GLOBALSAT WORLDCOM CORPORATION

PRODUCT SPECIFICATIONS

LoRaWAN Sensor Device
MODEL: LS-112 (CO)

Document Version: V0.2

Company Name: GLOBALSAT WORLDCOM CORPORATION

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Introduction:

LS-112 is designed to measure Carbon Monoxide, Temperature and Humidity by LoRa long-range and low-power wireless connectivity. It is integrated LoRa wireless technology, CO sensor knowhow and high-performance MCU solution for various IoT markets usage. With calibrated CO sensor module and compensated Temperature/ Humidity sensor integration, the data is ready for use. It is perfect for monitoring air quality in basement parking, garage, Gas ranges/ ovens and Furnaces.

Product Features:

- LoRaWAN compliant
- High Receiver Sensitivity and long range solution
- Integrated with calibrated CO sensor
    - Accuracy: ± 5% or ±20ppm
    - Range: 0 ~ 500ppm
- Integrated with Compensated Temp/RH sensor
- Wide range DC power-in, 8~24V /or Micro-USB DC power-in, 5V
- Display CO concentration, Temp/ RH

Specifications

Wireless

LoRa Module	LoRa Alliance certified module.
Sensitivity	-132 dBm @ 980bps
Tx Power	Up to 100mW
Standard/ Protocol	Comply with LoRaWAN protocol
LoRa Antenna	External Omni Antenna 824~960 MHz 2dBi SMA Male connector
Frequency	865~868MHz (Model : LS-112E) 902~928MHz (Model : LS-112H)

Sensor Operation

Sensing Element	CO: Electrochemical Temperature & Humidity: CMOS sensor
Response Time	CO: < 30 sec. (90%) Temperature: min. 3 sec.；max. 30sec. at τ 63% Humidity: < 8 sec. at τ 63%
Accuracy (at 25℃)	CO: ± 5% or ±20ppm Temperature: ±0.3℃ Humidity: ±3 %RH
Repeatability	CO: < ± 5% Temperature: ±0.1℃ Humidity: ±0.1 %RH
Zero Drift	CO: < 5 % /yr. Temperature: < 0.04 ℃/yr Humidity: < 0.5 %RH/yr.
Expected Life	> 6 years in normal use
Measurement Range*	CO: 0 ~ 500ppm Temperature: -40 ~ +125℃ Humidity: 0 ~ 95 %RH
Pressure Dependence	CO: 800 to 1200 mbar

System Operation

Temperature	-10 ~ +50 ℃
Humidity	0 ~ 95%RH, Non-condensing
Storage Temperature	Recommended Storage Temp : 0 ~ +20 ℃
Warm-up Time	≤ 1 min. (at full specs ≤ 15 minutes)

Specifications

Signal Output	NA
Alarm Output	NA
Power Supply	DC 8~24V or Micro-USB DC 5V
Power Consumption	TBD
Installation	Wall-mount
Dimension (mm)	Wall-mount: 113.57(H) x 80(W) x 28.79(D)
Case Material	ABS