



## OUTSIDE 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 vented, weatherproof enclosure to monitor outside 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 and adjustable relay output are available.

### SPECIFICATION:

Range.....0 - 2000 ppm standard,  
programmable span from 2000 to  
20,000 ppm

Accuracy.....±75 PPM or 10% of reading  
(whichever is greater)

Sensor.....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.....< 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 .....**Heated:** 1.0 A max @ 24 Vdc  
1.1 A max @ 24 Vac  
**Unheated:** 100 mA max @ 24 Vdc  
185 mA max @ 24 Vac

Output Drive Capability.....**Current:** 550 ohms max  
**Voltage:** 10 Kohm min

Output Resolution ..... 10 bit PWM

Protection Circuitry.....Reverse voltage & overvoltage protected

Operation Conditions.....**Heated:** -40° - 50°C (-40° -122°F)  
**Unheated:** 0° - 50°C (32° -122°F)  
0-95% RH non-condensing

Wiring Connections.....Screw terminal block (14 to 22 AWG)

External Dimensions ..... 110mm W x 180mm H x 89mm D  
(4.3" x 7.125" x 3.5")

Enclosure Ratings.....IP65 (NEMA 4X)

**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.....Programmable 500-15,000 ppm  
Relay Hysteresis .....Programmable 25-500 ppm

**Concealed LCD Display (Used for setting parameters):**  
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



### PART NUMBER SELECTED

### PRODUCT SELECTION INFORMATION:

MODEL	Product Description
CDD4B	Outside Carbon Dioxide Sensor, 0-20,000 ppm

CODE	Enclosure
300	Heated
400	Unheated

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
R	Relay Output

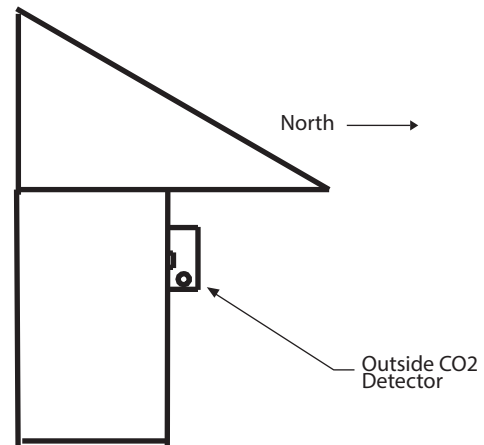
## TYPICAL INSTALLATION:

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

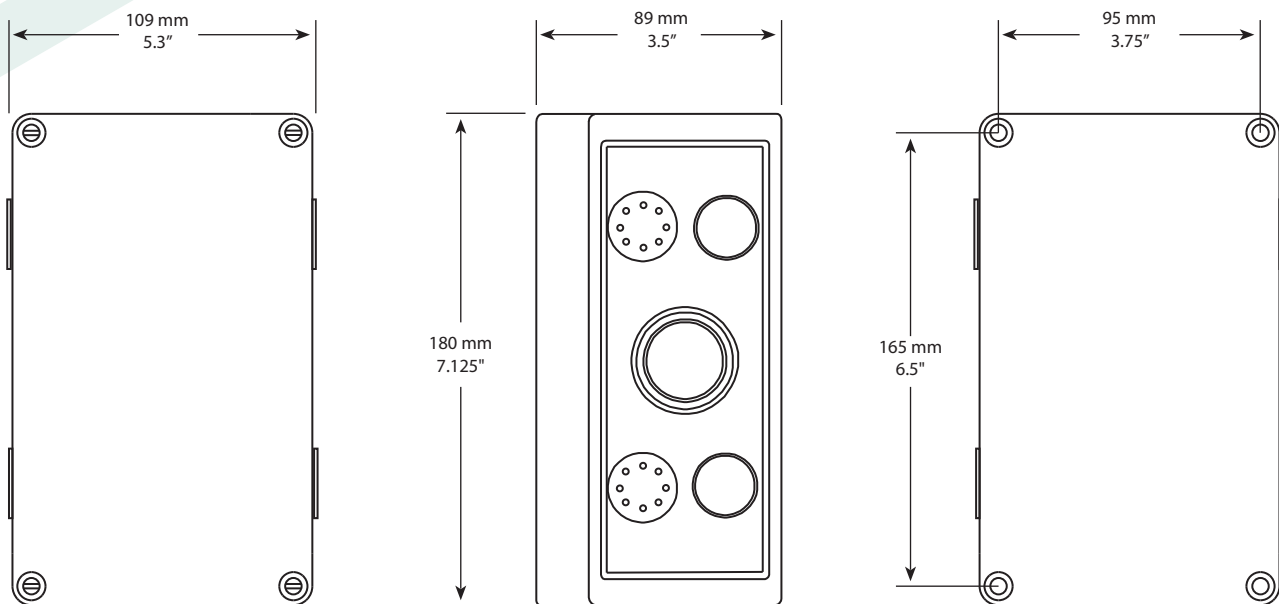
The CDD4 should be mounted on an outside North facing wall, under the eaves which will provide protection from direct sunlight and wind.

The CDD4 can be mounted directly to buildings wall face using the provided mounting holes. There are 0.85" knockouts for conduit connection.

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



## DIMENSIONS:



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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