

Wireless NO₂ Sensor

Wireless Sensor Network Based on LoRa Technology



R718PA5 Data Sheet

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Introduction

The R718PA5 is a wireless communication device that detects NO2 concentration in ambient air. The main unit communicates with the NO2 sensor via the RS485 connection interface. The collected data will be shown on other devices such as a third-party platform through wireless network compatible with LoRaWANTM protocol.

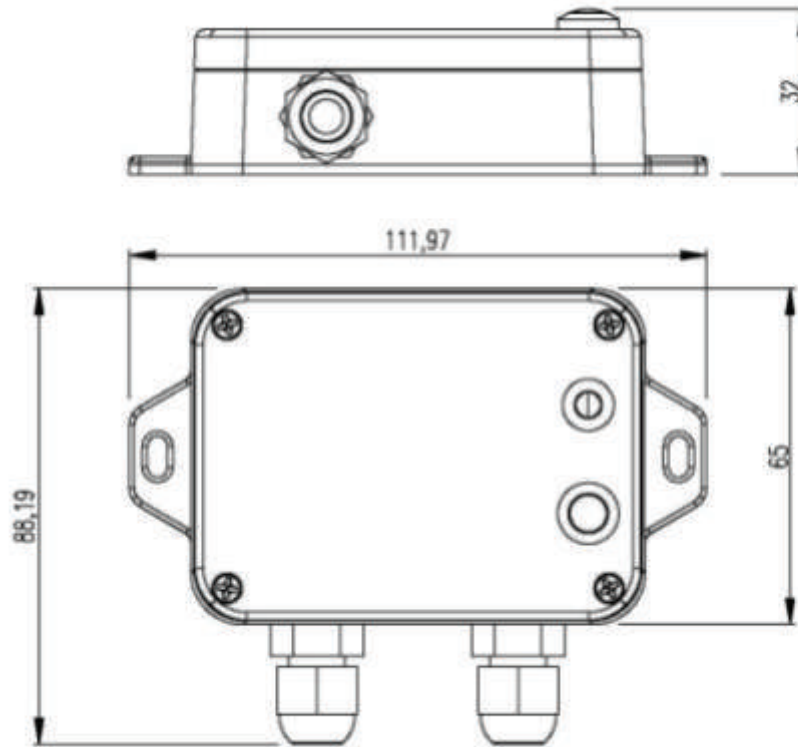
Main Characteristic

- Adopt SX1276 wireless communication module
- DC 12V adapter power supply
- Body protection class IP65
- The base is equipped with a magnet that can be attached to the iron object
- RS485 communication
- Compatible with LoRaWANTM Class A
- Frequency hopping spread spectrum technology
- Configuration parameters can be configured through third-party software platforms
- Data can be read and alerts can be set via SMS text and email (optional)
- Applicable to third-party platforms: Actility / ThingPark, TTN, MyDevices / Cayenne

Applications

- NO2 concentration detection

Dimensions



Electrical

Power Supply	DC 12V adapter power supply
Working Current	<70mA (external sensor)

* Specific electrical characteristics will vary depending on the power supply voltage

NO2 sensor parameters

NO2 Measurement Range	0 to 20ppm
NO2 Measurement Method	Electrochemical sensors
NO2 Measurement Accuracy	±0.6 ppm
Response Time	Usually less than 15 seconds
Service Life	NO2 sensor warranty for 2 years Gas probe warranty for 1 year
Communication Port	RS485
Operating Temperature	-20°C to 50°C
Operating Humidity Range	15-95% RH (relative humidity), no condensation

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
Power Output	US915 20dbm; AS923 16dbm; AU915 20dbm; CN470 19.15dbm; EU868 16dbm; KR920 14dbm; IN865 20dbm;
Receiving Sensitivity	-136 dBm(LoRa, Spreading Factor=12, Bit Rate = 293bps); -121 dBm(FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Distance	Up to 10km (visible linear obstacle-free transmission distance , actual transmission distance depends on the environment)
Data Transfer Rate	0.3 kbps to 50 kbps (LoRaWAN) 1.2 kbps to 300 kbps (FSK)
Modulation	LoRa/ FSK (Note: choose one of them)
Supportable LoRaWAN Band	EU863-870,US902-928,AU915-928,KR920-923,AS923-1, AS923-2,AS923-3,IN865-867,CN470-510 (Note: optional, to be done in the factory configuration)

Physical

Main Body Size	L: 112 mm*W: 88.19 mm*H: 32 mm
Ambient Temperature Range	-20 °C to 55 °C
Main Unit Weight	About 160g
Ambient Humidity Range	<90% RH (no condensation)
Storage Temperature Range	-40 °C ~ 85 °C