Critical Environment Technologies™

ANALOG OR DIGITAL GAS DETECTORS DATASHEET

cGas DETECTOR for Indoor Public Spaces

FIXED SYSTEMS



Designed for use in publicly occupied and frequented spaces. Ideal for use where integrated demand controlled ventilation (DCV) is used to regulate a comfortable working environment, maintain air quality and promote energy savings. The low profile, aesthetically pleasing enclosure is designed to reduce the noticeability of the device by the public eye.

Both the analog and digital models are powered by 24 VDC or ground referenced AC, come with an LCD display, temperature compensation and thermal resetting fuse. Sensor replacement is easy with true Plug & Play smart sensors that arrive pre-calibrated. The firmware and configuration can be upgraded in the field using the USB connection.

The digital models are user configurable in the field for BACnet® MS-TP RS-485 or Modbus® RTU RS-485 output for communicating with a controller, Building Automation System or other control panel.

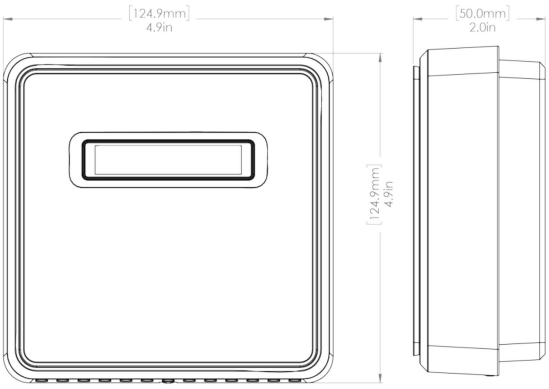
KEY FEATURES

» One 4-20 mA analog output or 0-10 V analog output, or user configurable Modbus® RS-485 RTU or BACnet® MS/ TP communication protocols for communication with a Controller or Building Automation System (BAS)
» Easy Plug & Play Smart Sensor replacement at end of life
» Pre-calibrated replacement sensors
» LCD display
» 1 SPDT dry contact relay, rated 30 volts, 2 amps max with or without internal buzzer (Option -RBZ or -RLY)
» Optional Relative Humidity & Temperature sensor (Option -RHT)
» Models available with user selectable PM1, PM2.5 or PM10 particulate sensor
» Low profile to reduce noticeability in public spaces
» USB port for configuration changes and firmware upgrades
» RoHS compliant circuit board

APPLICATIONS

» Hotels
» Office Buildings
» Hospitals
» Apartment Buildings
» Retirement Homes
» Theaters / Auditoriums
» Schools / Universities, Dormitories
» ... and many more

TECHNICAL DRAWING



TECHNICAL SPECIFICATIONS

MECHANICAL

Enclosure	Polycarbonate, white, low profile
Weight	400 g / 14 oz
Size	124.9 x 124.9 x 50.0 mm 4.9 x 4.9 x 2.0 inches

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-DP models)	BACnet MS/TP (version 1 rev 14) RS-485 or Modbus RTU (version 1.1b3) RS-485 (user configurable in the field)
Analog Output (CGAS-AP models)	One 4-20 mA output or jumper selectable 0-10 or 2-10 volts output
Relay & Buzzer*	1 SPDT relay rated 30 volts, 2 amp max with internal buzzer rated 90 dB @ 10 cm / 4 in, enable/disable
Relay*	1 SPDT relay rated 30 volts, 2 amp max
RH and Temperature (Option -RHT)	User selectable DegC or DegF (analog models current output is for gas reading)

ELECTRICAL

Power Requirement	16-30 VDC, 3W*, Class 2 12-27 VAC, 50-60 Hz, 3 VA*, Class 2 24V recommended *dependent on sensor type
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
Fuse(s)	Automatic resetting thermal

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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
CO Sensor Complies with: UL2075, 2nd Edition, Standard for Gas and Vapour Detectors and Sensors
Conforms to: FCC. This device complies with Part 15 of the FCC Rules.
Listed by BTL

PRODUCT CODES

Dual Channel Digital Models - Modbus® / BACnet® Output		
CGAS-DP-CO-CO2-2K[1]	Internal Carbon Monoxide sensor and (0 - 200 ppm) Carbon Dioxide sensor (0 - 2,000 ppm)	~3yr ~8yr
CGAS-DP-CO-CO2-5K[1]	Internal Carbon Monoxide sensor and (0 - 200 ppm) Carbon Dioxide sensor (0 - 5,000 ppm)	~3yr ~8yr
CGAS-DP-CO-CO2-5%[1]	Internal Carbon Monoxide sensor and (0 - 200 ppm) Carbon Dioxide sensor (0 - 5% vol)	~3yr ~8yr
CGAS-DP-CO2-2K-PM	Internal Carbon Dioxide sensor (0 - 2,000 ppm) and user selectable PM1, PM2.5 (default) or PM10 Particulate sensor, cannot have relay and buzzer	~8yr
CGAS-DP-CO2-5K-PM	Internal Carbon Dioxide sensor (0 - 5,000 ppm) and user selectable PM1, PM2.5 (default) or PM10 Particulate sensor, cannot have relay and buzzer	~8yr
CGAS-DP-CO2-5%-PM	Internal Carbon Dioxide sensor (0 - 5% vol) and user selectable PM1, PM2.5 (default) or PM10 Particulate sensor, cannot have relay and buzzer	~8yr
CGAS-DP-CO-PM[1]	Internal Carbon Monoxide sensor (0 - 200 ppm) and user selectable PM1, PM2.5 (default) or PM10 Particulate sensor	~3yr

ANALOG	PRODUCT CODES	DIGITAL
Single Channel Analog Transmitter	**Sensor**	**Single Channel Modbus Transmitter**
CGAS-AP-CO2-2K	Internal Infrared Carbon Dioxide sensor (0 - 2,000 ppm)	**CGAS-DP-CO2-2K**
CGAS-AP-CO2-5K	Internal Infrared Carbon Dioxide sensor (0 - 5,000 ppm)	**CGAS-DP-CO2-5K**
CGAS-AP-CO2-5%	Internal infrared Carbon Dioxide sensor (0 - 5% vol)	**CGAS-DP-CO2-5%**
CGAS-AP-CO[1]	Internal electrochemical Carbon Monoxide sensor (0 - 200 ppm)	**CGAS-DP-CO**[1]
CGAS-AP-CH2O	Internal electrochemical Formaldehyde sensor (0 - 5 ppm)	**CGAS-DP-CH2O**
CGAS-AP-CCH4-100	Methane (CH_4) sensor (0 - 100 %LEL)	**CGAS-DP-CCH4-100**
CGAS-AP-PM	Internal, user selectable PM1 or PM2.5 (default) or PM10 Particulate sensor	**CGAS-DP-PM**
CGAS-AP-SPL	Internal PID TVOC sensor (0 - 30 ppm)	**CGAS-DP-SPL**
CGAS-AP-SPH	Internal PID TVOC sensor (0 - 300 ppm)	**CGAS-DP-SPH**
CGAS-AP-STVOC	Internal solid state TVOC sensor (0 - 500 ppm)	**CGAS-DP-STVOC**

OPTIONS (Factory installed)

RHT	RH & Temperature sensor (°C or °F)
RBZ*	1 SPDT dry contact relay rated 30 volts, 2 amps max with internal audible alarm rated 90 dB @ 10 cm / 4 in
RLY*	1 SPDT dry contact relay, rated 30 volts, 2 amps max

***IMPORTANT NOTES ON OPTIONS:**

Dual channels with CO_2 and CO cannot have Option RLY. They can have Option RBZ.

Dual channels with CO_2 and PM sensor cannot have a relay and buzzer.

Analog models have one analog output and will output the gas reading.

[1]CO sensor is UL2075 Approved

Modbus® is a registered trademark of Gould Inc. Corporation. BACnet® is a registered trademark of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

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