AirSense™
Original Equipment Series

- **Serious performance for demanding professionals**
- **Easily integrated OEM module**
- **Dual Beam accuracy without "self calibration"**
- **Suitable for control and sensing applications**

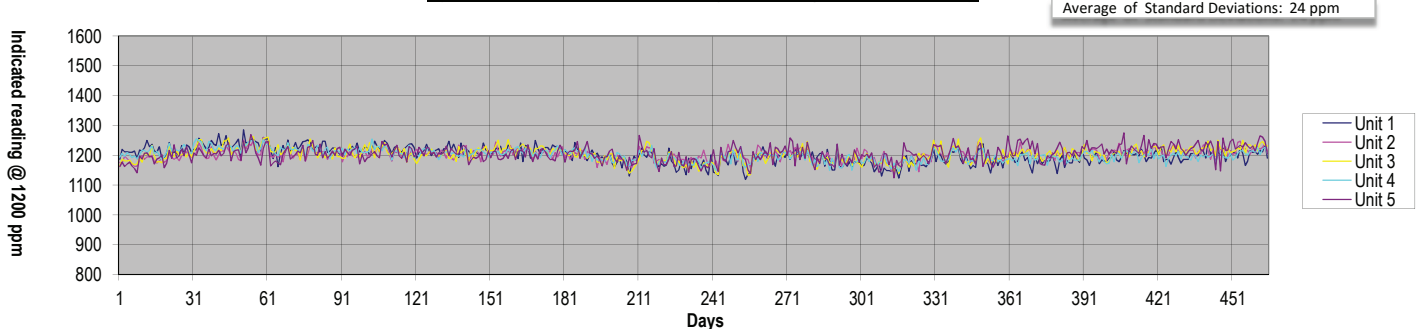**MADE IN USA**

AirSense™   Model 312 CO$_2$

The Model 312 is a full featured OEM CO2 sensor designed for integration into instrumentation or appliances that measure or control ppm concentration levels.   It's dual detector measurement system maintains long term accuracy (see graph) without relying-on assumptions about the environment being measured. Unlike "self calibrating" sensors which require that sensed concentration levels periodically reach nearly outdoor ambient levels to guarantee long term accuracy the model 312 can maintain its accuracy in continuously high (or low) CO2 concentrations, making it well suited for constant CO2 agricultural and medical applications

The economical, compact and rugged Model 312 integrates easily into the modern machine environment. It requires only a quarter Watt average power from a single 7 to 15 volt DC supply and communicates digitally with its host via either i2c or SPI interface through a single robust connector.
A convenient calibration port is available allowing for easy end-user calibration verification or adjustment to in-house calibration standards. A sub-micron filter over the diffusion port keeps dust out of the sensor.

Typical Model 312 CO2 Engine Long Term Stability

Average of Standard Deviations: 24 ppm

Indicated reading @ 1200 ppm — Days — Unit 1, Unit 2, Unit 3, Unit 4, Unit 5

DCS
Digital Control Systems, Inc.
7401 SW Capitol Hwy   Portland, OR 97219 USA   Phone: 877-468-6337 www.dcs-inc.net

⋏irSense™ M312 CO_2 Sensor

SIMPLY SMART

Filter
Sub-micron diffusion port filter keeps dust out

Innovation
All new passivated optical surface ensures accurate CO_2 readings

Engineering
DCS custom designed dual beam sensor increases precision and long term stability

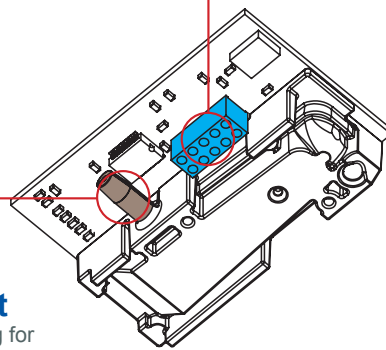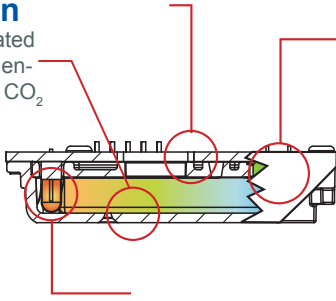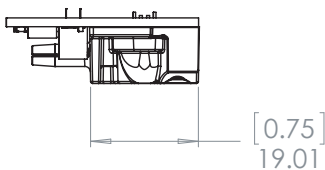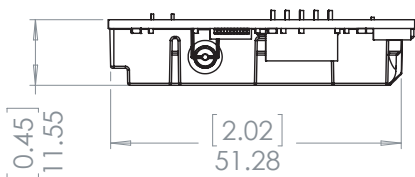### Simplicity
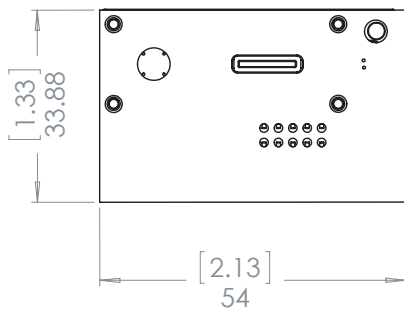Single connector interface with host electronics

Design
IR source averages 100,000 hours life, ensuring years of reliable operation

Convenient
1/8" ID barb fitting for calibration verification

Dimensions

[1.33] 33.88

[2.13] 54

[0.45] 11.55

[2.02] 51.28

[0.75] 19.01

Pin Output Diagram
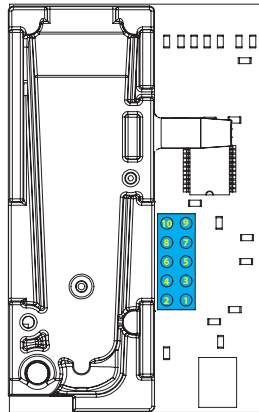
Pin	Signal	
1	+ Power (7 – 15 Volts DC)	
2	Ground	
3-6	Do Not Connect	
	Communication	
	I2C	SPI
7	Not Used	Data In
8	Data	Data Out
9	Clock	Clock
10	Not Used	Slave Enable

Parameter	Value
Operating Principle	Dual Beam, Non-dispersive infrared (NDIR)
Gas Sampling Method	Diffusion port with sub micron filter
Measurement Range	0-2000 ppm (other ranges available)
Repeatability	± 20 ppm CO2
Measurement Accuracy	± 30 ppm ± 2% of reading
Recommended Calibration Check Interval	5 years
Warm Up Time	Less than 1 minute
Power Requirements	7 - 15 Volts DC
Operating Temperature Range	10 - 50° Celsius
Operating Humidity Range	0 - 95% RH, non-condensing
Dimensions	2.13 x 1.33 x 0.45 inches
Warranty	18 months