

# ANALOG OR DIGITAL GAS DETECTORS DATASHEET CGas DETECTOR Carbon Dioxide $(CO_2)$



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<sub>n</sub>.

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<sub>2</sub> is used and stored, climate control in commercial buildings and other processes requiring the continuous monitoring of CO<sub>2</sub>.

Powered by 24 VDC or ground referenced AC, the CO<sub>2</sub> 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 guick and easy.

The cGas  $\mathrm{CO}_2$  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.

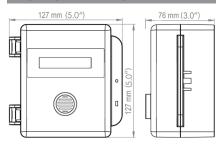
## **KEY FEATURES**

- » 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**

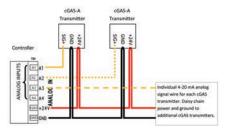
- » Greenhouses
- » Wineries / Breweries
- » Fruit Ripening Rooms
- » CO<sub>2</sub> Fire Suppression
- » CO Storage Rooms
- » CO, Refrigeration Systems
- » Beverage Bottling Facilities
- » ... and many more

## **TECHNICAL DRAWING**

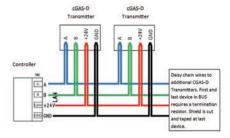


## WIRING DIAGRAMS

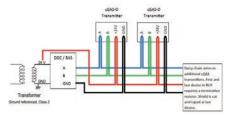
#### CGAS-A connected to an FCS Controller (3-wire VDC)



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



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





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	ELECTRICAL	
Black ABS / Polycarbonate, copper coated interior to reduce RF interference, IP54 rated with splash guard installed	Power Requirement	16-30 VDC, 3W, Class 2 12-27 VAC, 50-60 Hz, 3 VA, Class 2
400 g / 14 oz		VDC or VAC (ground referenced) 4-conductor shielded, 16 AWG stranded within conduit, network wiring (daisy- chain)
127 x 127 x 76 mm / 5.0 x 5.0 x 3.0 in	Digital Wiring	
	Analog Wiring	VAC (ground referenced) 3-conductor shielded 18 AWG (or larger) stranded within conduit
2-line by 16 character graphic LCD		WILTIIT COTIQUIL
Initiate calibration and menu options	Fuse(s)	Automatic resetting thermal
push buttons		
Internal port for USB memory stick for field configuration updated / firmware upgrades	ENVIRONMENTAL	
	Operating Temperature	0°C to 40°C / 32°F to 104°F
	Operating Humidity	15 - 90% RH non-condensing
BACnet® MS/TP (version 1 rev 14) RS-485 or Modbus® RTU (version 1.1b3)	CERTIFICATION	
NS-463 (user corrigurable in the field)	Conforms to: CSA-C22.2 No. 205-12, UL508 (Edition 18):2018	
Linear 4-20 mA	Conforms to: EMC Directive 2014/30/EU	
Option -RHT* user selectable units	EN 50270:2015, Type 1, EN61010	
	EN 502	270:2015, Type 1, EN61010
Option -RHT* user selectable units DegC, DegF		270:2015, Type 1, EN61010 his device complies with Part 15 of the
	IP54 rated with splash guard installed 400 g / 14 oz 127 x 127 x 76 mm / 5.0 x 5.0 x 3.0 in  2-line by 16 character graphic LCD Initiate calibration and menu options with internal UP, DOWN and ENTER push buttons Internal port for USB memory stick for field configuration updated / firmware upgrades  BACnet® MS/TP (version 1 rev 14) RS-485 or Modbus® RTU (version 1.1b3) RS-485 (user configurable in the field)	coated interior to reduce RF interference, IP54 rated with splash guard installed 400 g / 14 oz 127 x 127 x 76 mm / 5.0 x 5.0 x 3.0 in  2-line by 16 character graphic LCD Initiate calibration and menu options with internal UP, DOWN and ENTER push buttons Internal port for USB memory stick for field configuration updated / firmware upgrades  BACnet® MS/TP (version 1 rev 14) RS-485 or Modbus® RTU (version 1.1b3) RS-485 (user configurable in the field)  Linear 4-20 mA

ANALOG	PRODUCT CODES	DIGITAL
Single Channel Analog Transmitter	Infrared Sensor (Lifespan ~8 yrs)	Single Channel Modbus Transmitter
CGAS-A-C02-2K	Carbon Dioxide (CO <sub>2</sub> ) sensor (0 - 2,000 ppm)	CGAS-D-CO2-2K
CGAS-A-CO2-5K	Carbon Dioxide (CO <sub>2</sub> ) sensor (0 - 5,000 ppm)	CGAS-D-CO2-5K
CGAS-A-C02-5%	Carbon Dioxide (CO <sub>2</sub> ) sensor (0 - 5% vol)	CGAS-D-C02-5%
CGAS-A-C02-10K	Carbon Dioxide (CO <sub>2</sub> ) 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







