



GREYSTONE ENERGY SYSTEMS INC

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 CO₂ 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 m² (1000 ft²) 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"x4.7"x1.15")

Enclosure Ratings:.....IP30 (NEMA 1)

LCD Display:
Resolution:.....1 ppm CO₂
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
CDD4A10	Room Carbon Dioxide Sensor, 0-2000 ppm
CDD4B10	Room Carbon Dioxide Sensor, 0-20,000 ppm

CODE	Display
0	Concealed
1	Viewable

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

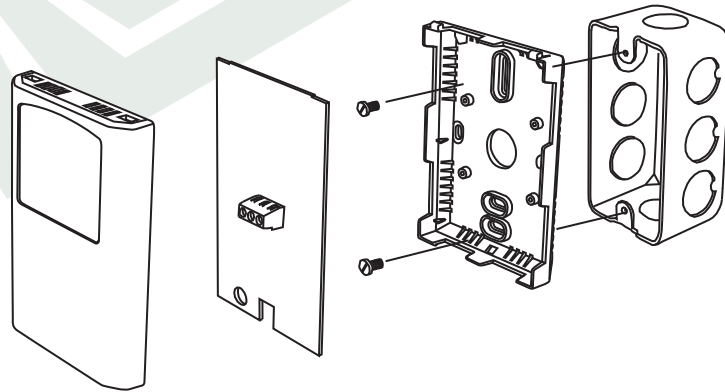
CODE	Options (Multiple selections can be made) (Leave blank if no options required)
P	Linear slide pot for set point control
S	Exposed push button momentary switch - N.O.
R	Relay Output

TYPICAL INSTALLATION:

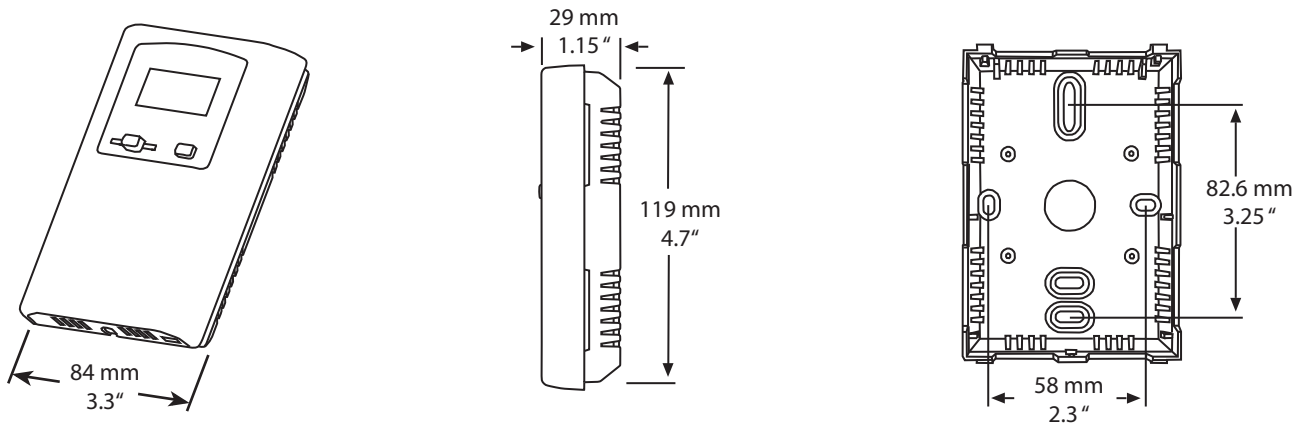
For complete installation and wiring details, please refer to the product installation instructions.

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 CO₂ 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. 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.

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GREYSTONE HAS AN ISO 9001 REGISTERED QUALITY SYSTEM