



# CO2 DUCT

## Sensor with Conduit Option

The ACI Carbon Dioxide Duct Series (A/CO2-D) monitors the carbon dioxide (CO2) levels in industrial, commercial, school, and office-type environments. The concentration of CO2 is a strong indication of the overall indoor air quality. The A/CO2 Series is based on a single beam, non-dispersive infrared technology and is a cost-efficient solution for measuring carbon dioxide levels for building climate control. In addition, ABC software eliminates the need for manual calibration. Carbon Dioxide concentration is measured up to 2,000 ppm and is converted into proportional analog outputs. The factory default output is 4-20 mA, whereas 0-5

VDC and 0-10 VDC outputs are field selectable via integral dip switches. The A/CO2-D provides data which can be used in conjunction with a Building Automation System or Demand Control Ventilation to decrease energy consumption while creating a healthier indoor climate.

**Applications:** Schools, Office Buildings, Auditoriums, Gymnasiums, Shopping Malls, Theatres, Demand Control Ventilation & Economizers

**The CO2 Duct Series are covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, [www.workaci.com](http://www.workaci.com).**

### PRODUCT SPECIFICATIONS

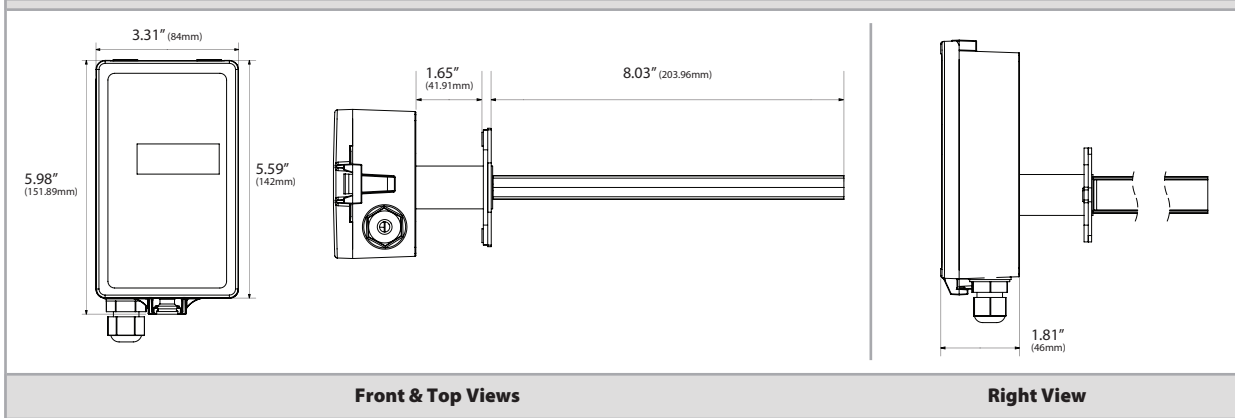
<b>Supply Voltage:</b>	24 VAC +/-20%, 50/60 Hz (half-wave rectifier)   16.5-40 VDC maximum
<b>Power Consumption:</b>	3 VA for 24 VAC, 3W for 24 VDC (peak); <0.9W (average)
<b>Sensing Technology:</b>	Single beam infrared sensing technology (NDIR)
<b>Sensing Method:</b>	Diffusion
<b>Measurement Range Default:</b>	0 to 2,000 ppm
<b>Extended CO2 Ranges:</b>	Up to 10,000 ppm (factory set)
<b>CO2 Accuracy 1:</b>	+/- 40 ppm and +/- 3% of reading (@ 15-35°C; 20-70% RH and 101.3 kPa)
<b>Extended Range Accuracy &gt; 2000 ppm:</b>	+/- 30 ppm and +/- 5% of reading
<b>CO2 Output Signal:</b>	<b>Output 1:</b> 0-5 VDC or 0-10 VDC (Default)   <b>Output 2:</b> 4-20 mA (500 Ohm load maximum)
<b>Fail Safe:</b>	Polarity protected
<b>Pressure Dependence:</b>	+ 1.6% reading per kPa (deviation from standard pressure 101.3 kPa)
<b>Response Time:</b>	≤ 2 minutes, diffusion
<b>Warm-Up Time:</b>	< 1 minute (@ full specs < 15 minutes)
<b>Operating Temperature Range:</b>	32 to 122°F (0 to 50°C)
<b>Operating Humidity Range:</b>	0 to 95%, non-condensing
<b>Enclosure:</b>	<b>Duct Box:</b> PC & ABS blend, Flammability Rating UL94V-0 <b>Cover:</b> Makrolon® 6555 plastic, Flammability Rating UL94V-0 <b>Pipe:</b> PC & ABS blend, Flammability Rating UL94V-0
<b>Sensor Life 2:</b>	> 15 years (typical)
<b>Calibration 3:</b>	ABC algorithm (Automatic Baseline Correction)
<b>Product Dimensions:</b>	(H) 5.59" (142 mm) x (W) 3.31" (84 mm) x (D) 1.81" (46 mm)
<b>Product Weight:</b>	0.79 lbs (0.36 kg)
<b>Agency Approvals:</b>	EMC Directive 2014/30/EC   RoHS Directive 2011/65/EU

**Note 1:** Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal indoor air quality (IAQ) applications | Corrosive environments are excluded | **Note 3:** Building CO2 levels must drop to 400 ppm same time during the week for ABC to work properly | If the building is occupied 24 hours / day, ABC must be turned off





**DIMENSIONAL DRAWING**



**STANDARD ORDERING**

Model # Example: **A/CO2-DUCT** -OR- **137295**

Model #	Item #	Description
<b>A/CO2-DUCT</b>	137295	CO2 Duct (0-5 VDC, 0-10 VDC, 4-20 mA)
<b>A/CO2-DUCT-C</b>	137562	CO2 Duct with 1/2" Conduit Adapter (0-5 VDC, 0-10 VDC, 4-20 mA)

**ACCESSORIES ORDERING**

Model # Example: **A/CUSTOM CAL GAS** -OR- **140970**

Model #	Item #	Description
<b>A/CUSTOM CAL GAS*</b>	140970	Custom Calibration

**Note:** Contact ACI's Technical Support for custom calibration ranges