

Inpixon CO₂ Sensor

Dual Channel NDIR Gas Sensor Module



Monitor Indoor Air Quality for CO₂ Concentrations up to 5,000 ppm

The Inpixon SG112A CO₂ sensor module is a compact IoT sensor module that uses advanced non-dispersive infrared technology to deliver high accuracy monitoring of ambient air quality within commercial buildings.

It delivers long-term stability, a wide range of gas readings, and configurable concentration alarm indication levels for situational awareness that helps accurately identify harmful fluctuations.

With an autonomous self-calibration function, the sensor offers dependable performance by eliminating sensor signal drifts caused by environmental changes and component ageing.

Among the smallest of its kind, the low power sensor features multiple digital interfaces, supporting seamless integration with other hardware systems.

This sensor can be integrated into building automation or HVAC systems to reliably measure CO₂ concentration, ensuring a clean and safe indoor air supply.

SG112A Sensor Module Highlights

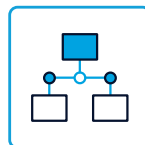
- Non-dispersive Infrared (NDIR) technology
- Pre-calibrated and ready-to-use
- Absolute measurement of concentration up to 5,000 ppm
 - Wide range of gas readings (beyond just above or below threshold readings)
- Automatic background calibration (ABC)
- Digital interface using RS232 and PWM
 - Configurable alarm
- 2,000 ppm CO₂ default
 - Configurable from 400 to 5,000 ppm
- Digital outputs for high level of CO₂ warning
- Small form factor: 30 x 15.3 x 7.7 mm
- Lightweight: 3.4 g



High Accuracy and Stability



Compact, Low Power



Integrator-Ready Design

Inpixon CO₂ Sensor

Dual Channel NDIR Gas Sensor Module



Specifications

General	Operation Technology	Non-dispersive Infrared (NDIR)
	Operating Temperature	-10°C~ 50°C (Non-condensing)
	Operating Humidity	0 ~ 95% RH (Non-condensing)
	Operating Environment	Residential, Commercial spaces
	Storage Temperature	-20°C ~ 80°C (Non-condensing)
CO ₂ Measurements	Sensing Method	Dual Channel NDIR (Non-dispersive Infrared)
	Measurement Range	400 to 5,000 ppm
	Accuracy	±(50ppm +3% of measured value)
	Warm-Up Time	< 10 seconds
	Response Time	< 20 seconds (diffusion)
	Sampling Interval	2 seconds
Electrical Data	Power Output	5 VDC @5% (4.75Vdc ~ 5.25Vdc) Average current 25.0 mA@5V IR Lamp On 120 mA@5V IR Lamp Off 10 mA@5V Peak Current 520mA@5V
	Output Connector	6 pins (Terminals not mounted)
Output Interface	Digital Input/Output	RS232(UART), PWM, Alarm CMOS level output V_IL max= 0.475*3.3-0.2 = 1.3675V V_IH min= 0.5*3.3+0.2 = 1.85V
Absolute Max Ratings	UART Max Voltage	5.5V
	UART Min Voltage	-0.3V
	PWM Max Voltage	3.6V
	PWM Min Voltage	-0.3V
Weight	Module Weight	3.4 g



SG112A Dimensions: 30 x 15.3 x 7.7 mm

Ordering Information

Order No.	Description
PSA112ASN	Inpixon SG112A CO ₂ Sensor Module

Sales Inquiries

nanotron Technologies GmbH
Alt-Moabit 60a
10555 Berlin, Germany

Europe/Asia/Africa: +49 (30) 399954-0
USA/Americas/Pacific: +1 (339) 999-2994
nanotronsales@inpixon.com
www.nanotron.com, www.inpixon.com

Incorporate Inpixon's CO₂ Sensor Module into Devices Requiring CO₂ Monitoring Indoors

The Inpixon CO₂ sensor module helps monitor air quality within commercial buildings for critical visibility to ensure a safer, more productive indoor environment.