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netvox R718PA1 Wireless CO Sensor User Manual

Model: R718PA1
Wireless CO Sensor R718PA1
User Manual

Contents

Introduction

R718PA1 is a Class A device based on the LoRaWANTM protocol of Netvox and is compatible with the LoRaWAN protocol.
R718PA1 can be connected to a corresponding carbon monoxide sensor (RS485) to report the concentration of carbon monoxide collected by the device to the corresponding gateway. 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.

Appearance
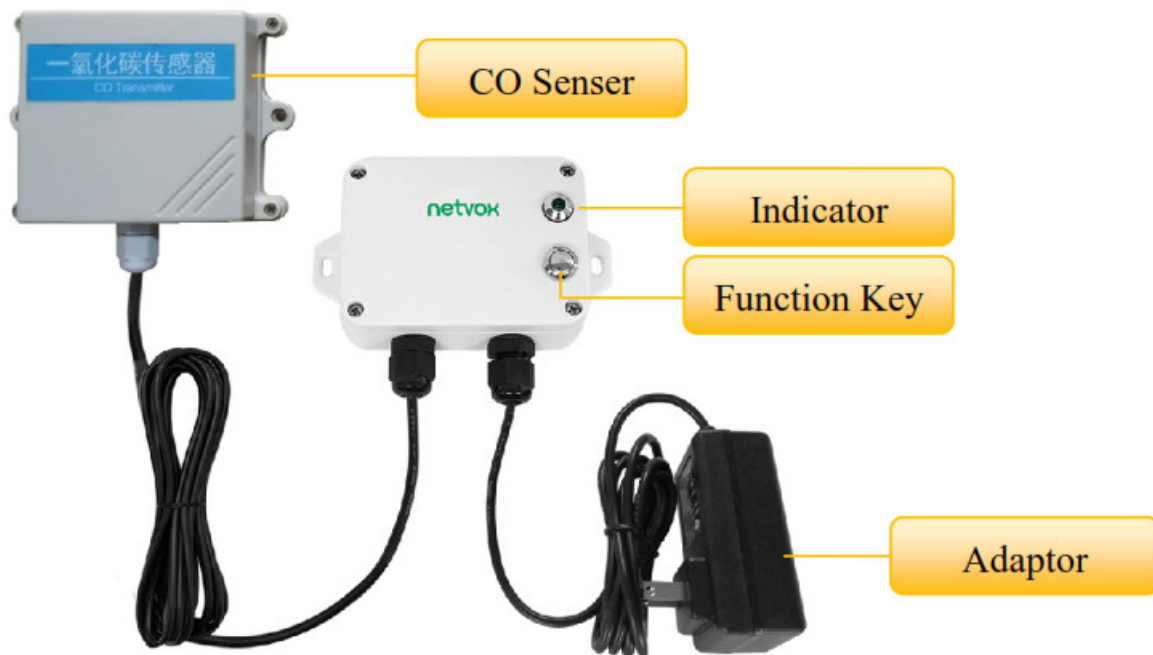
Main Feature

- Adopt SX1276 wireless communication module
- 12V DC power supply
- CO detection
- The base is attached with a magnet that can be attached to a ferrous object
- Main body protection level IP65 / IP67 (optional)
- Compatible with LoRaWANTM Class A
- Frequency hopping spread spectrum
- Configuring parameters and reading data via third-party software platforms, and set alarms via SMS text and email (optional)
- Applicable to third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne

Set Up Instruction

On/Off

Power on	DCl2V adapter
Turn on	DCl2V power supply, the green indicator flashing once means turn on successfully.
Turn of (Restore to factory setting)	Press and hold the function key for 5 seconds till the green indicator flashes 20 times.
Power off	Remove DC l2V adapter.
Note:	I. The first 5 seconds after power on. the device will be in engineering test mode. 2. On/off interval is suggested to be about 10 seconds to avoid the interference of capacitor inductance and other energy storage components.

Network Joining

Never joined the network	Turn on the device to search the network to join. The green indicator stays on for 5 seconds: success The green indicator remains off: fail
Had joined the network (Not restore to the factory setting)	Turn on the device to search the previous network to join. The green indicator stays on for 5 seconds: success The green indicator remains off: fail
Fail to join the network	Suggest to check the device verification information on the gateway or consult your platform server provider.

Function Key

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

Data Report

The device will send a version package report immediately after power-on. Then, it will send a report data with the concentration of carbon monoxide **after it is powered on for 20s.**

The device sends data according to the default configuration before any other configuring.

Default setting:
MaxTime: Max Interval = 3min = 180s
MinTime: The MinTime configuration is not available.
*But the software has restriction, MinTime must be configured a number greater than 0.

Note:

1. The cycle of the device sending the data report is according to the default.

2. R718PA1 reports the concentration of carbon monoxide.

Please refer Netvox LoRaWAN Application Command document and Netvox Lora Command Resolver **http://loraresolver.netvoxcloud.com:8888/page/index** to resolve uplink data.

Example of Configure Cmd

FPort0x07

Bytes	1	1	Var (Fix =9 Bytes)
	CmdID	DeviceType	NetvoxPayLoadData

CmdID – 1 byte
DeviceType – 1 byte
Device Type of Device – NetvoxPayLoadData var bytes (Max=9bytes)

Description	Device	Cmd ID	Device Tipe	NetvoxPayLoadData		
ConfigReport Req	R718PA1	0x01	0x57	MinTime (2bytes Unit: s)	MaxTime (2bytes Unit: s)	Reserved (5Bytes,Fixed Ox00)
ConfigReport Rsp		0x81		Status (0x00 success)		Reserved (8Bytes, Fixed Ox00)
ReadConfig ReportReq		0x02		Reserved (9Bytes, Fixed Ox00)		
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit: s)	MaxTime (2bytes Unit: s)	Reserved (5Bytes,Fixed Ox00)

(1) Configure the report MaxTime = 1min (The MinTime configuration is useless, but it needs to be set greater than 0 because of the software limitation.) Downlink: 0157000A003C0000000000
Device Return:
8157000000000000000000 (configuration is success)
8157010000000000000000 (configuration is failure)

(2) Read device configuration parameters Downlink: 0257000000000000000000 Device Return: 8257000A003C0000000000 (device current configuration parameter)

Installation

1. R718PA1 has a built-in magnet (as the figure below). It can be attached to the surface of an iron object conveniently and quickly when it is installed.

   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 by two screws in the middle (purchased by users).

2. The device periodically reports the data according to Max Time. The default Max Time is 3min.

Note:

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.
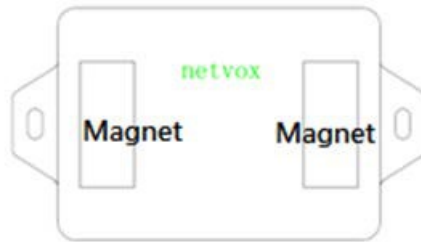
Note: Max Time can be modified by the downlink command, but it is not recommended to set this time too short.

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

- Boiler room
- Parking lot
- Gas water heater
- Mine environment monitoring
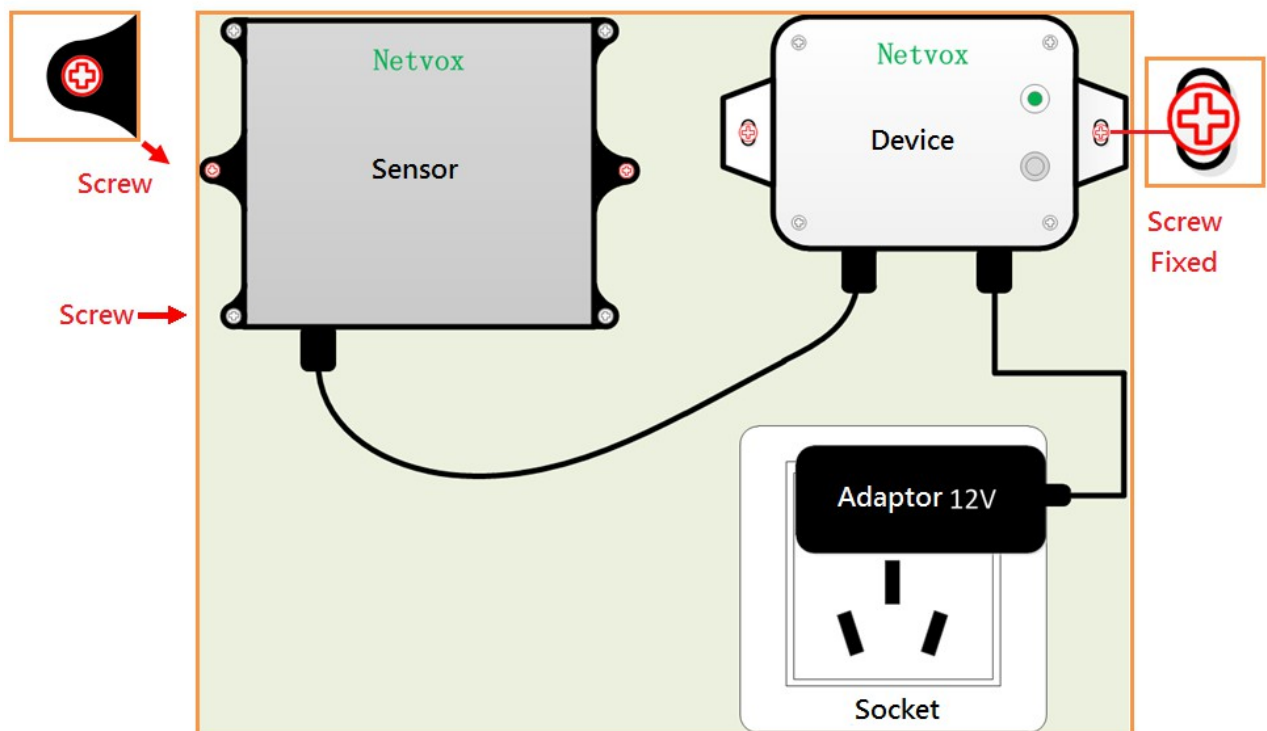
Important Maintenance Instruction

Kindly pay attention to the following in order to achieve the best maintenance of the product:
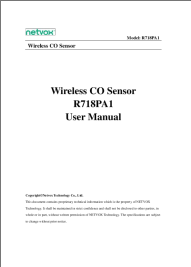
- Keep the equipment dry. Rain, moisture and various liquids or water may contain minerals that can corrode electronic circuits. In case the device is wet, please dry it completely.
- Do not use or store in dusty or dirty areas. This way can damage its detachable parts and electronic

components.

- Do not store in excessive heat place. 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. Treating equipment roughly can destroy internal circuit boards and delicate structures.
- Do not wash with strong chemicals, detergents or strong detergents.
- Do not paint the device. Smudges can make debris block detachable parts up and affect normal operation.
- Do not throw the battery into the fire to prevent the battery from exploding. Damaged batteries may also explode.

All the above suggestions apply equally to your device, batteries and accessories. If any device is not operating properly. Please take it to the nearest authorized service facility for repairing.

Documents / Resources

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