



CGAS-SC-NO2 Self Contained Controller

Low Voltage Self Contained Controller with Electrochemical Nitrogen Dioxide (NO₂) Sensor

Dimensions:	Size	8 x 6.07 x 3.16 in (20.3 x 15.4 x 8 cm) without optional splash guard (Option -S)
	Weight	750 g / 1.65 lbs
Construction:		Black ABS / Polycarbonate blend, water/dust tight, corrosion resistant
Sensor:	Type	Electrochemical
	Life Span	Approximately 3 years (application & exposure dependent)
	UL Listed	UL2075
Gases Detected:		Nitrogen Dioxide (NO ₂)
Sensor Range:		0 – 10 ppm
System Power:		16 – 30 VDC / 12 – 28 VAC, 50/60 Hz, 10W, Class 2
Operating Temperature:		0°C to +40°C (32°F to 104°F), -40°C (-40°F) with low temperature Option -LT
Operating Humidity:		15 to 95% non-condensing
Indicators:		LCD display 2 x 16 characters with LED panel indicating alarm status 1, 2 and 3 for any channel and FAULT
Output (user selectable):		BACnet® MS/TP (version 1 rev 14) RS-485, or Modbus® RTU (version 1.1b3) RS-485 Horn/strobe output terminal
Relay		2 internal SPDT dry contact relays, rated 5 amps @ 240 VAC
Audible Alarm		Standard: Internal buzzer, rated 76 dB @ 3 m (10 ft) Option -A: Side mounted buzzer, rated 90 dB @ 30 cm (1 ft) Option -WA: Water tight, side mounted buzzer, rated 85 dB @ 60.96 cm (2 ft)
Minimum Detection:		0.1 ppm (with regular calibration maintenance of sensor)
Accuracy:		±0.1 ppm @ STP, across measurement range at time of calibration and at calibration concentration + calibration gas concentration error
Repeatability:		±2% (with regular calibration maintenance of sensor)
Sensitivity Drift		Zero: <+/-0.02 ppm (with regular calibration maintenance of sensor) Span: <2% signal per month (with regular calibration of sensor)
Response Time (T₉₀):		<25 seconds
Resolution:		Display resolution: 0.1ppm Sensor resolution: ±0.1 ppm
Warm Up Time:		4 minutes after power up (to full operation)
Cross Sensitivity:		Relative to Nitrogen dioxide = 100%, Hydrogen Sulphide = <40%, Hydrogen = <1%, Sulphur Dioxide = <1%, Ammonia = <1%, Nitric Oxide = <20%, Ethanol = <1%, Carbon Monoxide = <1%, Chlorine = <70%
Safety:		Automatic resetting thermal overload fuse (reset capabilities to 500 times)
Wiring:		24 VDC or 24 VAC 2-conductor, 14 - 18 AWG stranded within conduit Network wiring (daisy-chain) 4-conductor, 16 AWG, stranded within conduit
Sensor Mounting:		Vehicle exhaust application: 4 - 6 ft / 1.2 - 1.8 m from the floor
Monitoring Area:		5000 ft² / 465 m²
Suggested Alarm Setpoints		Low Alarm: 0.7 ppm / Mid Alarm: 1 ppm / High Alarm: 1.5 ppm
Certifications:		CSA-C22.2 No 61010-1, UL 61010-1 (Edition 3)
(tested to)		RoHS compliant circuit boards Listed by BTL This device complies with part 15 of the FCC Rules
Note:		Never install gas detectors in the direct path of moving air.

CGAS-SC-NO2 Self Contained Controller

Conditions Affecting Electrochemical Sensors:

- Typically designed to operate between -10°C and +50°C, do not exposed to extreme temperatures for prolonged periods of time. Repeated or prolonged exposure to temperatures like 60-65°C / 140-149 can lead to evaporation of the electrolyte and shifts in baselines readings.
- Do not expose to high moisture for extended periods of time.
- Prolonged exposure to extremely high gas concentrations can compromise sensor performance.
- Paint fumes, cleaning products, dust, sand, water, insects can reduce lifespan and compromise performance. Avoid exposure to high concentrations of solvent vapours both during storage and operation.
- Before initial use after production may be stored at room temperature ideally at 20°C / 68°F and 60%RH or preferably in the fridge for up to 6 months. Beyond this period, the sensor performance is likely to deteriorate, such as with longer response time and lower sensitivity regardless of whether sensor has been used or not.
- The more exotic gases (chlorine, ozone etc.) tend to have shorter life spans than the more common gases (CO, nitrogen dioxide)
- Install gas detector vertically so the display is over top of the sensor vent and device is flat against a wall or column. Never install gas detectors in the direct path of moving air.

Rev: 2024-04