



GS-CDO Series

Outdoor CO₂ Sensors



Overview

The GS-CDO Series are outdoor carbon dioxide gas detectors. These devices provide precision measurement of CO₂ gas. The CO₂ transmitter uses Non-dispersive infrared Technology (NDIR) to monitor CO₂ levels and outputs a linear 4-20mA, 0-5Vdc or 0-10Vdc signal. Options include a control relay and a temperature sensor.

Applications

- Used for demand controlled ventilation (DCV)
- Used for monitoring air quality

Features & Benefits

- Economical
- Models with adjustable range
- Patented self-calibration algorithm
- Guaranteed 5 year calibration interval
- Accurate carbon dioxide monitoring for increased comfort

Accessories

GS-CDCAL	CO ₂ calibration kit - no gas
GS-CDFCAL	Factory calibration certificate
GS-CDNIST	NIST calibration certificate

Note: Calibration certificates must be purchased at the time of purchasing the relative sensors.

Model Selection

		GS-	CD	O	X	02K	X	X
Sensor	CD = Carbon dioxide							
Mounting Style	O = Outdoor							
Heated Enclosure Option	H = Heated enclosure							
Sensing Range	02K = 0-2000ppm 20K = 0-20000ppm							
Temperature Sensor Option	T = Temperature sensor (10kΩ, Type II thermistor)							
Relay Option	R = Relay output							

Product Specifications

Environmental

Operating Temperature	-40°C to 50°C; -40°F to 122°F (Heated), 0°C to 50°C; 32°F to 122°F (Unheated)
Storage Temperature	0°C to 70°C; 32°F to 158°F
Relative Humidity	0 to 95% Non-condensing

Sensor

Sensor Coverage Area	100 m ²
Pressure Dependence	0.13% of reading per mm Hg
Altitude Correction	Programmable from 0-5000ft via keypad
Response Time	<2 minutes for 90% step change typical
Range	GS-CDOX02K: 0-2000 ppm, GS-CDOX20K: 0-20000 ppm
Accuracy	GS-CDOX02K ± 30 ppm +3% (Auto Cal On), GS-CDOX20K ± 75 ppm or 10% reading
Sensor Type	GS-CDOX02K Non-Dispersive Infrared (NDIR), GS-CDOX20K Dual Channel NDIR
Sensor Life Span	15 years typical

Enclosure

Material	Grey ABS
Dimensions	See figure
Enclosure Ratings	1P65 (NEMA 4X)

Optional Relay Output

Contact Ratings	Form A contact (N.O), 2 Amps @ 140 VAC, 2 Amps @ 30 Vdc
Relay Trip Point	GS-CDOX02K: Programmable 500-2000 ppm GS-CDOX20K: Programmable 500- 15000 ppm
Relay Hysteresis	GS-CDOX02K: Programmable 25-200 ppm GS-CDOX20K: Programmable 25- 500 ppm

Electrical

Dissipation Factor	2.2mW/K (Thermistor)
Max Power @ 25°C (77°F)	75mW (Thermistor)
Thermal Time Constant	Less than 10s (Thermistor)
Protection Circuitry	Reverse voltage & overvoltage protected
Power Supply	20-28 VAC/DC
Consumption	Heated 1.0A at 24Vdc and 1.1A at 24Vac Unheated 100mA max at 24 Vdc 185 mA max at 24 Vac
Wiring Connections	Screw Terminal Block (14 to 22 AWG)

Type ¹	Temperature Sensor 10kΩ NTC thermistor, Type 2
Accuracy	±0.2°C; ±0.36°F

Concealed LCD Display (Used for setting parameters)

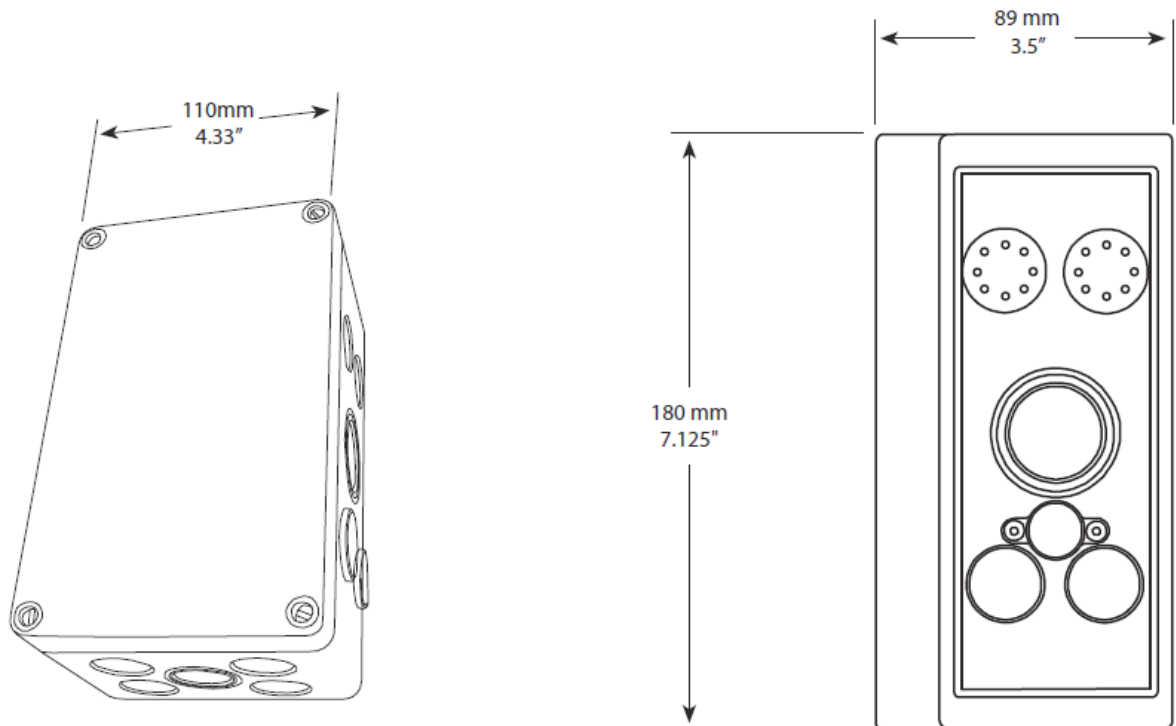
Resolution _____ 1ppm CO₂
Size _____ 1.4"W x 0.6"H (35mm x 15mm)
Backlight _____ Enable or disable via keypad

Agency Approvals

Material² _____ UL94-VB

1. Temperature sensor type stated is standard. Other temperature sensor types are available.
2. All materials and manufacturing processes comply with the RoHS directive

Dimensions



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