



CGAS-SC-CO2-5% Self Contained Controller

Low Voltage Self Contained Controller with Infrared Carbon Dioxide (CO₂) Sensor

Dimensions:	8 x 6.07 x 3.16 in (20.3 x 15.4 x 8 cm) without optional splash guard (Option -S)	
Size Weight	750 g / 1.65 lbs	
Construction:	Black ABS / Polycarbonate blend, water/dust tight, corrosion resistant	
Sensor: Type	Non-dispersive Infrared (NDIR)	
Life Span	Approximately 8 years (application dependent)	
Gases Detected:	Carbon Dioxide (CO ₂)	
Sensor Range:	0 - 5% vol	
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 85% 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:	0.03% vol	
Accuracy:	±0.02%vol ± 10% of reading	
Repeatability:	no data available	
Sensitivity Drift:	<10% per year	
Response Time (T₉₀):	2 min. (diffusion)	
Resolution:	Display resolution: 0.01% vol	Sensor resolution: ±0.01% vol
Warm Up Time:	3 minutes after power-up	
Cross Sensitivity:	none	
Safety:	Automatic resetting thermal overload fuse (reset capabilities to 500 times)	
Wiring:	Low voltage: 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:	Heavier than air, 3 to 5 ft / 91 to 152 cm from the floor (application dependent)	
Monitoring Area:	3000 ft ² / 279 m ²	
Suggested Alarm Points	Low Alarm: 0.5% vol / Mid Alarm: 1.5% vol / High Alarm: 3.0% vol	
Certifications: (tested to)	CSA-C22.2 No 61010-1, UL 61010-1 (Edition 3) 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.	



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Conditions Affecting Infrared Sensors:

- Do not use in locations where corrosive chemicals such as chlorine, ammonia and other oxidizers are present, especially if there is a higher humidity level.
- High humidity can affect response and promote corrosion.
- Water or vapour condensation can impair sensor performance.
- Dust and dirt can compromise sensor performance.
- Excessive vibration or impact can damage the sensor.
- Continuous exposure to gas will not poison the sensor but it may require a long time to clear before accurate readings can be taken again.
- Carbon dioxide sensors require 99.9% nitrogen (N₂) for a true zero.
- 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.

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