

ANALOG GAS DETECTORS DATASHEET

cGas DETECTOR Analog Transmitter

FIXED SYSTEMS



The cGas Detector Analog Transmitter is a low maintenance gas monitoring device designed for use in non-explosion rated, commercial applications and is ideal for monitoring toxic, combustible and refrigerant gases.

Powered by 24 VDC or ground referenced AC, the 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 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.

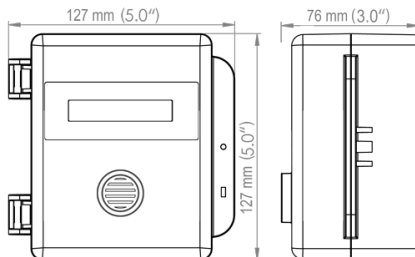
KEY FEATURES

- » One 4-20 mA analog output
- » 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 2A SPDT dry contact relay (Option -RLY)*
- » Optional low temperature operation package (Option -LT)*
- » Optional factory installed splash guard (Option -S or Option -SN)
- » Standard water / dust tight, corrosion resistant enclosure (drip proof)
- » Sensor Calibration Extending Firmware (CEF) for parking applications
- » 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

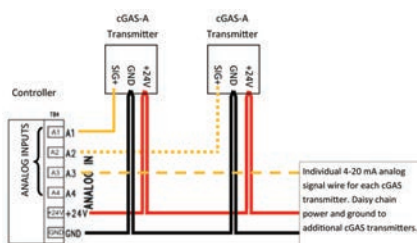
- » Parking Garages/Car Parks
- » Vehicle Repair Shops
- » Ice Arenas
- » Commercial Pools
- » Battery Charging Rooms
- » Manufacturing Plants
- » Maintenance Facilities
- » ... and many more

TECHNICAL DRAWING



WIRING DIAGRAMS

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



TECHNICAL SPECIFICATIONS

TARGET GAS

Electrochemical - Ammonia, Carbon Monoxide, Carbon Dioxide, Chlorine, Ethylene, Ethylene Oxide, Formaldehyde, Hydrogen, Hydrogen Fluoride, Hydrogen Sulphide, Nitrogen Dioxide, Nitric Oxide, Oxygen, Ozone, Sulphur Dioxide

Combustibles (catalytic) - Ammonia, Hydrogen, Methane, Propane, Ethanol or Dimethyl Ether, Methanol

Infrared - Carbon Dioxide

Solid State - R22, R134A, R402A, R404A, R407C, R410A, R422D, R438A, R448A, R449A, R507A, R513A, R514A, TVOC

PID - TVOC

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 (standard)	2-line by 16 character graphic LCD Operating Temp: 0°C to 40°C / 32°F to 104°F
Display (low temp) (Option -LT)	2-line by 16 character OLED display Operating Temp: -40°C to 40°C / -40°F to 104°F

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TECHNICAL SPECIFICATIONS

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

Output	Linear 4-20 mA analog
Relay	Option -RLY* one SPDT dry contact relay, rated 30 volts, 2 amps max

ELECTRICAL

Power Requirement	16-30 VDC, 3W, Class 2 12-27 VAC, 50-60 Hz, 3 VA, Class 2
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) temperatures below 0°C / 32°F require Option-LT
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.



PRODUCT CODES

Single Channel - Electrochemical Sensors

CGAS-A-NH3	Ammonia (NH ₃) sensor (0 - 500 ppm)	~2yr
CGAS-A-CO ¹	Carbon Monoxide (CO) sensor (0 - 200 ppm)	~6yr
CGAS-A-CO-100 ¹	Carbon Monoxide (CO) sensor (0 - 100 ppm)	~6yr
CGAS-A-CO-250 ¹	Carbon Monoxide (CO) sensor (0 - 250 ppm)	~6yr
CGAS-A-CO-300 ¹	Carbon Monoxide (CO) sensor (0 - 300 ppm)	~6yr
CGAS-A-CO-500 ¹	Carbon Monoxide (CO) sensor (0 - 500 ppm)	~6yr
CGAS-A-CL2	Chlorine (Cl ₂) sensor (0 - 5 ppm)	~3yr
CGAS-A-CL2-10	Chlorine (Cl ₂) sensor (0 - 10 ppm)	~3yr
CGAS-A-C2H4	Ethylene (C ₂ H ₄) sensor (0 - 200 ppm)	~2yr

PRODUCT CODES

CGAS-A-EETO	Ethylene Oxide (C ₂ H ₄ O) sensor (0 - 20 ppm)	~2yr
CGAS-A-CH2O	Formaldehyde (CH ₂ O) sensor (0 - 5 ppm)	~2yr
CGAS-A-EH2	Hydrogen (H ₂) sensor (0 - 2,000 ppm)	~2yr
CGAS-A-HF	Hydrogen Fluoride (HF) sensor (0 - 10.0 ppm)	~2yr
CGAS-A-H2S	Hydrogen Sulphide (H ₂ S) sensor (0 - 50 ppm)	~2yr
CGAS-A-NO	Nitric Oxide (NO) sensor (0 - 100 ppm)	~2yr
CGAS-A-NO2	Nitrogen Dioxide (NO ₂) sensor (0 - 10 ppm)	~3+yr
CGAS-A-O2	Oxygen (O ₂) sensor (0 - 25% volume)	~3yr
CGAS-A-O3	Ozone (O ₃) sensor (0 - 1 ppm)	~2yr
CGAS-A-SO2	Sulphur Dioxide (SO ₂) sensor (0 - 20 ppm)	~2yr

Single Channel - Internal Infrared Sensors

CGAS-A-CO2-2K	Carbon Dioxide (CO ₂) sensor (0 - 2,000 ppm)	~8yr
CGAS-A-CO2-5K	Carbon Dioxide (CO ₂) sensor (0 - 5,000 ppm)	~8yr
CGAS-A-CO2-5%	Carbon Dioxide (CO ₂) sensor (0 - 5% vol)	~8yr
CGAS-A-CO2-10K	Carbon Dioxide (CO ₂) sensor (0 - 10,000 ppm)	~8yr

Single Channel - Internal Solid State Sensors

CGAS-A-SR22	R22 sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR134A	R134A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR402A	R402A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR404A	R404A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR407C	R407C sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR410A	R410A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR422D	R422D sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR438A	R438A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR448A	R448A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR449A	R449A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR507A	R507A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR513A	R513A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-SR514A	R514A sensor (0 - 2,000 ppm)	~5yr
CGAS-A-STVOC	TVOCs sensor (0 - 500 ppm)	~5yr

Single Channel - Internal Catalytic Sensors

CGAS-A-NH3-3%	Ammonia (NH ₃) sensor (0 - 3% vol)	~2yr
CGAS-A-CC2H6O-100	Ethanol or Dimethyl Ether (C ₂ H ₆ O) sensor (0 - 100% LEL)	~5yr
CGAS-A-CH2-100	Hydrogen (H ₂) sensor (0 - 100% LEL)	~5yr
CGAS-A-CCH4-100	Methane (CH ₄) sensor (0 - 100% LEL)	~5yr
CGAS-A-CCH4O-100	Methanol (CH ₃ O) sensor (0 - 100% LEL)	~5yr
CGAS-A-CC3H8-100	Propane (C ₃ H ₈) sensor (0 - 100% LEL)	~5yr

¹CO sensor UL2075 Approved

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PRODUCT CODES

Single Channel - Internal PID Sensors

CGAS-A-SPL TVOC sensor (0 - 30 ppm)

CGAS-A-SPH TVOC sensor (0 - 300 ppm)

Single Channel - Remote Detection

CGAS-A-R No internal sensor, add an ESH-A Remote Sensor

Single Channel - RH and Temperature Sensor

CGAS-A-RHT Internal Relative Humidity and Temperature sensor

ESH-A Remote Sensors

ESH-A-CC2H2-100 Catalytic combustible Acetylene (C2H2) ESH-A Remote Sensor (0 - 100% LEL) ~5yr

ESH-A-CH2-100 Catalytic combustible Hydrogen (H2) sensor (0 - 100% LEL) ~5yr

ESH-A-CCH4-100 Catalytic combustible Methane (CH4) sensor (0 - 100% LEL) ~5yr

ESH-A-CC3H8-100 Catalytic combustible Propane (C3H8) sensor (0 - 100% LEL) ~5yr

ESH-A-SPL TVOC PID sensor (0 - 30 ppm)

ESH-A-SPH TVOC PID sensor (0 - 300 ppm)

ESH-A-JET Infrared Propane (C3H8) sensor (0 - 100% LEL) ~8yr

OPTIONS (Factory installed)

LT*	Low temperature package with OLED display and internal heater for cold environment applications down to -40°C / -40°F
RLY *	1 SPDT dry contact relay, rated 30 volts, 2 amps max
S	Splash Guard for non sticky gases, factory installed
SN	Splash Guard for sticky gases (Cl ₂ , O ₃) and configurations with internal NO ₂ sensor, factory installed

*IMPORTANT NOTES ON OPTIONS:

-RLY is available with all single channel configurations except CO₂ and sticky gas sensors (Cl₂, O₃)

ACCESSORIES

CET-SGC	Calibration Adapter Clip for Option -S
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	Metal probe assembly for fixed system, two lengths of 1.23 m / 4 ft tubing, adapter plug and dust filter (available for use with select gases)
SCS-8000-RSG	Small, 16 gauge protective guard
SCS-8000-WSG	Small, 16 gauge protective splash guard

CGAS-A AVAILABLE OPTIONS BY PRODUCT GAS CODE

Product Gas Code	CAN I ADD THESE OPTIONS?				Splash Guard
	-RLY	-RHT	-RHT + -RLY	-LT	
-CO2-2K	NO	YES	NO	YES	S
-CO2-5K	NO	YES	NO	YES	S
-CO2-10K	NO	YES	NO	YES	S
-CO2-5%	NO	YES	NO	YES	S
-NH3	YES	YES	NO	YES	S
-CO	YES	YES	YES	YES	S
-CL2 / -CL2-10	NO	NO	NO	YES	SN
-C2H4	YES	YES	NO	YES	S
-EETO	YES	YES	NO	YES	S
-CH2O	YES	YES	NO	YES	S
-EH2	YES	YES	NO	YES	S
-HF	YES	YES	NO	YES	S
-H2S	YES	YES	NO	YES	S
-NO	YES	YES	NO	YES	S
-NO2	YES	YES	NO	YES	SN
-O2	YES	YES	NO	YES	S
-O3	NO	NO	NO	YES	SN
-SO2	YES	YES	NO	YES	S
-NH3-3%	YES	YES	NO	YES	S
-CH2-100	YES	YES	NO	YES	S
-CC2H6O-100	YES	YES	NO	YES	S
-CCH4-100	YES	YES	NO	YES	S
-CCH4O-100	YES	YES	NO	YES	S
-CC3H8-100	YES	YES	NO	YES	S
-SPL	YES	YES	NO	YES	S
-SPH	YES	YES	NO	YES	S
-SR22	YES	YES	NO	YES	S
(same for all refrigerant models)					
-STVOC	YES	YES	NO	YES	n/a
-R	YES	YES	NO	YES	