

# Wireless CO2 / Temperature / Humidity Sensor

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Wireless Sensor Network Based on LoRa Technology



## RA0715 Datasheet

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## Introduction

RA0715 is equipped with temperature and humidity sensor externally. It can monitor the ambient temperature and humidity and send the data via wireless method that adopts SX1276 wireless communication module. RA0715 is equipped with CO2 sensor that can detect the concentration of CO2 in the air.

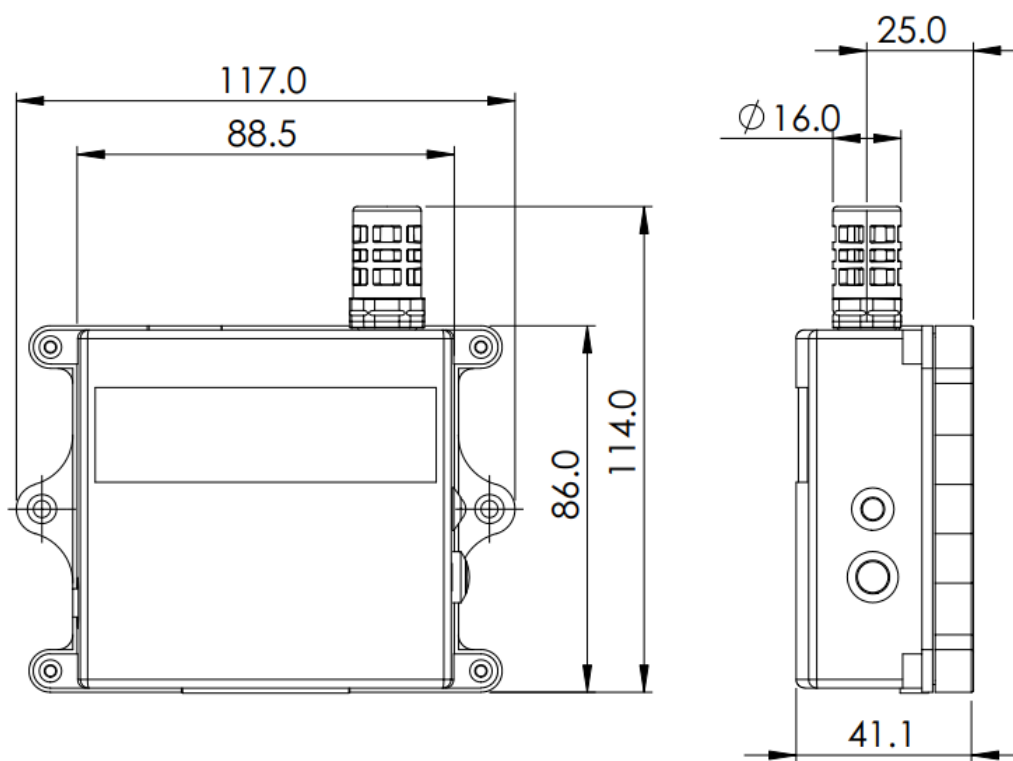
## Main Features

- Apply SX1276 wireless communication module
- Temperature and humidity detection  
(The accuracy of the temperature and humidity takes 30 minutes to stabilize)
- CO<sub>2</sub> detection
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum
- Configuration parameters can be configured through third-party software platforms, data can be read and alarms can be set via SMS text and email (optional)
- Applicable to the third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne

## Application

- Smart home
- Smart farm
- Other

### Dimension



### Electric

Input power	DC 12V /1A
Operating Current 1	25mA (Standby status)
Operating Current 2	40mA (Operating status)

### CO2 Sensor

Operating Voltage	4.5VDC - 5.5VDC
Operating Current	< 85mA
Accuracy	± 100ppm+6% reading
Range	400-5000ppm
Warm-up Time	3min
Response Time	T<90s
Output	UART

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**Temperature and Humidity Sensor**

Operating Voltage	3.3VDC
Temperature Range	-20°C ~ 55°C
Temperature Accuracy	±0.5°C@25°C , Max ±0.8°C@-20°C~55°C
Humidity Range	0%RH-100%RH
Humidity Accuracy	±4%RH @25°C

**Frequency**

Frequency	863MHz-928MHz, 470MHz-510MHz
TX Power	US915 20dbm AS923 16dbm AU915 20dbm CN470 19.15dbm EU868 16dbm KR920 14dbm IN865 20dbm
RX Sensitivity	-121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps) -136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps)
Antenna Type	Built-in antenna
Communication Distance	10km (visible linear obstacle-free transmission distance, actual transmission distance depending on the environment)
Data Rate	0.3kbps ~ 50kbps (LoRa) 1.2kbps ~ 300kbps (FSK)
Modulation	LoRa / FSK (Note: choose one of them)
Supported LoRaWAN Frequency Band	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)

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**Physical**

Dimension	117mm*114mm*41mm
Operating Temperature	-20°C ~ 55°C
Operating Humidity	< 90%RH (No condensation)
Storage Temperature	-40°C ~ 85°C