

LoRaWAN CO₂ and T/ RH% Sensor

LAS-302V1 Features and Specs

LAS-302V1 is designed to measure carbon dioxide, temperature, and humidity by LoRa long-range and low-power wireless connectivity. It is an integrated LoRa wireless technology, CO₂ sensor and T/RH% sensor know-how and high-performance MCU solution for various IoT market usage. With a calibrated CO₂ sensor module, compensated temperature and humidity sensor integration, the data is ready for use. Besides, with the ultra-low power consumption CO₂ module, the wireless devices could be achieved, and it is convenient for installation. It is perfect for monitoring air quality in schools, office buildings, greenhouses, factories, hotels, hospitals, transportation lines, and anywhere high levels of carbon dioxide are generated.

Features

- ◆ Support multiple air quality sensors (option)
- ◆ Support PIR sensor (option)
- ◆ Wireless transmission to server
- ◆ Easy to replace the battery without special tools
- ◆ Easy settings for user from web configuration
- ◆ Support both battery and AC adapter power in

Applications

- ◆ Schools
- ◆ Office buildings
- ◆ Factories
- ◆ Hotels
- ◆ Hospitals
- ◆ Department Store

Specifications

Measurement Range	CO ₂	400 to 10000ppm.....note1
	Temperature	0~50°C
	Humidity	5~85% RH
Accuracy	CO ₂	± (30ppm +3% of reading)note2~3 Extended range +-10% of readingnote2~4
	Temperature	±0.6°C at 5°C to 50°C ± 0.9°C at 0°C to 5°C
	Humidity	±5.0 %RH at 25°C, 50%RH
Resolution	CO ₂	1 ppm@400ppm,25°C 2 ppm@3000ppm,25°C
	Temperature	0.1°C
	Humidity	0.1 %RH
Pressure dependence		1.6% reading per kPa deviation from normal pressure
Measuring and Recording Interval...note5		Detect every 1 minute(default) Adjustable period, minute base, up to 60 minutes
Transmission Interval...note5		Report every 1 minutes(default) Adjustable interval, minute base, up to 60 minutes
LoRa Communication Frequency		920.6~928MHz for JPN

Radio Range	Depends on environment interference
Antenna Gain	Embedded 2dBi
Power	Battery Micro USB power-in DC5V
Support battery type	Lithium battery two cells pack, 2400mAhx2
Battery Lifespan	2 years@ detect and report interval 5 minutes
Dimension(mm)	94.7 x 94.4 x 27
Weight (g)	140
Operating range	0~50°C
Storage Temperature	-40~70°C
Working Relative Humidity	5~85%(non-condensing)
Certificate	TELEC, VCCI

Note1: Sensor is designed to measure in the range 400-5000ppm, extended range up to 10000ppm, which is specified in the table accuracy. Nevertheless, exposure to concentrations below 400ppm may result in incorrect operation of ABC algorithm and shall be avoided for model with ABC on.

Note2: 15-35°C, 0-80%RH, after 3 ABC periods

Note3: Specification is referenced to uncertainty of calibration gas mixtures ($\pm 1\%$)

Note4: Extended range accuracy is not calibrated or guaranteed, it is extrapolated from calibrated range.

Note5: The setting of the measuring interval, recording interval, and transmission interval should be the same.

Mechanical Drawing



