



SenseCAP S2103
LoRaWAN® CO2, Temperature, and Humidity Sensor





PRODUCT DESCRIPTION

The next generation of LoRa sensors, the S2103 offers users' industrial long-distance data acquisition via LoRaWAN. This series is suitable for a wide variety of different industries such as smart agriculture, smart buildings and industrial control.

With the IP66 rating, $-40 \sim +85^{\circ}\text{C}$ operating temperature and built-in 19Ah high-capacity battery, combined with the devices' low power consumption, the series can operate in harsh outdoor environments for up to 10 years with a range of up to 10km. The built-in Bluetooth facilitates setup and greatly reduces large-scale deployment costs. Users can focus on application development with the easy set-up, and start retrieving data in a few steps. Just install the device, bind it using the QR code and configure the network, then data can be viewed from the SenseCAP portal, which supports popular IoT protocols such as HTTP and MQTT.

FEATURES

- Compatible with Worldwide LoRaWAN® Networks: Compatible with different types of LoRaWAN® gateways to enable fast connection with LoRaWAN® networks (support the universal frequency plan from 863MHz ~928MHz).
- Long Range & Battery powered: Ultra-wide-transmission range of 2km in urban scenes and 10km in line of sight scenes. Powered by easily replaceable standard Li-SOCI2 battery (type: ER34615) with Max.10 years of battery life.
- Designed to Use in Harsh Environments: $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ operating temperature and IP66-rated enclosure, suitable for outdoor use, high UV exposure, heavy rain, dusty conditions, etc.
- Simple Configuration: SenseCAP provides a no-code experience that enables users to finish configuration with 4 steps through SenseCAP Mate APP.

APPLICATION

- Poultry Farm
- Livestock Shed
- Greenhouse
- Office
- Home
- Cold Chain
- Warehouse



SPECIFICATIONS

PRODUCT MODEL

Model	S2103
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GENERAL PARAMETER

Microcontroller	Wio-E5
Support Protocol	LoRaWAN v1.0.3 Class A
Built-in Bluetooth	App Tool to change parameters
LoRaWAN Channel Plan	IN865/EU868/US915/AU915/AS923/KR920/RU864
Max Transmitted Power	19dBm
Sensitivity	-136dBm@SF12 BW=125KHz
Communication Distance	2 to 10km (depending on gateway antenna and environments)
IP Rating	IP66
Operating Temperature	0 to 50 °C
Operating Humidity	0 to 90 %RH (non-condensing)
Device Weight	285g
Certification	CE / FCC / RoHS

BATTERY

Battery Life	Up to 10 years
Battery Capacity	19Ah (non-rechargeable)
Battery Type	Standard D-size SOCl2 Battery



CO2

Range	400 to 10000 ppm
Accuracy	400 to 5000 ppm: $\pm(30+3\%MV)$ 5000 to 10000 ppm: $\pm 10\%MV$
Resolution	1 ppm

AIR TEMPERATURE

Range	-40 to +85 °C
Accuracy	± 0.2 °C
Resolution	0.01 °
Long-term Dri	<0.03 °C/year

AIR HUMIDITY

Range	0 to 100 %RH
Accuracy	± 1.8 %RH
Resolution	0.01 %RH
Long-term Dri	<0.25 %RH/year