

# CGAS-D-O2 Transmitter

## Digital Transmitter with Electrochemical Oxygen (O<sub>2</sub>) Sensor

<b>Dimensions: Size</b>	5.0 x 5.0 x 3.0 in (127 x 127 x 76 mm) (without optional splash guard)
<b>Weight</b>	14 oz / 400 g
<b>Construction:</b>	Black ABS / Polycarbonate blend, water/dust tight, corrosion resistant
<b>Sensor: Type</b>	Electrochemical capillary type
<b>Life Span</b>	2-3 years
<b>Gases Detected:</b>	Oxygen (O <sub>2</sub> )
<b>Sensor Range:</b>	0 – 25% vol standard
<b>System Power:</b>	4-wire: 16-30 VDC, 3W, Class 2 4-wire: 12-27 VAC, 50-60 Hz, 3 VA, Class 2
<b>Operating Temperature:</b>	0°C to +40°C (32°F to 104°F), -40°C (-40°F) with low temperature Option -LT
<b>Operating Humidity:</b>	15 to 90% non-condensing
<b>Indicators:</b>	LCD digital display, 2 line x 16 character, backlit
<b>Communication</b>	BACnet® MS/TP (version 1 rev 14) RS-485, or Modbus® RTU (version 1.1b3) RS-485
<b>Relay (Option -RLY):</b>	1 SPDT relay rated 30 volts, 2 amp max
<b>Relay and Audible (Option -RBZ):</b>	1 SPDT dry contact relay rated 30 volts, 2 amp max Internal buzzer, rated 90 dB @ 10 cm / 4 in, enable/disable
<b>Accuracy:</b>	No data available
<b>Repeatability:</b>	< 2% of signal
<b>Pressure Sensitivity</b>	<0.1% change of output @ 20 kPa
<b>CO<sub>2</sub> Sensitivity:</b>	+0.1 % change in output / % CO <sub>2</sub> @ 5% CO <sub>2</sub>
<b>Clean Air Output Drift:</b>	< 2% change @ 3-months
<b>Response Time:</b>	< 15 seconds T <sub>90</sub> from 20.9% to 0%
<b>Resolution:</b>	Display resolution: 0.1% vol      Sensor resolution: ± 0.05% vol
<b>Warm Up Time:</b>	Minimum 2 hours before looking at the readings If after a minimum of 2 hours the gas reading is not 20.9%, do a respan.
<b>Safety:</b>	Automatic resetting thermal overload fuse (reset capabilities to 500 times)
<b>Wiring:</b>	VDC or VAC (ground referenced) 4-conductor shielded, 16 AWG stranded within conduit, network wiring (daisy-chain)
<b>Sensor Mounting:</b>	Breathing Zone 4 to 6 ft / 1.2 to 1.8 m from the floor
<b>Monitoring Area:</b>	5000 ft <sup>2</sup> / 465 m <sup>2</sup>
<b>Suggested Alarm Points</b>	Low Alarm: descending 19.5 % vol, Mid Alarm: ascending 23% vol, High Alarm: descending 18.5% vol
<b>Certifications: (tested to)</b>	CSA: C22.2 NO.205-12    UL: UL508 (Edition 18): 2018 CE: EMC Directive 2014/30/EU, EN50270:2015, Type 1, EN61010 Listed by BTL RoHS compliant circuit boards This device complies with part 15 of the FCC Rules
<b>Notes:</b>	Never install gas detectors in the direct path of moving air.

## Conditions Affecting Electrochemical Sensors:

- Typically designed to operate between -10°C and +50°C, do not exposed to extreme temperatures for prolonged periods of time. Repeated or prolonged exposure to temperatures like 60-65°C / 140-149 can lead to evaporation of the electrolyte and shifts in baselines readings.
- Do not expose to high moisture for extended periods of time.
- Prolonged exposure to extremely high gas concentrations can compromise sensor performance.
- Paint fumes, cleaning products, dust, sand, water, insects can reduce lifespan and compromise performance. Avoid exposure to high concentrations of solvent vapours both during storage and operation.
- Before initial use after production may be stored at room temperature ideally at 20°C / 68°F and 60%RH or preferably in the fridge for up to 6 months. Beyond this period, the sensor performance is likely to deteriorate, such as with longer response time and lower sensitivity regardless of whether sensor has been used or not.
- Continuous exposure to high concentrations of sulphide compounds like hydrogen sulphide can poison an oxygen sensor.
- Oxygen sensors require 99.9% nitrogen (N2) for a true zero. During calibration, recommend doing the span first, followed by zeroing.
- Install gas detector vertically so the display is over top of the sensor vent and device is flat against a wall or column. Never install gas detectors in the direct path of moving air.