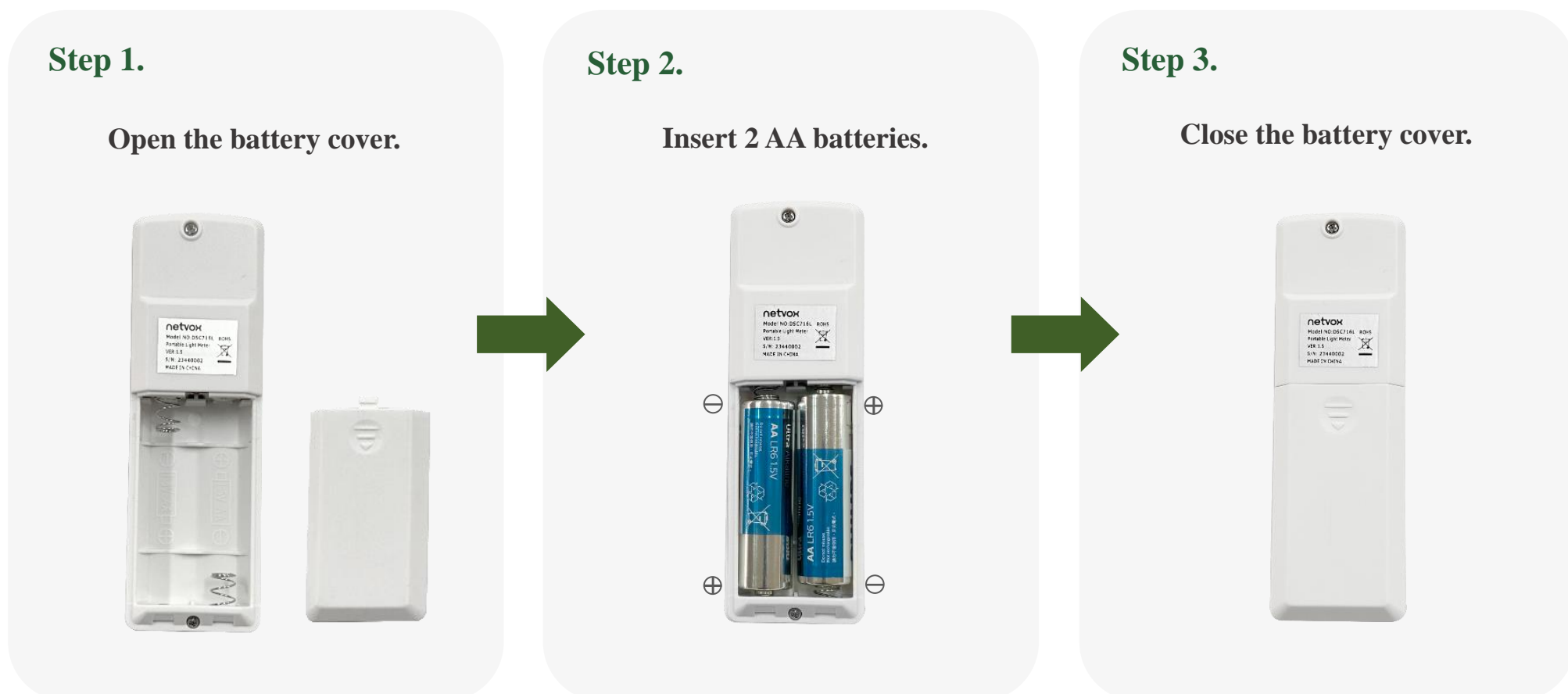
(2) Battery life is determined by sensor reporting frequency and other variables.

Please visit http://www.netvox.com.tw/electric/electric_calc.html for detailed information of battery lifespan calculation.

4. Set up Instruction

4.1. Power On

R716S uses 2 AA batteries to power on.



Step 1. After powering on, the R716S will light up and display



Step 2. Search the network automatically.

Failed to join the network: display “noNE”

Successfully join the network: displayed and updated the signal value

Step 3. Sleep mode: when the R716S is not in use within 40 seconds

4.2. Manual Activation

1. Press the “signal key” or “level key” once to activate the device.
2. After activating the device, the screen lights up and displays the last displayed result.
3. After the device is activated, if there is no operation within 40 seconds, the screen will turn off and enter sleep mode.
4. If it is activated again within 40s after the previous activation, the device starts to update the signal value in real time.

Note:

- (1) R716S could show “noNe” due to the poor connection of network, interruption of signal, or long-distance communication. It would start detection only when the network connection is stable. Pressing the signal key or the level key would not activate the device.
- (2) R716S would refresh the data every 5 seconds during the first 30 seconds. For the last 10 seconds, the final detection result would be shown on the LCD screen.

4.3. Function Key

➤ Detect Signal Strength

Press the signal key, the LCD will display the current detected signal strength and update the signal value in real time.

➤ Display Signal Level

Press the level key, the LCD will display the current signal level based on the packet loss.

4.4. LCD Interface

R716S display four digits.

1. Press the signal key, and it will display the signal strength in four digits.
2. Press the level key, and it will display the signal level in the fourth digit.

The Range of Signal Strength Level:

Packet Loss (%)	90–100	80–90	70–80	60–70	50–60	40–50	30–40	20–30	10–20	0–10
Signal Level	0	1	2	3	4	5	6	7	8	9

Note:

To get an accurate result, user should wait until the final detection result to show on the LCD.



4.5. Sleep Mode

1. After the device is powered on, if there is no operation within 40 seconds, it will enter sleep mode.
2. After the device wakes up, the last value will be displayed. If there is no operation within 40s, it will enter sleep mode.

4.6. Command

1. After the device is powered on and automatically detects the signal value, the device will send a command every 5 seconds.

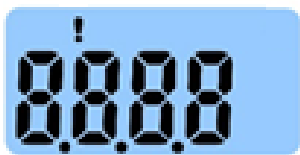
2. After the signal is detected, each sent command corresponds to a replied command.

If the device is in the detection state, the command will be sent.

If the device is activated or in the sleep mode, the command will not be sent.

4.7. Low Voltage Warning

When the voltage is lower than or equal to 2.4V, “!” will be displayed at the top of the screen.



5. Applications

This device is mainly suitable for detecting the signal strength of gateway coverage. If multiple networks are in the same range, false data could be shown.

6. Important Maintenance Instruction

Kindly pay attention to the following in order to achieve the best maintenance of the product:

- Keep the device dry. Rain, moisture, or any liquid might contain minerals and thus corrode electronic circuits. If the device gets wet, please dry it completely.
- Do not use or store the device in dusty or dirty environment. It might damage its detachable parts and electronic components.
- Do not store the device under excessively hot condition. High temperature can shorten the life of electronic devices, destroy batteries, and deform or melt some plastic parts.
- Do not store the device in places that are too cold. 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 clean the device with strong chemicals, detergents or strong detergents.
- Do not apply the device with paint. Smudges might block in the device and affect the operation.
- Do not throw the battery into the fire, or the battery will explode. Damaged batteries may also explode.

All of the above applies to your device, battery and accessories. If any device is not working properly, please take it to the nearest authorized service facility for repair.