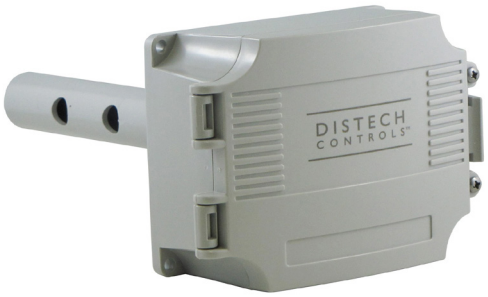
GS-CDD Series

Duct CO_2 Sensors



Overview

The GS-CDD Series are duct carbon dioxide gas detectors. These devices provide precision measurement of CO_2 gas. These sensors use a highly accurate and reliable Non-dispersive Infrared (NDIR) sensor combined with state-of-the-art digital linearization and temperature compensated circuitry to monitor duct CO_2, levels. The duct CO_2 transmitter principal of operation is based on the Venturi effect of the probe that extends into the HVAC duct. Air flowing through the duct is forced into the vent holes on one side of the probe, into the enclosure, over the CO_2 sensor and then the air is drawn back out of the enclosure via the vent holes on the opposite side of the probe. Optional temperature sensor and adjustable relay output is also available.

Applications

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

Features & Benefits

- Economical
- Models with adjustable range
- Menu driven set-up
- 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	D	02K	X	X	X
Sensor	CD = Carbon dioxide							
Mounting Style	D = Duct							
Sensing Range	02K = 0-2000ppm 20K = 0-20000ppm							
Display Option	D = Display							
Temperature Sensor Option	T = Temperature sensor (10kΩ, Type II thermistor)							
Relay Option	R = Relay output							

Product Specifications

Environmental

Operating Temperature	0°C to 50°C; 32°F to 122°F
Storage Temperature	0°C to 70°C; 32°F to 158°F
Relative Humidity	0 to 95% Non-condensing

Sensor

Sensor Life Span	15 years typical
Sensor Coverage Area	100 m^2
Sensor Life Span	15 years typical
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-CDD02K: 0-2000 ppm, GS-CDD20K: 0-20000 ppm
Accuracy	GS-CDD02K ± 30 ppm +3% (Auto Cal On), GS-CDD20K ± 75 ppm or 10% reading
Sensor Type	GS-CDD02K Non-Dispersive Infared (NDIR), GS-CDD20K Dual Channel NDIR

Enclosure

Material	White ABS
Dimensions	See figure
Shipping weight	0.3 lbs (136 g)
Enclosure Ratings	1P65 (NEMA 4X)

LCD Display

Resolution	1ppm CO_2
Size	1.4''W x 0.6''H (35mm x 15mm)
Backlight	Enable or disable via keypad

Electrical

Dissipation Factor	2.2mW/K
Max Power @ 25°C (77°F)	75mW
Thermal Time Constant	Less than 10s
Protection Circuitry	Reverse voltage & overvoltage protected
Power Supply	20-28 VAC/DC
Consumption	100 mA max @ 24 VDC 185mA max at 24VDC (With all options)

Optional Relay Output

Contact Ratings	Form A contact (N.O), 2 Amps @ 140 VAC, 2 Amps @ 30 Vdc
Relay Trip Point	GS-CDD02K:Programmable 500-2000 ppm GS-CDD20K:Programmable 500- 15000 ppm
Relay Hysteresis	GS-CDD02K: Programmable 25-200 ppm GS-CDD20K: Programmable 25-500ppm

Electrical

Dissipation Factor	2.2mW/K (Thermistor)
Max Power @ 25°C (77°F)	75mW (Thermistor)
Thermal Time Constant	Less than 10s (Thermistor)

Temperature Sensor

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

Agency Approvals

Material[2]	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