Digital Control Systems, Inc.

AirSense™ Model 400
Dual-Beam CO_2 Sensor

- Dual Beam Detection
- Compact Installation
- No Secondary Boards
- RS-232 Capability
- Impeccable Stability

Equipped with 14 Pin Standard & 5 Pin Analog Connectors

Available with Sample Draw or Diffusion Heads

Compact! Electronics are Mounted on the Sensor Body

The AirSense™ Model 400 Infrared CO_2 Sensor is the first compact, general purpose OEM CO_2 Analyzer with dual-beam infrared technology. In the past this technology has only been available in much larger stand alone laboratory analyzers.

Dual-beam technology provides a second infrared detection channel to automatically correct for drift in the measurement system, eliminating the need for frequent calibration. This gives the AirSense™ Model 400 a distinct advantage over previous sensor designs utilizing single beam technology.

The AirSense™ Model 400 requires no other processing modules, unlike earlier systems that required a secondary processing board to complete the package. Integrating the Model 400 is simple because the module is equipped with both a digital 14 pin connection for i²C communication, ***(RS-232 Board can be added as an option)*** and 5 pin analog connection for linear measurement.

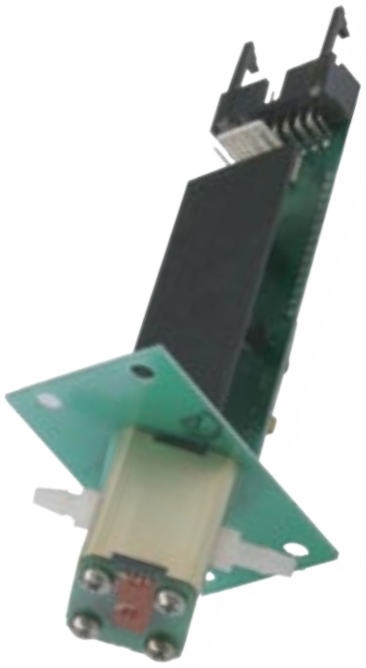
The dual-beam detector of the Model 400 responds in under 16 seconds to changes in gas concentration. The processing unit continuously measures and corrects for short and long term changes, compensating for IR Source Aging and reflectivity changes.

The compact size, low power requirement, and rapid response of the AirSense™ 400 Series make it the ideal choice for embedded CO_2 measurement. With the 400 series it is finally cost effective to incorporate the rapid response, accuracy, and stability of NDIR dual beam technology in all CO_2 sensing and control applications.

AirSense™ Model 400 IR CO_2 Sensor

Specification Table

Sensing Technology	Non-dispersive infrared (NDIR) dual wavelength detector.
Measurement Range	0 - 20% CO_2
Maximum Drift	+/- 1% of full scale
Accuracy	+/-5% of reading or 0.1% CO_2, whichever is greater
Repeatability	Better than 0.1% CO_2
Linear Measurement Outputs	0 - 1 volt analog TTL Level PWM
Digital Interface	i2c Slave ***RS-232 Optional***
Operating Temperature	0 - 50˚C
Operating Humidity	0 - 100% RH, non-condensing
Storage Temperature	-20 to 70˚C
Power Requirement	7.5 - 15 VDC @ 170 mA max (125 mA Avg.) Approx. 1.0W with 12 V. input



Also available from Digital Control Systems Inc.

The AirSense™ Line of CO2 Monitors

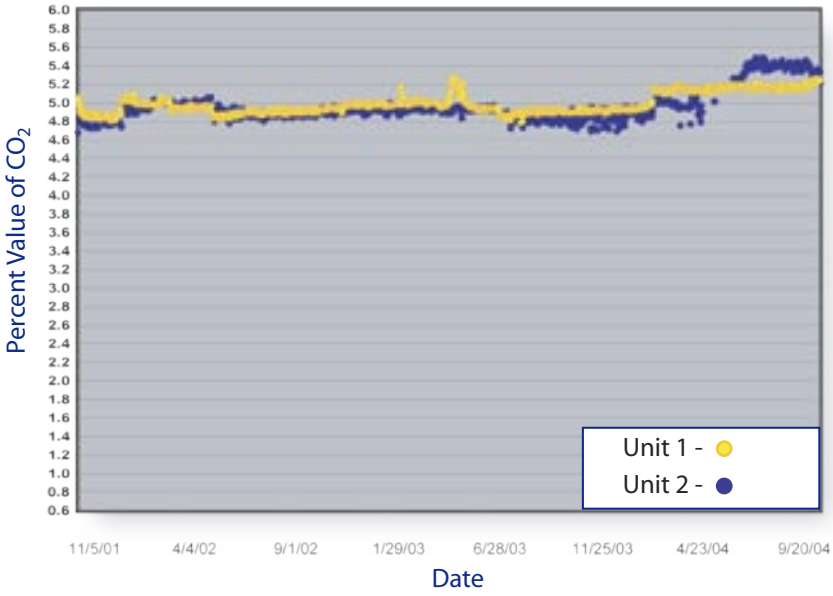
The Servomax™ Line of Speed Controllers

The Multistat™ Line of Temperature Controllers

OEM Manufacturing for Custom Products

Long Term Accuracy

The graph below illustrates the performance of the Model 400 during a three year time period.



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