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**Wireless CO Sensor (DC-powered)**

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Wireless Sensor Network Based on LoRa Technology



**RA0701**

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### General Description

RA0701 is a wireless communication device that detects the carbon monoxide content in ambient air. RA0701 can detect the concentration of CO in the air. The body and the sensor are connected through the RS485 interface, and the detected data is transmitted to data center through the wireless network for display. It adopts the wireless communication method conforming to the LoRa™ protocol standard.

### Example Applications

- Carbon Monoxide Detection
- Use SX1276 Wireless Communication Module.

### Features of NETVOX Sensors

- Wireless range of 10 km \*1
- LoRaWAN™ compatible
- Frequency Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- 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
- Uses SX1276 wireless communication module

\*1. Actual range may vary depending on environment.

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

## Wireless CO Sensor (DC-powered)

### Electric

Power Supply	Adapter DC Power Supply (12V/1A)
Operating Current 1	40mA (no RF signal transmission)
Operating Current 2	80mA (with RF signal emission)

### CO Sensor

Power supply	+12VDC
CO measurement range	0-1000ppm
CO measurement method	electrochemical sensor
CO measurement accuracy	<± reading 3% (@25° C)
CO measurement resolution	0.5ppm
Response time	≤50s
Service life	>5 years in the air
Working pressure range	Standard atmospheric pressure ±10%

### 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

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**Physical**

Dimension	111mm*86mm*41mm
Operating Temperature Range	-20°C ~ 55°C
Operating Humidity Range	< 90%RH (no condensation)
Storage Temperature range	-40°C ~ 85°C
IP Rating	IP40

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