



## ROOM CARBON DIOXIDE DETECTOR CDD4 Series

The CDD4 series uses a highly accurate and reliable Non-dispersive Infrared (NDIR) sensor combined with state-of-the-art digital linearization and temperature compensated circuitry in an attractive, low profile enclosure for room applications to monitor room CO<sub>2</sub> levels. A linear analog signal output of 4-20 mA, 0-5 or 0-10 Vdc is provided for connection to a building automation system. Optional features such as temperature sensor, setpoint adjustment, manual override and adjustable relay output are available.

### SPECIFICATION:

- Range.....**CDD4A:** 0 - 2000 ppm  
**CDD4B:** 0 - 20,000 ppm standard, programmable span from 2000 to 20,000 ppm
- Accuracy.....**CDD4A:** ±30 PPM + 3% of reading with Auto Cal on.  
**CDD4B:** ±75 PPM or 10% of reading (whichever is greater)
- Sensor.....**CDD4A:** Non-Dispersive Infrared (NDIR), diffusion sampling  
**CDD4B:** Dual Channel Non-Dispersive Infrared (NDIR), diffusion sampling
- Sensor Coverage Area ... 100 m<sup>2</sup> (1000 ft<sup>2</sup>) typical
- Temp. Dependence .....0.2% FS per °C
- Stability.....**CDD4A:** < 2 % FS over life of sensor  
**CDD4B:** < 5 % FS over life of sensor
- Sensor Life Span ..... 15 years typical
- Press. Dependence .....0.13% of reading per mm Hg
- Altitude Correction ..... Programmable from 0-5000 ft via keypad
- Response Time .....<2 minutes for 90% step change typical
- Warm-up Time .....<2 minutes
- Power Supply.....20-28 Vac/dc  
(non-isolated half-wave rectified)
- Output Signals.....4-20 mA active (sourcing), 0-5 Vdc or 0-10 Vdc (field selectable)
- Consumption..... 100 mA max @ 24 Vdc, 185 mA max @ 24 Vac (with all options)
- Output Drive Capability...**Current:** 550 ohms max  
**Voltage:** 10 Kohm min
- Output Resolution ..... 10 bit PWM
- Protection Circuitry..... Reverse voltage & overvoltage protected
- Operation Conditions....0° - 50°C (32° -122°F), 0-95% RH non-condensing
- Wiring Connections.....Screw terminal block (14 to 22 AWG)
- External Dimensions .....84mm W x 119mm H x 29mm D (3.3" x 4.7" x 1.15")
- Enclosure Ratings.....IP30 (NEMA 1)
- LCD Display:**  
Resolution..... 1 ppm CO<sub>2</sub>  
Size..... 1.4" w x 0.6" h (35 mm x 15 mm)  
Alpha-numeric 2 line x 8 character  
Backlight..... Enable or disable via keypad
- Optional Temperature Signal:**  
Sensing Element..... Various RTDs or thermistors as a 2-wire resistance output
- Optional Relay Output:**  
Contact Ratings..... Form A contact (N.O.), 2 Amps @ 140 Vac, 2 Amps @ 30 Vdc  
Relay Trip Point.....**CDD4A:** Programmable 500-2000 ppm  
**CDD4B:** Programmable 500-15,000 ppm  
Relay Hysteresis .....**CDD4A:** Programmable 25-200 ppm  
**CDD4B:** Programmable 25-500 ppm
- Optional Override:**..... Front panel momentary push-button N.O., SPST, 50 mA @12 Vdc
- Optional Setpoint:**..... Front panel slidepot resistive output, 0-10 KΩ standard



### PART NUMBER SELECTED

### PRODUCT SELECTION INFORMATION:

MODEL	Product Description
<b>CDD4A10</b>	Room Carbon Dioxide Sensor, 0-2000 ppm
<b>CDD4B10</b>	Room Carbon Dioxide Sensor, 0-20,000 ppm

CODE	Display
<b>0</b>	Concealed
<b>1</b>	Viewable

CODE	Optional Temperature Sensor (Leave blank if not required)
<b>T2</b>	100 Ω Plat. IEC 751, 385 Alpha, thin film
<b>T5</b>	1801 Ω, NTC Thermistor, ±0.2 C
<b>T6</b>	3000 Ω, NTC Thermistor, ±0.2 C
<b>T7</b>	10,000 Ω, type 3, NTC Thermistor, ±0.2 C
<b>T8</b>	2.252K Ω, NTC Thermistor, ±0.2 C
<b>T12</b>	1000 Ω Platinum, IEC 751, 385 Alpha, thin film
<b>T13</b>	1000 Ω Nickel, Class B, DIN 43760
<b>T14</b>	10,000 Ω, type 3, NTC Thermistor, ±0.2 C w/ 11K shunt resistor
<b>T20</b>	20,000 Ω, NTC Thermistor, ±0.2 C
<b>T24</b>	10,000 Ω, type 2, NTC Thermistor, ±0.2 C

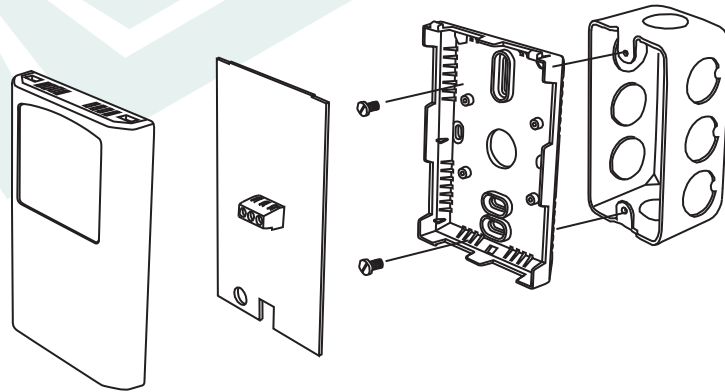
CODE	Options (Multiple selections can be made) (Leave blank if no options required)
<b>P</b>	Linear slide pot for set point control
<b>S</b>	Exposed push button momentary switch - N.O.
<b>R</b>	Relay Output

## TYPICAL INSTALLATION:

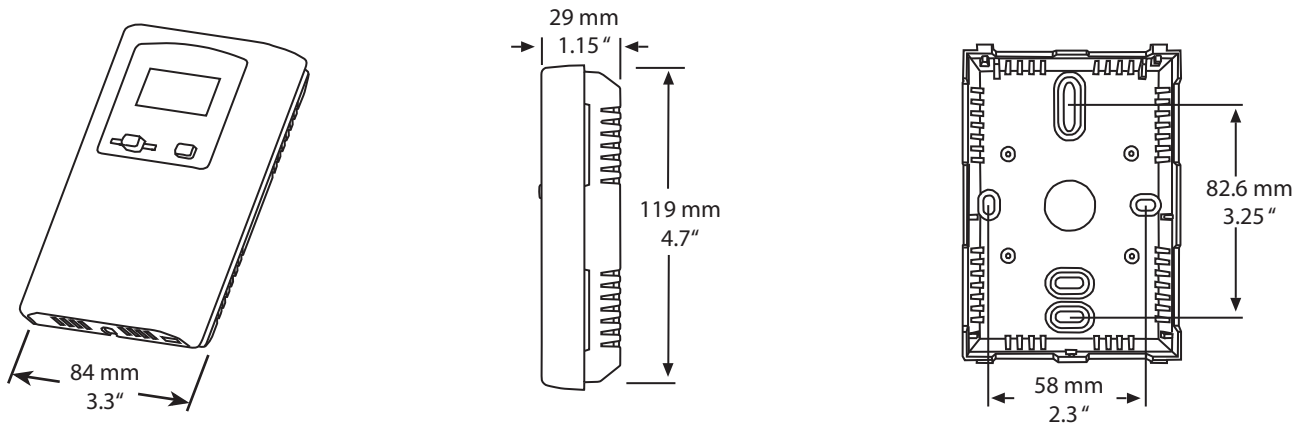
For complete installation and wiring details, please refer to the product installation instructions.

The CDD4 series can be mounted directly to a single gang electrical box or directly to a wall. The backplate includes many mounting hole configurations to allow for mounting on a variety of electrical boxes.

The basic CDD4 has a 3 wire configuration with a screw block terminal provided for connection to the Building Automation System.



## DIMENSIONS:



## 5-YEAR CALIBRATION GUARANTEE

Based on the results of years of testing of ACLP software, Greystone now offers a 5-year calibration guarantee on all its CDD series wall and duct mount sensors used for CO<sub>2</sub> based ventilation control when operated in an environment that can utilize ACLP software. If the sensor is found to be out of calibration more than 150 PPM as compared to a calibration gas or recently calibrated reference, Greystone will provide a free factory calibration of the sensor if returned to Greystone. This guarantee only applies if the sensor is operated in an environment where inside levels periodically drop to outside concentrations (i.e. during evenings or weekends when there is no occupancy) as is required by ACLP software. If a space does not experience a periodic drop to outside levels (i.e. where occupancy is 24 hours, 7 days/week), ACLP software should be deactivated. With ACLP deactivated (via menu buttons), calibration may be required every 2 to 3 years.



Greystone Energy Systems Inc.  
150 English Drive, Moncton,  
New Brunswick, Canada E1E 4G7  
(506) 853-3057 Fax: (506) 853-6014  
North America: 1-800-561-5611  
e-mail: mail@greystoneenergy.com  
web site: www.greystoneenergy.com

RoHS  
COMPLIANT



*Greystone Energy Systems Inc. is one of North America's largest ISO registered manufacturers of HVAC/R sensors and transmitters for Building Automation Management Systems.*

*We have conscientiously established a worldwide reputation as an industry leader by maintaining leading-edge design technology, prompt technical support, and a commitment to on-time deliveries. We take pride in our Quality Management System which is ISO 9001 certified, assuring our customers of consistent product reliability.*

GREYSTONE HAS AN ISO 9001 REGISTERED QUALITY SYSTEM