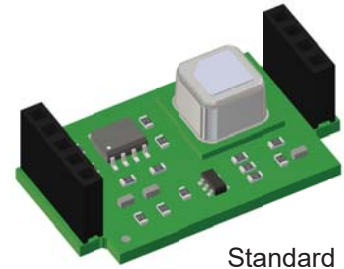# SX-CO2
Carbon Dioxide Gas Sensor

Agrowtek's new SX-CO2 gas sensor modules use new photo-accoustic gas sensing technology to deliver accurate readings up to 40,000 ppm. Compatible with all SXC, SXE, SXG, SXW and other environment sensors from Agrowtek, or with Senseair S8 sensor applications.
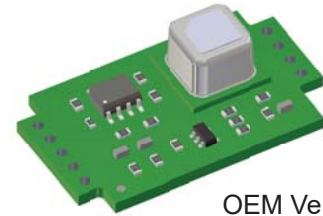
Robust CO2 sensor element features a metallic housing and a hydrophobic filter element which prevents contamination from moisture and fine particles. The superior filter element provides enhanced protection from sensor drift and damage in agricultural environments.

Senseair S8 Replacement
SX-CO2 sensor module is a drop-in replacement for Senseair S8 series CO2 sensors. Compatible dimensions, pinout, commands and voltage levels allow seamless replacement of sensors in the field without firmware or hardware updates. *Currently only supports UART commands.*

Standard

OEM Version

Modbus
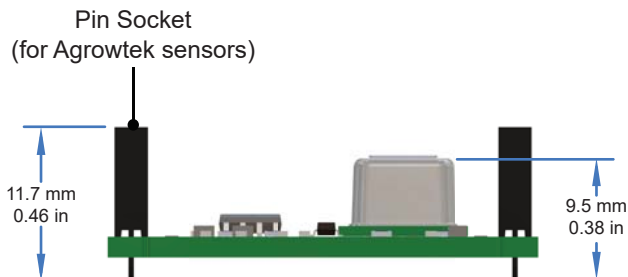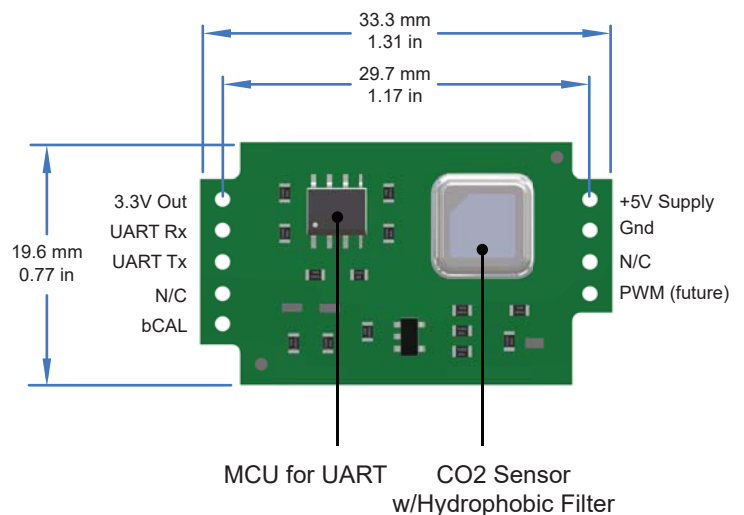
Features

Photoacoustic NDIR Carbon Dioxide Sensor
0 - 40,000 ppm

Hydrophobic Moisture Barrier Filter
Prevent Contamination Error

Robotic Conformal Coat
Protected PCB and Components

1-Year Warranty

Assembled in USA

Specifications

Gas Detection	Carbon Dioxide (CO2)
Measurement Range	0 - 40,000 ppm
Repeatability	±10 ppm
Accuracy	Standard: 400-2000 ppm ± (50 ppm + 5% of reading) Precision: 400-5000 ppm ± (40 ppm + 5% of reading)
Response Time, T63	60 seconds
Supply Voltage	5 Vdc ± 0.25Vdc
Supply Current	18mA Typical, 120mA peak
3.3V Reference Out	±0.3V, 10mA max
Temperature Rating	-10 - 60°C
Humidity, Operating	0 - 95% (non-condensing)
UART	3.3V (No Flow Control) w/10Kohm Pull Up
ABC/ASC Algorithm	Optional Automatic Calibration Algorithm
Header Spacing	0.1"
Conformal Coat	Top Side, Robotic Selective Coated

Pin Socket
(for Agrowtek sensors)

11.7 mm
0.46 in

9.5 mm
0.38 in

33.3 mm
1.31 in

29.7 mm
1.17 in

19.6 mm
0.77 in

3.3V Out
UART Rx
UART Tx
N/C
bCAL

+5V Supply
Gnd
N/C
PWM (future)

MCU for UART

CO2 Sensor
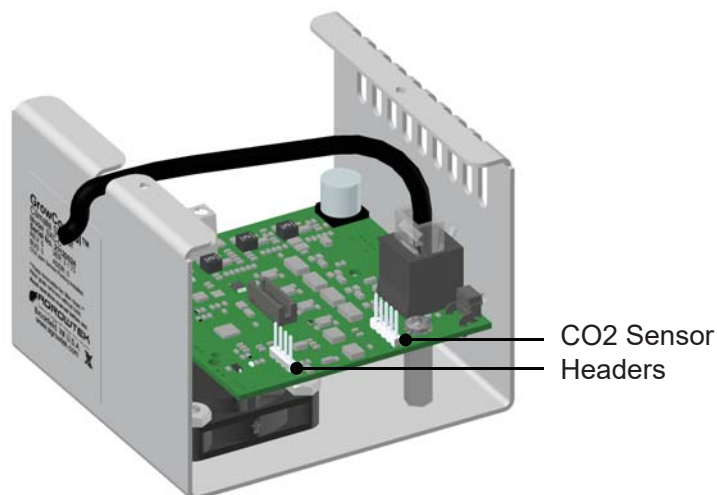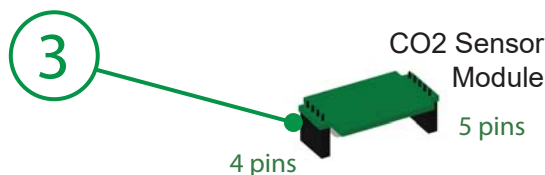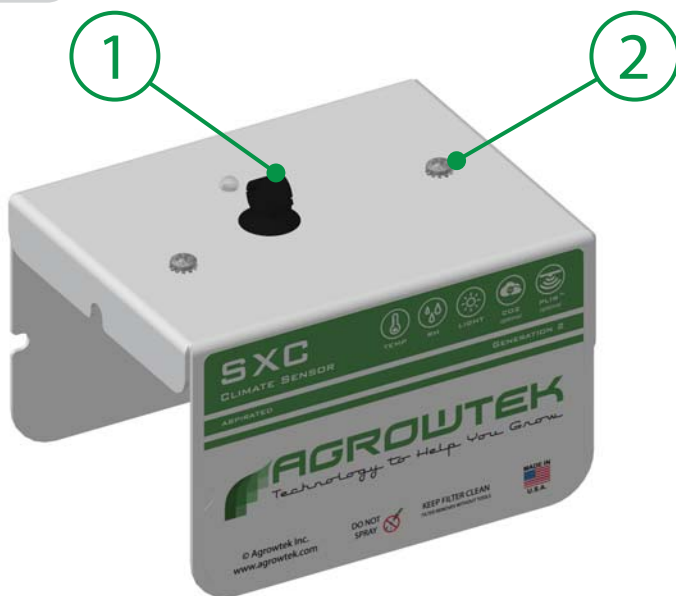w/Hydrophobic Filter

Installation Instructions

⚠️ IMPORTANT:
Installing the sensor backwards will damage the module.

SXC Environment Sensors

1. Disconnect cables from the sensor.

2. Remove the two cover screws (2) and the cover.

3. Locate the CO2 headers on the circuit board.

4. Position and install the CO2 sensor module (3) ensuring the sensor is oriented correctly.

5. Re-install the top cover and re-connect cables.

6. Check to ensure the CO2 reading is now working.

See SX-CO2 manual for other models.

CO2 Sensor Module
5 pins
4 pins

CO2 Sensor Headers

Ordering Options

SX-CO2-P-X

X: OEM without Sockets
None: Standard with Sockets

P: Precision ±40ppm Element
None: Standard ±50ppm Element

SX-CO2 Gas Sensor Module