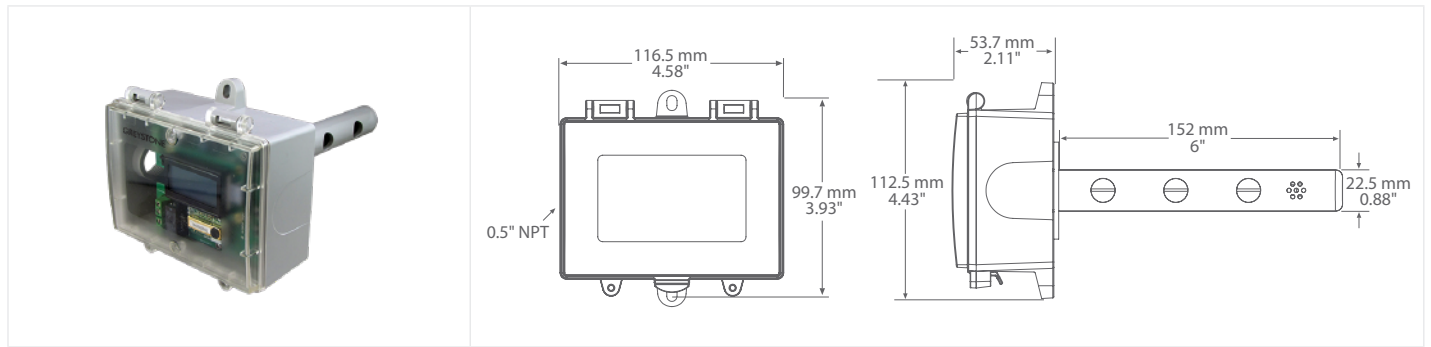




## DUCT CARBON DIOXIDE TRANSMITTER



### CD2DT SERIES

## PRODUCT DESCRIPTION

The duct CO<sub>2</sub> transmitter uses a highly accurate and reliable non-dispersive infrared (NDIR) sensor in an attractive enclosure with a gasketed, hinged cover for duct applications to monitor CO<sub>2</sub> levels. The sensor uses dual wavelength optics and LTA (long term adjustment) signal processing technology to deliver industry leading long term accuracy and reliability. These features ensure optimum measurement stability for continual monitoring of either supply or return air measuring.

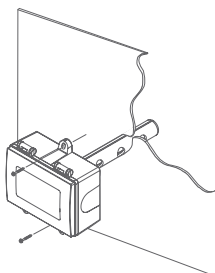
Optional features include a resistive temperature sensor output (with LCD display of temperature in either °C or °F), a control relay with programmable setpoint, hysteresis and time delay, and either a conduit or cable gland connection point.

## TYPICAL INSTALLATION

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

The duct type sensor installs on the outside of a return air duct with the sampling tube inserted into the duct. Mount the sensor in an easily accessible location in a straight section of duct at least five feet from corners and other items that may cause disturbances in the air flow. Avoid areas with vibrations or rapid temperature changes.

The enclosure provides mounting tabs for ease of installation.



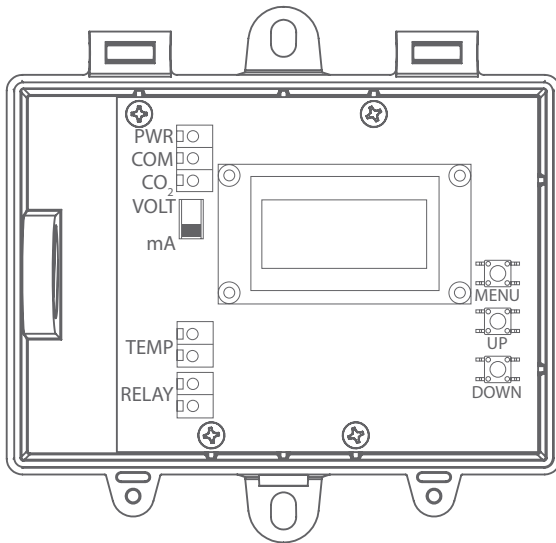
## SPECIFICATIONS

GAS TYPE DETECTED	Carbon Dioxide (CO <sub>2</sub> )
SENSOR TYPE	Dual channel non-dispersive infrared (NDIR)
SENSOR ACCURACY	± (30ppm + 3% of measured value)
MEASUREMENT RANGE	0-2000ppm, adjustable 1000 - 10000ppm
TEMPERATURE DEPENDENCY	±2.5ppm/°C
RESPONSE TIME	20 seconds (T63)
WARM-UP TIME	1 minute
SENSOR LIFE SPAN	>15 years
TRANSMITTER ACCURACY	±0.25% of span (including linearity, hysteresis and repeatability)
POWER SUPPLY	24 Vdc ±20% or 24 Vac ±10% (non-isolated half-wave rectified)
PROTECTION CIRCUITRY	Reverse voltage protected and transient protected
INPUT VOLTAGE EFFECT	Negligible over specified operating range
OUTPUT SIGNAL TYPE	4-20 mA (3-wire), 0-5 or 0-10 Vdc (field selectable)
CURRENT CONSUMPTION	<b>Current:</b> 75 mA @ 24 Vdc max, 150 mA @ 24 Vac max <b>Voltage:</b> 50 mA @ 24 Vdc max, 100 mA @ 24 Vac max
OUTPUT DRIVE @ 24 VDC	<b>Current:</b> 550Ω max <b>Voltage:</b> 10,000Ω min
AMBIENT OPERATING RANGE	0 to 50°C (32 to 122°F), 5 to 90 %RH non-condensing
STORAGE TEMPERATURE	-40 to 70°C (-40 to 158°F)
LCD DISPLAY	<b>Units:</b> ppm (CO <sub>2</sub> ), °C/°F (optional temperature sensor) <b>Range:</b> 0 to 10000ppm, 0 to 50°C (32 to 122°F) (optional temperature sensor) <b>Size:</b> 35mm W x 15mm H (1.4" x 0.6"), 2 line x 8 character, alpha-numeric <b>Digit Height:</b> 2-line x 8 character
TEMPERATURE SENSOR (OPTIONAL)	<b>Type:</b> Thermistor and RTD (see ordering chart) <b>Accuracy:</b> See ordering chart <b>Output:</b> 2-wire resistive <b>Range:</b> 0 to 50°C (32 to 122°F)
RELAY (OPTIONAL) 2-WIRE OUTPUT	Form A (N.O.), 2 Amps @ 140 Vac / 30 Vdc
ENCLOSURE	<b>Material:</b> Polycarbonate, Grey, UL95-V0, IP65, (NEMA 4X) <b>Dimensions:</b> 116mm W x 100mm H x 54mm D (4.6" x 3.9" x 2.1") <b>Probe:</b> 22.5mm D x 152mm L (0.88" x 6")
WIRING	Screw terminal block (14 to 22 AWG)
APPROVALS	CE
COUNTRY OF ORIGIN	Canada

**NOTE:** This CO<sub>2</sub> sensor incorporates a Self Calibration feature to correct CO<sub>2</sub> sensor drift. This feature is recommended for applications where the CO<sub>2</sub> level will be close to normal (400 ppm) at least one hour per day. If the monitored space is occupied 24 hours or consistently maintains higher or lower levels of CO<sub>2</sub>, it is recommended that this feature be turned off, but yearly calibration will be required.



## WIRING INFORMATION



TERMINAL	FUNCTION
PWR	Supply Voltage
COM	COMMON
CO <sub>2</sub>	Analog Output
TEMP	Resistance Output
RELAY	Digital Output

## ORDERING

PRODUCT	CD2DT	Duct Carbon Dioxide Transmitter
ENCLOSURE	<b>B</b> <b>F</b>	Polycarbonate with hinged and gasketed cover Same as B, with thread adapter (1/2" NPT to M16) and cable gland fitting
OPTIONAL TEMPERATURE SENSOR	<b>XX</b> <b>02</b> <b>05</b> <b>06</b> <b>07</b> <b>08</b> <b>12</b> <b>13</b> <b>14</b> <b>20</b> <b>24</b> <b>59</b>	None 100Ω Platinum, IEC 751, 385 Alpha, thin film 1801Ω NTC Thermistor, ±0.2°C 3000Ω NTC Thermistor, ±0.2°C 10,000Ω Type 3, NTC Thermistor, ±0.2°C 2.252KΩ NTC Thermistor, ±0.2°C 1000Ω Platinum, IEC 751, 385 Alpha, thin film 1000Ω Nickel, Class B, DIN 43760 10,000Ω Type 3, NTC Thermistor, ±0.2°C c/w 11,000 shunt resistor 20,000Ω NTC Thermistor, ±0.2°C 10,000Ω Type 2, NTC Thermistor, ±0.2°C 10,000 Ω, 25°C, ±1%, B = 3435 ±1% (25/85)
OPTIONAL RELAY	<b>X</b> <b>R</b>	None Adjustable Relay

## PART NUMBER

CD2DT

NOTE: Greystone Energy Systems, Inc. reserves the right to make design modifications without prior notice.

ACCESSORIES	CDD1-CALKIT-GS	Calibration kit (Gas not included) for calibrating CD & CDD series CO <sub>2</sub> Transmitters.

## 5-YEAR CALIBRATION GUARANTEE

Greystone offers a 5-year calibration guarantee on all its CD series wall and duct mount sensors used for CO<sub>2</sub> based ventilation control when operated in an environment that can utilize ASC 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 ASC software.



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