



298.00 EUR incl. 19% VAT, plus shipping

LoRaWAN!

Support: 🔁 LoRa keys/format | 🏂 AT Commands Manual

LS-111P is designed to measure Carbon Dioxide (CO2), Temperature and Humidity by LoRa® long-range and low-power wireless connectivity. It is integrated LoRa® wireless technology, CO2 sensor knowhow and high-performance MCU solution for various IoT markets usage. With calibrated CO2 sensor module and compensated Temperature/ Humidity sensor integration, the data is ready for use. It is perfect for monitoring air quality in schools, office buildings, greenhouses, factories, hotels, hospitals, transportation lines and anywhere high levels of carbon dioxide are generated.

## Features:

- LoRaWAN™ compliant
- High receiver sensitivity, long range solution
- Integrated with calibrated CO2 sensor

Accuracy: ±50 ppm, ±3% of reading

Range: 0 ~ 10,000 ppm

- Integrated with compensated Temp/ RH sensor
- Wide range DC power-in, 8~24V /or Micro-USB DC power-in, 5V
- Display CO2 concentration, Temp/RH
- Alarm LED indicator

Sensing Element

LoRa<sup>®</sup> Module GlobalSat LM-130H LoRaWAN™ Module

863 ~ 870 MHz (EU)

Frequency 902 ~ 928 MHz (US)

920 ~ 928 MHz (ROA) External Omni Antenna

LoRa® Antenna 824 ~ 960 MHz 2dBi SMA Male connector

Sensitivity -132 dBm @ 980 bps

Tx Power Up to 100 mW

• CO<sub>2</sub>: Gold-plated infrared (NDIR) wave-guide technology with Automatic Baseline

Correction (ABC) and passive gas diffusion (no moving parts)

• Temperature & Humidity: CMOS sensor



Response Time

## Globalsat LS-111P (CO2/Temperature/Humidity Detector, LoRaWAN)

[http://www.cartft.com/catalog/il/2546]

• CO<sub>2</sub>: < 10 sec. @ 30 cc/min. flow rate < 3 min. diffusion time

• Temperature: min. 3 sec. ■max. 30 sec. at τ 63%

Humidity: < 8 sec. at τ 63%</li>

• CO<sub>2</sub>: ±50 ppm or ±3% of reading

Accuracy (at 25■) • Temperature: ±0.5 ■

• Humidity: ±5 %RH

CO<sub>2</sub>: ± 20 ppm + (±reading \* 1%)

Repeatability • Temperature: ±0.3 ■

• Humidity: ±0.3 %RH

CO<sub>2</sub>: < ± 10 ppm/yr. with Automatic Baseline Correction (ABC)</li>

Zero Drift • Temperature: < 0.04 **■**/yr

• Humidity: < 0.5 %RH/yr

• CO<sub>2</sub>: 0 ~ 10,000 ppm

Measurement Range\* • Temperature: -40 ~ +125 ■

• Humidity: 0 ~ 85 %RH

Pressure Dependence CO<sub>2</sub>: 1.6 % reading per kPa

Operation Temperature -10 ~ +60 ■

Operation Humidity 0 ~ 85 %RH, Non condensed.

0 to 50**■** 

Storage Temperature -20 ~ +70 ■

Warm-up Time ≤ 1 min. (at full specs ≤ 15 mins)

Drange LED x 1 (by threshold setting, default is 800 ppm)

Red LED x 1 (by threshold setting, default is 1000 ppm)

Dimension Wall-mount: 113.57(H) x 80(W) x 28.79(D) mm

Weight 101 ±2g
Case Material ABS

LoRa® Antenna (External Omni Antenna) x 1

Sensor Programmable Cable (Optional)

Certification CE, FCC, Telec, ThingPark