

# Wireless CO Detector

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Wireless Sensor Network Based on LoRa Technology



## RA02C DataSheet

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## Wireless CO Detector

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### Introduction

RA02C is a wireless control alarm device for smart home and high reliability. It adopts wireless communication method conforming to the LoRaWAN protocol standard.

RA02C is a device for the detection of harmful gases in the home environment. It is suitable for the detection of CO (carbon monoxide). When the concentration exceeds the preset value, it will trigger the alarm and fully comply with the LoRaWAN protocol standard.

### Features

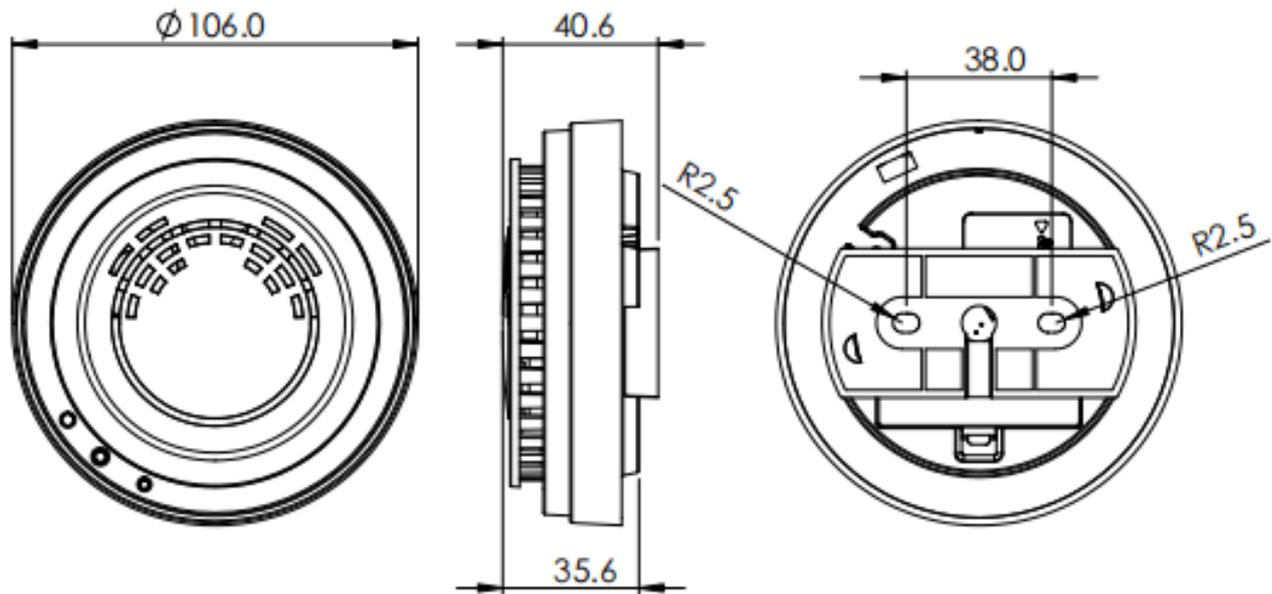
- Alarm triggered in 5 minutes when CO level reaches 35ppm
- Powered by 2\*AAA alkaline batteries
- LoRaWAN™ Class A compatible
- Frequency Hopping Spread Spectrum (FHSS)
- Available third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne
- Configure parameters through third-party software platforms, read data, and set alarms via SMS text and email (optional)

### Applications

- Carbon monoxide alarm products for families, apartments, schools, hotels, etc.

Wireless CO Detector

Dimensions



Electrical Specifications

Power Input	2*AAA alkaline battery
Battery Life	3.15 years (Battery life is calculated based on these factors: battery capacity = 1200mAh, ambient temperature = 25 °C, report interval = 60min, TX power = 20dBm, LoRa SF = 10)
Standby Current	18uA / 3VDC
Average Operating Current	70uA / 3VDC
Current While Alarming	20mA / 3VDC
Alarm Sound Intensity	85dBm at 3m away
CO Detection Concentration Range	0 to 1000ppm

## Wireless CO Detector

### Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	US915 20dBm AS923 16dBm AU915 20dBm CN470 19.15dBm EU868 16dBm KR920 14dBm IN865 20dBm
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) Note: The actual transmission distance depends on the environment.
Data Transfer Rate	LoRaWAN: 0.3kbps – 50kbps; FSK: 1.2kbps – 300kbps
Modulation	LoRa / FSK Note: One modulation is required.
Available 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 Properties

Dimension	D: 106mm x H: 36mm
Operating Temperature Range	-20°C to +55°C
Operating Humidity Range	< 90%RH (No condensation)
Storage Temperature range	-40°C to +85°C