cGas DETECTOR Carbon Dioxide (CO_2)

Critical Environment Technologies™

FIXED SYSTEMS

The cGas Detector Carbon Dioxide Transmitter is a low maintenance gas monitoring device designed for use in non-explosion rated, commercial applications that require continuous monitoring of CO_2.

It offers one 4-20 mA analog output or a user selectable in the field digital output with your choice of BACnet® or Modbus® for communicating with a Building Automation System or ventilation controller. Ideal for use for applications where compressed CO_2 is used and stored, climate control in commercial buildings and other processes requiring the continuous monitoring of CO_2.

Powered by 24 VDC or ground referenced AC, the CO_2 cGas Detector has an LCD display, temperature compensation and the firmware and configuration can be upgraded in the field using the USB connection. Pre-calibrated sensors with true Plug & Play Smart Sensor technology makes replacing sensors quick and easy.
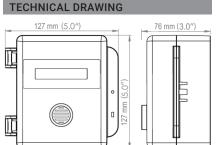
The cGas CO_2 Detector comes in a standard water / dust tight, corrosion resistant ABS/ polycarbonate enclosure with a hinged, secured door. With the optional, factory installed splash guard the enclosure is IP54 rated and provides protection in water spray or wash down applications.

KEY FEATURES

» One 4-20 mA analog output or user in the field configurable BACnet® MS/TP RS-485 or Modbus® RTU RS-485 digital output signal to a BAS
» Easy Plug & Play Smart Sensor replacement at end of life, comes pre-calibrated
» Bright LCD display
» USB port for configuration changes and firmware upgrades
» Optional RH & Temperature sensor (Option -RHT)*
» Standard water / dust tight, corrosion resistant enclosure (drip proof); IP54 rated with optional splash guard installed
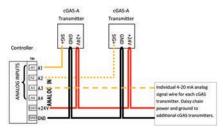» 24 VDC or VAC power (ground referenced)
» RoHS compliant circuit board

APPLICATIONS

» Greenhouses
» Wineries / Breweries
» Fruit Ripening Rooms
» CO_2 Fire Suppression
» CO_2 Storage Rooms
» CO_2 Refrigeration Systems
» Beverage Bottling Facilities
» ... and many more

TECHNICAL DRAWING

127 mm (5.0") 76 mm (3.0")
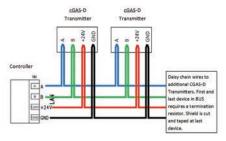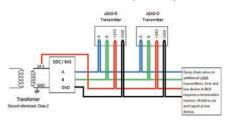
127 mm (5.0")

WIRING DIAGRAMS

CGAS-A connected to an FCS Controller (3-wire VDC)

CGAS-D connected to an FCS Controller (4-wire VDC)

CGAS-D Connected to a BAS/DDC (4-wire VAC)

FIXED SYSTEMS

TECHNICAL SPECIFICATIONS

MECHANICAL

Enclosure	Black ABS / Polycarbonate, copper coated interior to reduce RF interference, IP54 rated with splash guard installed
Weight	400 g / 14 oz
Size	127 x 127 x 76 mm / 5.0 x 5.0 x 3.0 in

USER INTERFACE

Display	2-line by 16 character graphic LCD
Push Buttons	Initiate calibration and menu options with internal UP, DOWN and ENTER push buttons
USB Port	Internal port for USB memory stick for field configuration updated / firmware upgrades

INPUT / OUTPUT

Digital Output (CGAS-D models)	BACnet® MS/TP (version 1 rev 14) RS-485 or Modbus® RTU (version 1.1b3) RS-485 (user configurable in the field)
1 Analog Output (CGAS-A models)	Linear 4-20 mA
RH & Temperature	Option -RHT* user selectable units DegC, DegF

ELECTRICAL

Power Requirement	16-30 VDC, 3W, Class 2 12-27 VAC, 50-60 Hz, 3 VA, Class 2
Digital Wiring	VDC or VAC (ground referenced) 4-conductor shielded, 16 AWG stranded within conduit, network wiring (daisy-chain)
Analog Wiring	VAC (ground referenced) 3-conductor shielded 18 AWG (or larger) stranded within conduit
Fuse(s)	Automatic resetting thermal

ENVIRONMENTAL

Operating Temperature	0°C to 40°C / 32°F to 104°F
Operating Humidity	15 - 90% RH non-condensing

CERTIFICATION

Conforms to: CSA-C22.2 No. 205-12, UL508 (Edition 18):2018
Conforms to: EMC Directive 2014/30/EU   EN 50270:2015, Type 1, EN61010
Conforms to: FCC. This device complies with Part 15 of the FCC Rules.
Listed by BTL

ANALOG	PRODUCT CODES	DIGITAL
Single Channel Analog Transmitter	**Infrared Sensor (Lifespan ~8 yrs)**	**Single Channel Modbus Transmitter**
CGAS-A-CO2-2K	Carbon Dioxide (CO$_2$) sensor (0 - 2,000 ppm)	**CGAS-D-CO2-2K**
CGAS-A-CO2-5K	Carbon Dioxide (CO$_2$) sensor (0 - 5,000 ppm)	**CGAS-D-CO2-5K**
CGAS-A-CO2-5%	Carbon Dioxide (CO$_2$) sensor (0 - 5% vol)	**CGAS-D-CO2-5%**
CGAS-A-CO2-10K	Carbon Dioxide (CO$_2$) sensor (0 - 10,000 ppm)	**CGAS-D-CO2-10K**

OPTIONS *(Factory installed)*

-RHT*	RH & Temperature sensor (°C or °F)
-S	Splash Guard

*NOTE:** The analog models have one analog output. If an analog model is ordered with Option -RHT, the information is for display purposes only; the one analog output is used for the gas readings

ACCESSORIES

CET-SGC	Calibration clip for splash guard
CET-715A-CK1	Calibration Kit for 17, 34, 58, 74, 100 L cylinders, 0.5 LPM flow regulator & adapter to fit 17 L cylinder
DUCT KIT 301A	Twin probe assembly for fixed system, two lengths of 1.23 m / 4 ft tubing, adapter plug and dust filter
SCS-8000-RSG	Small, 16 gauge metal protective guard