
Wireless CO₂/Temperature/Humidity Sensor

Wireless CO₂/Temperature/Humidity Sensor R72615A Data Sheet

Wireless Sensor Network Based on LoRa Technology



R72615A

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.

Wireless CO₂/Temperature/Humidity Sensor

General Description

R72615A has a temperature and humidity sensor that detects and transmits ambient temperature and humidity data. It applies wireless communication method that uses the SX1276 wireless communication module. The R72615A has a CO₂ sensor that detects the concentration of CO₂ in the air.

Principle of Operation

The R72615A has a built-in SHT30 temperature and humidity sensor. The air temperature and humidity sensor SHT-30 communicates with the module through I2C communication and has a built-in CO₂ sensor. The CO₂ sensor communicates with the module through the UART serial port.

Example Applications

- Detect the temperature and humidity
- CO₂ monitoring
- Smart home
- Smart farm
- Others

Features of NETVOX Sensors

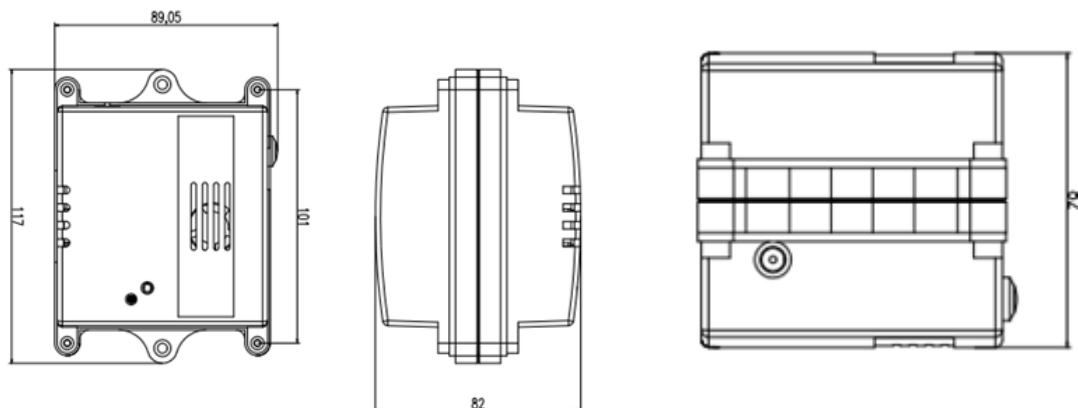
- Frequency Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Improved power management for longer battery life
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Battery Life*2:
 - Please refer to web: http://www.netvox.com.tw/electric/electric_calc.html
 - 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



(Uni. mm)

Electric

Power Supply	A total of 8 ER14505 lithium batteries, lithium battery power supply voltage 7.2v, total capacity of 9600mah. (Single-cell lithium battery 3.6V 2400mAH).
Battery Life Time	The battery life is about 1 year (Condition: ambient temperature 25 ° C. Report once every 720 minutes. Txpower = 20 dBm. LoRa spreading factor SF = 10), which is subject to actual measurement.
Working Voltage Range	6.4VDC~7.2VDC
Sleeping Current	300uA
Working Current	65mA (When the sensor is working.)
Module Wake-up Current	6.3mA@3.3V
RF Receiving Current (RX)	11mA @3.3V
RF Emission Current (TX)	120mA @3.3V
Battery Measurement Accuracy	±0.1V

Frequency

TX Power	19dBm±1dBm
Rx Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps)

Wireless CO₂/Temperature/Humidity Sensor

Antenna Type	Build-in antenna
Communication Range	Up to 10 km, 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

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	UART

SHT-30 temperature and humidity sensor

Working Voltage	+3.3VDC
Temperature Measurement Range	-20°C-55°C
Temperature Measurement Accuracy	+/-1°C @25°C
Humidity Measurement Range	0%RH-100%RH
Humidity Measurement Accuracy	+/-4%RH @25°C

Physical

Dimension	117mm x 89.05mm x 82mm
Weight	280g
Working Temp	-20° C ~ +55° C
Storage Temp	-40°C ~ +85°C
Humidity Detecting Range	< 90%RH

Wireless CO2/Temperature/Humidity Sensor

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