

EM500-CO₂

Carbon Dioxide Sensor



EM500-CO₂ is designed for measuring CO₂, temperature, humidity and barometric pressure in harsh environments and transmitting data using LoRaWAN[®] technology. With this low power consumption technology, EM500-CO₂ can work up to 10 years with 19000 mAh battery. Combining with Milesight LoRaWAN[®] gateway and Milesight IoT Cloud solution, users can manage all sensor data remotely and visually.

EM500-CO₂ is widely used for outdoor applications like smart agriculture, smart city, forest fire detection, etc.

◆ Features

- Integrated with 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 work for 10 years without replacement
- Equipped with NFC for easy configuration
- Compliant with standard LoRaWAN[®] gateways and network servers
- Quick and easy management with Milesight IoT Cloud solution

◆ Applications

- Warehouse environment monitoring
- Basement and underground parking monitoring
- Smart agriculture
- Forest fire detection
- Smart building

◆ 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 (CO₂)	
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) or PC software(via USB Type-C)
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.

Xiamen Milesight IoT Co., Ltd.

4/F, No.63-2 Wanghai Road, 2nd Software Park Xiamen 361008, China

Phone: +86-0592-5085280 Website: www.milesight-iot.com

Fax: +86-0592-5023065 Email: iot.sales@milesight.com



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