
Wireless Temperature and Humidity Sensor

Wireless Sensor Network Based on LoRa Technology



R720A

Data Sheet

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Introduction

The R720A is a wireless communication device that detects ambient air temperature and humidity. The R720A detects the temperature and humidity of the air and transmits the detected data to other devices via a wireless network using the SX1276 wireless communication module.

Main Characteristic

- Adopt SX1276 wireless communication module
- 2 ER14505 battery AA size (3.6V / section) parallel power supply
- Compatible with LoRaWAN™ Class A
- Protection class IP65
- Frequency hopping spread spectrum (FHSS)
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- Applicable to the third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne
- Low power consumption and long battery life

Note:

Battery life is determined by the sensor reporting frequency and other variables, please refer to http://www.netvox.com.tw/electric/electric_calc.html

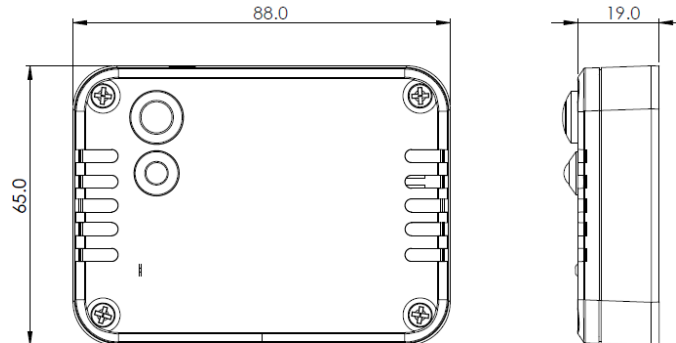
On this website, users can find battery life of various models in different configurations.

Application

- Ambient temperature monitoring
- Environment monitoring
- Smart city & smart building
- Data center monitoring
- Others

Wireless Temperature and Humidity Sensor

Dimension



Electric

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V 2400mah/section)
Battery Life	5 years (Conditions: ambient temperature 25 °C, 15 min heartbeats, txpower = 20dBm, LoRa spreading factor SF = 10)
Standby Current	24uA
Wakeup Current	6.3mA/ 3.3V
Low Voltage Threshold	3.2V
Transmitting Current (max)	120mA/ 3.3V
Receiving Current (max)	11mA/ 3.3V
Battery Measurement Accuracy	± 0.1V

Temperature Sensor

Temperature Detecting Range	-40°C to 55°C
Temperature Accuracy	±0.5°C @25°C
Humidity Detecting Range	0%RH to 100%RH
Humidity Accuracy	±4%RH @25°C

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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	-136 dBm (LoRa, Spreading Factor=12, Bit Rate = 293bps) -121 dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Build-in antenna
Communication Distance	10 km (Visible linear obstacle-free transmission distance, actual transmission distance depending on the environment.)
Data Transfer Rate	0.3kbps ~ 50kbps
Modulation	LoRa / FSK (Note: choose one of them)
Supportable LoRaWAN Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865-867, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment.)

Physical

Dimension	L: 88 mm x W: 65 mm x H: 19 mm
Weight	113g
Environment Humidity Range	<90 %RH (No condensation)
Operating Temperature	-40°C to 55 °C
Storage Temperature	-40°C to 85 °C