IOT-S500CO2

Carbon Dioxide Sensor Data Sheet

LINOVISION

LoRaWAN CERTIFIED™

IOT-S500CO2 is designed for measuring CO_2, temperature, humidity and barometric pressure in harsh environments and transmitting data using LoRaWAN® technology. With this low power consumption technology, IOT-S500CO2 can work up to 10 years with 19000 mAh battery. Combining with Linovision LoRaWAN® gateway and Linovision IoT Cloud solution, users can manage all sensor data remotely and visually.

IOT-S500CO2 is widely used for outdoor applications like smart agriculture, smart city, forest fire detection, etc.

◆ Features

➢ Integrated with multiple sensors like CO_2, temperature, humidity, etc.

➢ Ultra-wide-distance transmission up to line of sight of 10km

➢ IP66 waterproof enclosure for harsh environment applications

➢ Built-in 19000 mAh replaceable battery and last work for 10 years without replacement

➢ Equipped with NFC for easily configuration

➢ Compliant with standard LoRaWAN® gateways and network servers

➢ Quickly and easily management with Linovision IoT Cloud solution

◆ Applications

➢ Warehouse environment monitoring

➢ Basement and underground parking monitoring

➢ Smart agriculture

➢ Forest fire detection

➢ Smart building

◆ Features

➢ Integrates multiple sensors like CO2, temperature, humidity,etc.

➢ Ultra-wide-distance transmission up to line of sight of 10km

➢ IP66 waterproof enclosure for harsh environment applications

➢ Built-in 19000 mAh replaceable battery and last 10 years without replacement

➢ Equips with NFC and type-C port for easily configuration

➢ Compliant with standard LoRaWAN® gateways and network servers

➢ Quickly and easily management with Linovision IoT Cloud solution

◆ Applications

➢ Warehouse environment monitoring

➢ Basement and underground parking environment monitoring

➢ Smart agriculture and forest fire detection

➢ Building automation

◆ Specifications

Wireless Transmission	
Technology	LoRaWAN®
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923
Tx Power	16dBm(868)/20dBm(915)/19dBm(470)
Sensitivity	-147dBm @300bps
Mode	OTAA/ABP Class A
Sensors	
Carbon Dioxide (CO_2)	
Range	400 - 5000 ppm
Accuracy	±30 ppm or ±3 % of reading
Resolution	1 ppm
Temperature	
Range	-30°C to + 70°C
Accuracy	0°C to + 70°C (+/- 0.3°C), -30°C to 0°C (+/- 0.6°C)
Resolution	0.1°C
Humidity	
Range	0% to 100% RH
Accuracy	10% to 90% RH (+/- 3%), below 10% and above 90% RH (+/- 5%)

Resolution	0.5% RH

Barometric Pressure

Range	300 - 1100 hPa (-40°C - 85°C)
Accuracy	±1 hPa
Resolution	0.1 hPa

Operation

Power On & Off	NFC, power button (Internal)
Configuration	Mobile APP(via NFC)

Physical Characteristics

Power Supply	19000 mAh Li-SOCL$_2$ battery (ER34615)
Battery Life*	5 years (10 min interval, SF12) >10 years (10 min interval, SF7)
Operating Temperature	-30°C to +70°C
Relative Humidity	0% to 100% (non-condensing)
Ingress Protection	IP66
Dimension	147.9 × 71 × 69.5 mm (5.8 × 2.8 × 2.7 in)
Installation	Pole, wall or DIN Rail Mounting

Approvals

Regulatory	CE, FCC, LoRaWAN® Certified
EMC	EN 55032, EN 55035
EMS	IEC 61000-4-2 Level 3 IEC 61000-4-3 Level 2 IEC 61000-4-8 Level 4
Radio Frequency	FCC Part 15B, FCC Part 15.247, EN 300 330, EN 301 489-1/3, EN 300 220-1/2
Safety	EN62368-1

* Tested under laboratory conditions and for guideline purposes only.