Wireless Noise Sensor

Wireless Sensor Network Based on LoRa Technology

Figure1 Appearance of R718PA7 (subject to the real object)

Introduction

R718PA7 is a wireless communication device that detects the noise. The main unit and the noise sensor communicate via the RS485 connection interface, and it sends detected data to the other device via wireless network with LoRa™ wireless communication protocol standards.

The noise sensor adopts a high-sensitivity pickup with stable signal and high precision. It has the characteristics of wide measurement range, good linearity, convenient use, easy installation and long transmission distance. Noise sensors are widely used in industrial field noise testing occasions, such as warehouses, computer rooms, production workshops, archives, libraries, schools, shopping malls, smart homes, building control, airports, railway stations, etc.

Operating Principle

The module R100H (R100L) and the noise sensor communicate via RS485.

Main Characteristic

- Adopt SX1276 wireless communication module
- DC 12V adapter power supply
- Host body IP ratings: IP65/IP67 (option)
- The main body of the device adopts PG7 waterproof fixed joint.
- The base is equipped with a magnet that can be attached to the iron object.
- RS485 communication
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum technology
- Configuring parameters and reading data via the third-party software platforms, and set alarms via SMS text and email (optional)
- Applicable to the third-party platforms: Actility / ThingPark / TTN / MyDevices / Cayenne

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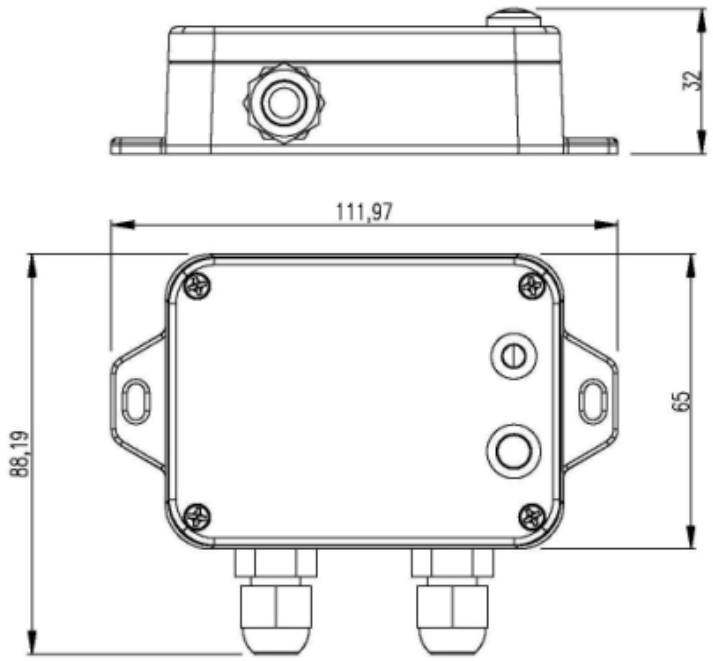
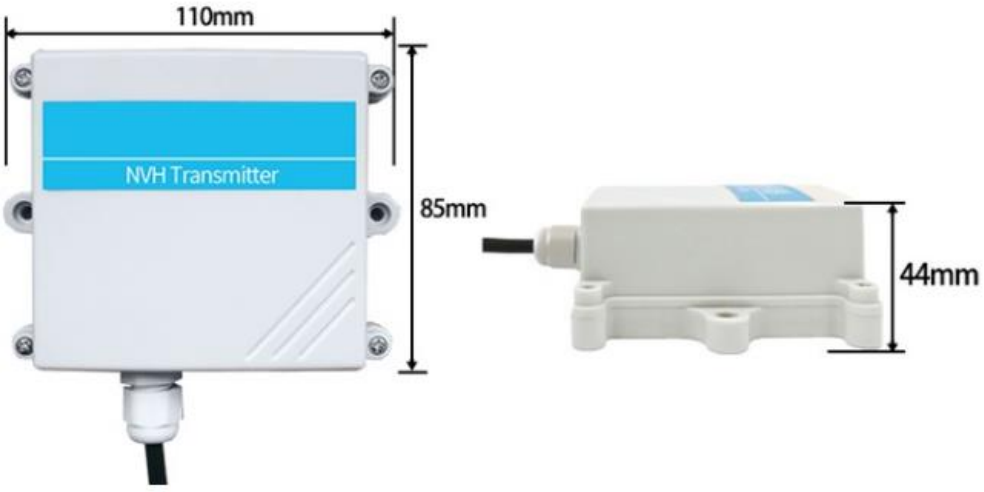
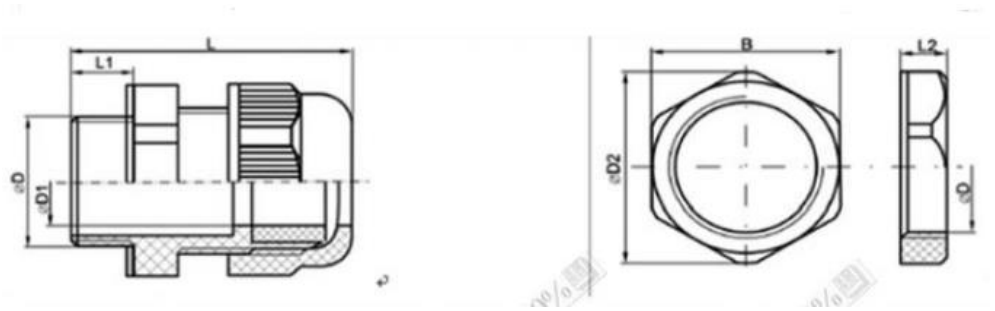
Application

- Noise level detection
- Warehouses, computer rooms, production workshops, archives, libraries, schools, shopping malls, smart homes, building control, airport, railway stations, etc.

Dimension







Model	D(mm)	B(mm)	D2(mm)	L(mm)	L1(mm)	L2(mm)
M12	11.8	17.8	19.5	30.3	8	5

screw thread M12 * 1.5

Electric

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

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

Noise Sensor Parameter

Operating Temperature	-20℃ ~ 60℃
Operating Humidity	15%-90% (No condensation)
Noise Sensor Dimension	110mm*85mm*44mm
Power Consumption (max)	0.4W
Noise Sensor Measurement Range	30dB-130dB
Resolution	0.1db
Measurement Error	3% F.S
Response Time	≤2s
Weighting Curve	A-Weighting
Frequency Response	35Hz-20Khz
Communication Port	RS485

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	US915 20dbm AS923 16dbm AU915 20dbm CN470 19.15dbm EU868 16dbm KR920 14dbm IN865 20dbm
Receiving Sensitivity	-136dB (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 10 km (visible linear obstacle-free transmission distance , actual transmission distance depends on the environment)
Data Transfer Rate	0.3kbps ~ 50kbps (LoRa) 1.2kbps ~ 300kbps (FSK)
Modulation Method	LoRa/FSK (Note: choose one of them)
Supportable LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment)

Physical

Dimension	Main unit - L: 112 mm*W: 88.19 mm*H: 32 mm Noise Sensor - L: 110 mm*W: 85 mm*H: 44mm Noise Sensor Waterproof (white) - D: 19.5mm*L: 30.3mm - M12*1.5 (Screw Thread)
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