# cGas-SD Oxygen Sample Draw System






The CGAS-SD-O2 is a self-contained Oxygen ($O_2$) monitoring system is designed for use in rooms where compressed gases are used, such as in MRI and NMR rooms. Compressed gases and cryogenic liquids (usually nitrogen, helium and sometimes carbon dioxide) when dispensed, will displace Oxygen, creating an Oxygen deficient or hazardous atmosphere. Continuous monitoring of the Oxygen levels in these rooms is recommended to ensure the Oxygen levels remain safe and people inside the rooms are alerted in the case of a gas leak situation. In addition, the strong magnetic field inside MRI and NMR rooms can interfere with electronic equipment installed inside the room. The CGAS-SD-O2 system is designed to be installed outside the room, with sample tubing running from the monitoring system to the sampled environment. The air in the room is continuously drawn into the device by the sample draw pump, flowing over the sensor and is exhausted through the outlet port. If the Oxygen level drops below a specified set point, the cGas-SD will go into alarm.

The CGAS-SD-O2 comes with an $O_2$ sensor, a flow detector, a sample draw pump and an internal adjustable flow meter. Features include one field configurable milliamp or voltage output, one alarm level line voltage relay with field configurable time delays and trigger levels, a blocked flow alarm indicating a dirty filter or clogged tubing, a door mounted audible buzzer and an LCD digital display with LED indicators for channel alarm status and fault conditions. This system is accurate enough to measure to government established exposure levels for $O_2$ deficiency for health and safety.

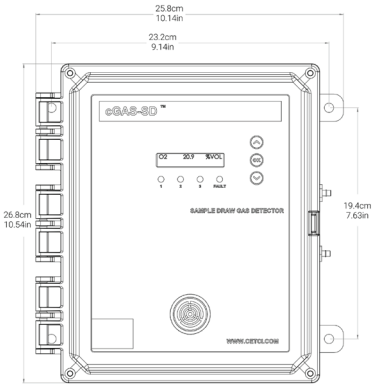
## KEY FEATURES

» Single sensor
» 2x16 character LCD display with LED indicators
» Easy access push buttons on the front of the enclosure for configuration and calibration
» Door mounted audible buzzer
» Blocked flow alarm
» Internal sample draw pump
» Adjustable flow meter
» One SPDT dry contact relay 5-amp @240 VAC
» One configurable 4- 20 mA or 0-10 volt output

## APPLICATIONS

» Magnetic Resonance Imaging (MRI) Rooms
» Nuclear Magnetic Resonance (NMR) Labs
» Transmission Electron Microscope (TEM) Rooms
» Freezer Farms (medical)
» ... and many more

## TECHNICAL DRAWING




## TECHNICAL SPECIFICATIONS

| MECHANICAL | |
|---|---|
| Enclosure | Polycarbonate, water/dust tight, corrosion resistant |
| Weight | 2.7 kg / 6.0 lbs |
| Size (W x H x D) | 25.8 x 26.8x 19.9 cm<br>10.14 x 10.54 x 7.84 in |
| Tubing 15 m / 50 ft (sold separately) | Standard: 3/16" ID x 5/16" OD<br>Factory tested distance: 15 m / 50 ft |

| USER INTERFACE | |
|---|---|
| Display | LCD display 2 x 16 characters with LED panel indicating alarm status 1, 2 and 3 for channel and FAULT |
| USB Port | Internal port for USB memory stick for configuration changes and firmware upgrades |
| Push Buttons | Initiate calibration and menu options with external UP, DOWN and OK push buttons |

| OUTPUT | |
|---|---|
| Output | One 4 - 20 mA analog output, jumper selectable 0 - 10 volts, 2 - 10 volts output<br>User selectable BACnet® MS/TP or Modbus® RTU RS-485<br>Horn/strobe output terminal |
| Relay | One SPDT dry contact relay rated 5 amps @ 240 VAC |
| Audible Alarm | Standard door mounted buzzer, rated 76 dB @ 3 m (10 ft) |
| Flow Rate | Normal Operation: 0.5 - 1 LPM<br>Alarm: 0 LPM |

# cGas-SD Oxygen Sample Draw System



## TECHNICAL SPECIFICATIONS

| ELECTRICAL | |
|---|---|
| Power Requirement | Line Voltage<br>100-240V AC +/-10%, 50/60 Hz, 20W, 1-phase<br>Low Voltage (field configurable)<br>16-30VDC / 12-28 VAC, 50/60 Hz, 20W |
| Overvoltage Category | Category II |
| Wiring | Line Voltage: VAC three-conductor (Line, Neutral, Ground) shielded 14-18 awg stranded within conduit<br>Low Voltage: 24VDC or 24VAC two-conductor shielded 14-18 awg stranded within conduit |
| Fuses | Thermal, resetting |

| ENVIRONMENTAL (sensor dependent) | |
|---|---|
| Operating Temperature | 0°C to 40°C / 32°F to 104°F |
| Operating Humidity | 15 - 90% RH non-condensing |
| Pollution Degree | Degree 2 |
| Altitude | below 2,000 m |

| CERTIFICATION |
|---|
| Conforms to: CSA-C22.2 No 61010-1, UL 61010-1 (Edition 3) |
| Conforms to: FCC. This device complies with Part 15 of the FCC Rules. |
| RoHS compliant circuit boards |
| For indoor use only, in non-hazardous classified areas. |

**NOTES:**

- The sample draw tubing should not exceed 15 m / 50 ft.
- The cGas-SD-O2 is not intended for use in environments with oxygen concentrations exceeding 30 %vol.
- The cGas-SD-O2 is not rated for use in classified hazardous areas, the integrated pump is not intrinsically safe.

## PRODUCT CODES

| Electrochemical Gas Sensor | | Lifespan |
|---|---|---|
| **CGAS-SD-O2** | Oxygen ($O_2$) sensor (0 - 25% vol) | 3yrs |

| ACCESSORIES | |
|---|---|
| **CET-8000-CKFT** | Standard sample draw tubing 3/16" ID x 5/16" OD 15 m / 50 ft roll |
| **CET-FFLO-CK3** | Fixed Flow Regulator Kit with 0.5 LPM flow regulator & adapter |
| **CET-CAL-CAP** | Calibration adapter |
| **SD-IFA** | Replacement filter cartridge |

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