

# Wireless H<sub>2</sub>S Sensor

R718PA4

User Manual

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## 1. Introduction

R718PA4 is a long-range wireless occupancy detection device for Netvox Class A type devices based on LoRaWAN open protocol.

The R718PA4 can be connected to a hydrogen sulfide sensor with RS485 to report the concentration of hydrogen sulfide collected by the device to the corresponding platform. The device 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.

LoRaWAN:

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

## 2. Appearance

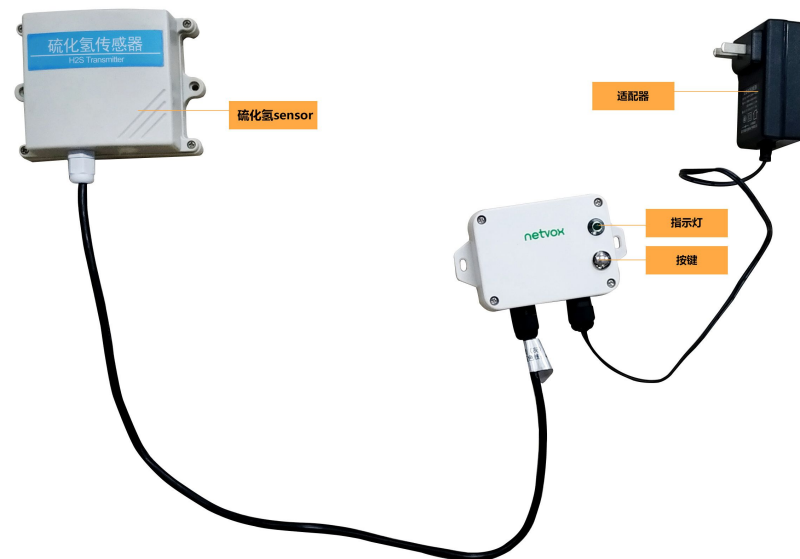


Fig.1 R718PA4 Appearance

## 3. Main Features

- Adopt SX1276 wireless communication module
- 12V DC power supply
- Hydrogen sulfide H<sub>2</sub>S sensor detection
- The base is attached with a magnet that can be attached to a ferrous object
- Protection class IP65
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum
- Configuration parameters can be configured via a third-party software platform, data can be read and alerts can be set via SMS text and email (optional)
- Applicable to third-party platforms: Activity/ThingPark, TTN, MyDevices/Cayenne

## 4.Set up Instruction

### On/Off

Power on	DC12V adapter
Turn on	Press and hold the function key for 3 seconds till the green indicator flashes once.
Turn off (Restore to factory setting)	Press and hold the function key for 5 seconds till the green indicator flashes for 20 times.
Power off	Remove DC12V adapter.
Note:	<ol style="list-style-type: none"> <li>At 1<sup>st</sup> to 5<sup>th</sup> second after power on, the device will be in engineering test mode.</li> <li>Remove and supply the power; the device is at off state by default. Need to be turned on to use.</li> <li>On/off interval is suggested to be about 10 seconds to avoid the interference of capacitor inductance and other energy storage components.</li> </ol>

### Network Joining

Never joined the network	<p>Turn on the device to search the network to join.</p> <p>The green indicator stays on for 5 seconds: success</p> <p>The green indicator remains off: fail</p>
Had joined the network	<p>Turn on the device to search the previous network to join.</p> <p>The green indicator stays on for 5 seconds: success</p> <p>The green indicator remains off: fail</p>
Fail to join the network (when the device is on)	<p>First two mins: wake up every 15 seconds to send request.</p> <p>After two mins: enter sleeping mode and wake up every 15 minutes to send request.</p> <p>Note: Suggest to remove batteries if the device is not used to save power.</p> <p>Suggest to check the device verification information on the gateway or consult your platform server provider.</p>

### Function Key

Press and hold for 5 seconds	<p>Restore to factory setting / Turn off</p> <p>The green indicator flashes for 20 times: success</p> <p>The green indicator remains off: fail</p>
Press once	<p>The device is in the network: the green indicator flashes once and sends a report</p> <p>The device is not in the network: the green indicator remains off</p>

## 5. Data Report

The device will immediately send a version package report and a report data with temperature and humidity and voltage values. The device sends data in the default configuration before any configuration is done.

Maximum time: Max Interval

Note:

The real data sending cycle is programmed before shipment. There is no minimum time supported.

R718PA4 defaults Max Interval = 60min.

R718PA4 reports the hydrogen sulfide H<sub>2</sub>S concentration value.

The data parsing reported by the device is referenced by the Netvox LoraWAN Application Command document and <http://www.netvox.com.cn:8888/page/index>

**Report Configuration:**

Description	Device	Cmd ID	DeviceType	NetvoxPayLoadData		
ConfigReportReq	R718PA4	0x01	0x57	MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	Reserved
ConfigReportResp		0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)	
ReadConfigReportReq		0x02		Reserved (9Bytes,Fixed 0x00)		
ReadConfigReportResp		0x82		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	Reserved

**Report Configuration Example:**

(1) Report configuration parameters

MinTime = 1min, MaxTime = 1min

Downlink: 0157003C003C0000000000

Device returns:

8157000000000000000000000000 (configuration is successful)

8157010000000000000000000000 (configuration is failed)

(2) Read configuration parameters

Read device parameters

Downstream: 025700000000000000000000

Device returns: 8257003C003C0000000000 ( To read current report configuration parameter)

## 6.Installation

This product comes with a waterproof function.

When using it, users can attach the back side to the iron surface, or use screws to fix both ends to the wall.

Note: To install the battery, use a screwdriver or similar tool to assist in opening the battery cover.

1. The device has a built-in magnet (as shown below). It can be attached to the surface of an iron object when it is installed, which is convenient and quick. In order to make the device installation more secure, use screws (purchased) to fix the device to the wall or other surface (such as the installation diagram). The device is screwed in - two screws in the middle (purchased by users).

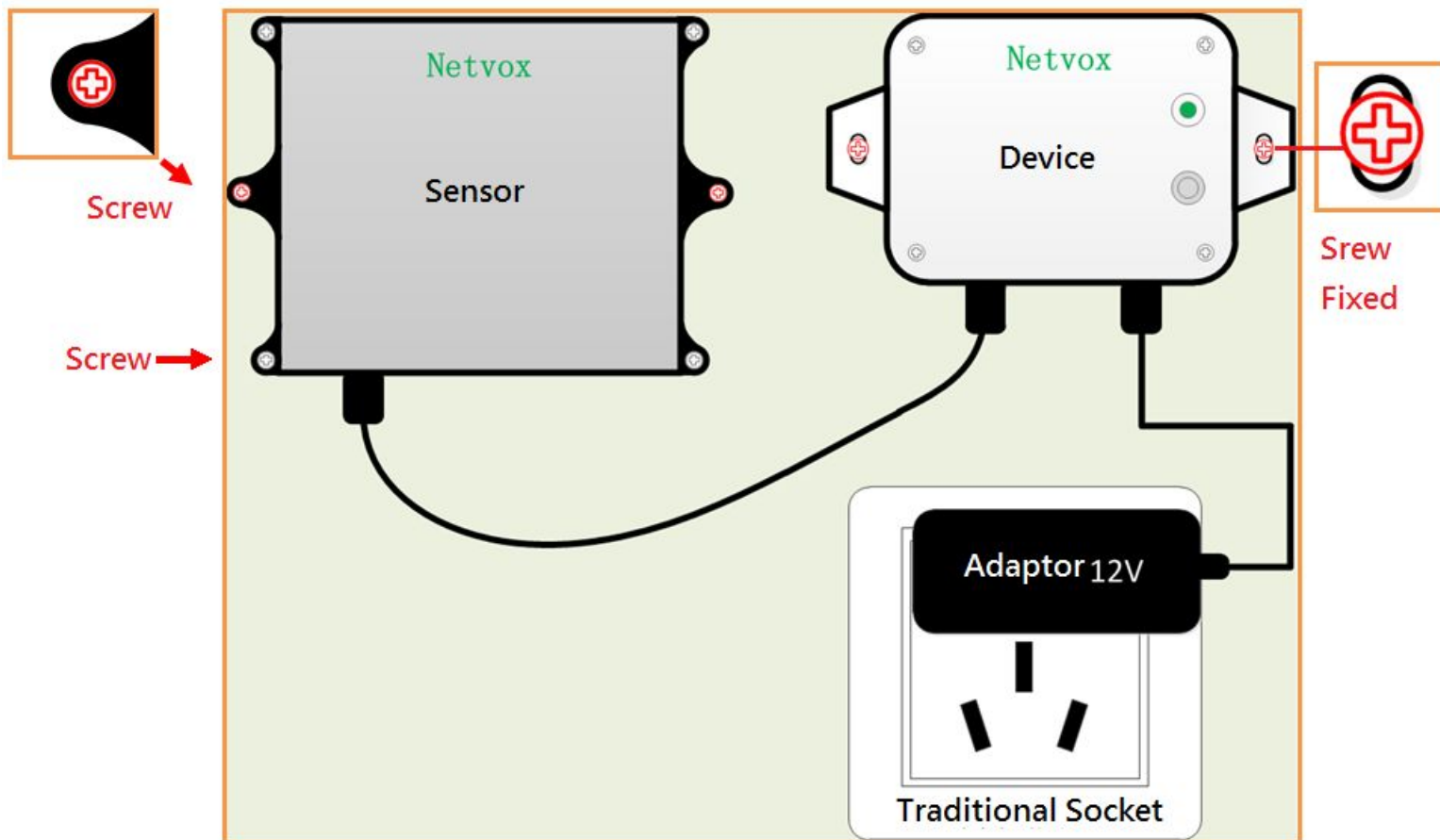
Do not install the device in a metal shielded box or in an environment with other electrical equipment around it to avoid affecting the wireless transmission of the device.



2. The device periodically reports the data according to Max Time. The default Max Time is 1 hour. Note: Max Time can be modified by the downlink command, but it is not recommended to set this time too small to avoid excessive battery drain.

3. The device can be used in scenarios such as:

- Sewer
- Pig farm
- Chemical plant
- Wastewater treatment plant
- Exploration drilling channel



## 7.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.