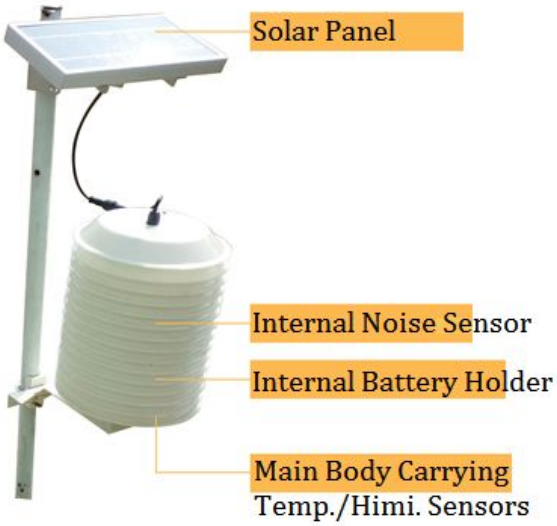
Wireless Outdoor Noise/Temperature/Humidity Sensor with Solar Panel (Solar-powered)

Wireless Sensor Network Based on LoRa Technology



R72624

LoRa Alliance Member zigbee alliance member

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General Description

NETVOX Wireless Sensor R72624 is capable to measure noise / temperature / humidity at outdoor environment.
• R72624 can be used in construction site / agricultural environment / airport surroundings / business environment data collection. Suitable as a data logger.

Principle of Operation

NETVOX wireless noise / temperature / humidity sensors output noise ratio in dBm, the ambient temperature in degrees Celsius and the humidity in percentage. It is programmed to sleep for a user-given time interval (heartbeat) and then wakeup. To stay within the abilities of the processor, data is computed off a data table provided by the manufacturer.

Example Applications

• Outdoor Environmental Monitoring
• Smart City & Smart Building
• HVAC Operation & Testing
• Data Center Monitoring
• Smart Farming and Agriculture
• Airport surroundings
• Construction Site
• And many more...

Features of NETVOX Sensors

- LoRaWAN™ Class A compatible
- Frequency Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Improved power management for longer battery life
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Battery Life*2:
  15 min heartbeats = 5 years
  (Conditions: ambient temperature 25 °C, txpower = 20dBm, LoRa spreading factor SF = 10)
- Over-the-air updates (future)
- Third-Party online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email (optional)
- Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne

*1. Actual range may vary depending on environment.
*2. Battery life is determined by sensor reporting frequency and other variables

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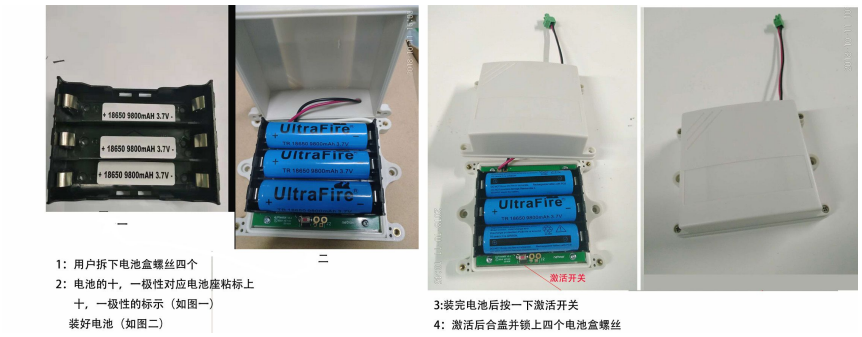
Rechargeable Lithium Battery Installation Instructions

R726X has a battery compartment inside, users can buy and install rechargeable 18650 lithium battery, a total of 3 sections, a single rechargeable lithium battery voltage 3.7V, capacity recommended 5000mah, the installation of rechargeable lithium battery steps are as follows:

1: Remove the four battery box screws and install three rechargeable lithium batteries.

2: Press the activation button on the battery box for the first time.

3: After activation, close the cover and lock the 4 box screws.



Technical Specifications

Electric

Power Supply	3 rechargeable lithium batteries in series (single-cell rechargeable lithium battery 3.7V, capacity recommended 5000mah)
Operating Voltage range	9VDC～12.6VDC
Operating Current 1	15mA (Standby mode）
Operating Current 2	30mA
Wireless idle mode Cycle	3 minutes

Solar Panel Specifications

Solar panel Specifications	5W / 18VDC
Lithium battery specifications	3 rechargeable lithium batteries in series (single-cell rechargeable lithium battery 3.7V, capacity recommended 5000mah)
Lithium battery charging current	About 250mA (guaranteed enough sunshine intensity)
Lithium battery charging time	Filled with about 6 days (guaranteed enough sunshine intensity, calculated with a rechargeable battery capacity of 5000mah)
How long does the device work when lithium batteries are fully charged once ?	About 320 hours (report data once every 15 minutes, with a rechargeable battery capacity of 5000mah)

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Noise Sensor Specifications

Operating Voltage	10VDC
Power Consumption	0.4W（Max.）
Measuring Range	30dB-130dB
Measurement Error	3% F.S
Resolution	0.1dB
Frequency Weighting Characteristics	A weighted
Frequency Response	35Hz-20kHz
Response Time	≤2 seconds
Output Interface	RS485 output

SHT-30 Temperature and Humidity Sensor Specifications

Operating Voltage	+3.3VDC
Temperature Measurement Range	-20° C－55° C
Temperature Measurement Accuracy	+/-0.8° C
Humidity Measurement Range	10%RH-90%RH
Humidity Measurement Accuracy	+/-4%RH @25° C

Frequency

TX Power	19dBm±1dBm
Rx Sensitivity	-136dBm (LoRa，Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Build-in antenna
Communication Range	10km (line-of-sight, the actual transmission distance depends on the environment)
Data Transfer Rate	0.3kbps～50kbps
Spread Technique	LoRa/FSK
Available Frequency	EU863-870，US902-928，AU915-928，KR920-923，AS923，CN470-510　Configured before shipment

netvox™ R72624

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Physical

Dimension	Mask body: D220mm*H380mm, Solar panel size: 290mm*150mm*25mm
Weight	Partial weight of the mask body (with lithium battery inside the mask body, main body, noise sensor): About 3223g Solar panel weight (solar panel, solar panel bracket, anti bird pin): about 1355g
Mask Life Time	Cover material is ABS material, can be used outdoors for 3 years
Operating Temperature Range	-20℃ ～ 55℃
Operating Humidity Range	15%RH～90%RH (no condensation)
Storage Temperature range	-40℃ ～ 85℃

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