

EM500-CO₂

Carbon Dioxide Sensor





EM500-CO $_2$ is designed for measuring CO $_2$, temperature, humidity and barometric pressure in harsh environments and transmitting data using LoRaWAN 8 technology. With this low power consumption technology, EM500-CO $_2$ can work up to 10 years with 19000 mAh battery. Combining with Milesight LoRaWAN 8 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 (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) 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.

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