
Wireless CO2/Temperature/Humidity Sensor

Wireless CO2/Temperature/Humidity Sensor RA0715 Data Sheet

Wireless Sensor Network Based on LoRa Technology



RA0715

Copyright©Netvox Technology Co., Ltd.

This document contains proprietary technical information which is the property of NETVOX Technology. It shall be maintained in strict confidence and shall not be disclosed to other parties, in whole or in part, without written permission of NETVOX Technology.

The specifications are subject to change without prior notice.



 LoRa Alliance Member™ **zigbee alliance member**

Wireless CO₂/Temperature/Humidity Sensor

General Description

Netvox RA0715 is designed to monitor temperature, humidity and CO₂ for Indoor Air Quality(IAQ) application by LoRa® wireless connectivity.

Principle of Operation

The Wireless Carbon Dioxide (CO₂) sensor allows you to monitor the level of Carbon Dioxide (CO₂) gas in the surrounding air. The sensor returns carbon CO₂ level and temperature, humidity values to the data center. Notifications can be set up through the online system to alert the user when defined CO₂ levels have been met or exceeded.

Example Applications

- Detect the temperature and humidity
- CO₂ monitoring

Features of NETVOX Sensors

- Wireless range of 10 km *1
- 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:

Please refer to web: http://www.netvox.com.tw/electric/electric_calc.html

At this website, users can find battery life time for varier models at different configurations.

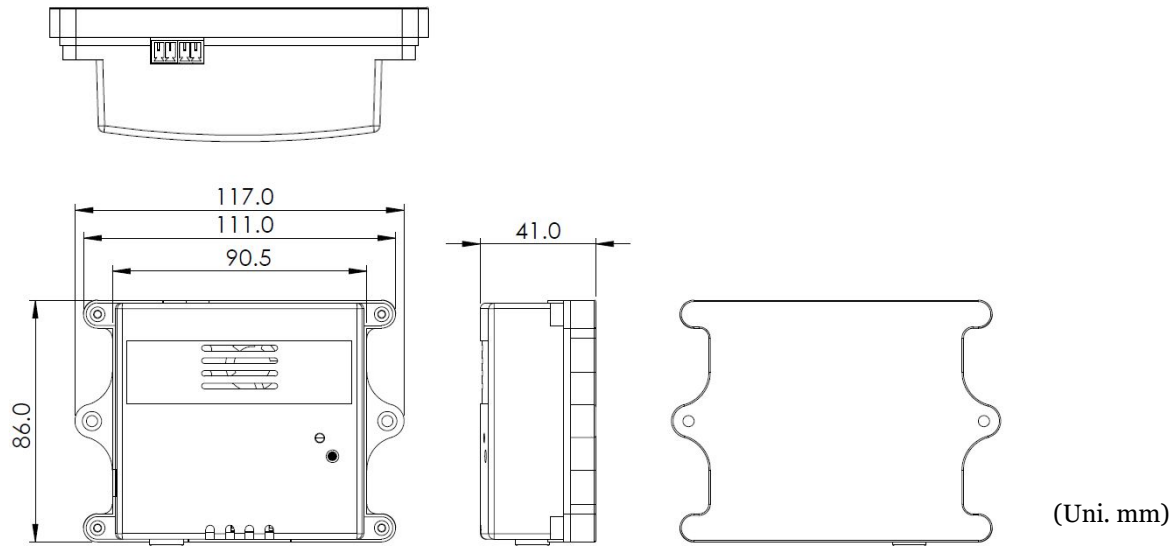
- Over-the-air updates (future)
- Third-Party online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email (optional)
- Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne

*1. Actual range may vary depending on environment.

*2. Battery life is determined by sensor reporting frequency and other variables.

Wireless CO2/Temperature/Humidity Sensor

Technical Specifications



Electric

Power Supply Power Supply	DC Power Supply, DC12V/1A
Operating current 1	80mA (no RF signal emission)
Operating current 2	120mA (with RF signal emission)

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	10 km (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

Wireless CO₂/Temperature/Humidity Sensor**CO₂ Sensor**

Working Voltage	4.5VDC-5.5VDC
Working Current	<85mA
Accuracy	+/- (100ppm+6%{Value})
Range	0-5000ppm
Worm-up Time	3min
Response Time	T<90s
Output	PWM UART

Physical

Dimension	111mm*86mm*42mm
Working Temp	-20° C ~ +55° C
Storage Temp	-40°C ~ +85°C
Humidity Detecting Range	<90%RH

Contact:**NETVOX TECHNOLOGY CO., LTD.**

TEL: 886-6-2617641

FAX: 886-6-2656120

E-mail: sales@netvox.com.tw

WEB: www.netvox.com.tw

NETVOX TECHNOLOGY CO., LTD (XIAMEN)

TEL: 86-592-5717188

FAX: 86-592-5717180

E-mail: dyx@netvox.com.cn

WEB: www.netvox.com.cn



 LoRa Alliance Member™  zigbee alliance member