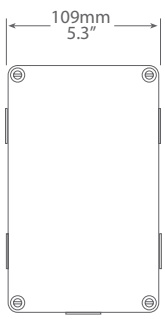
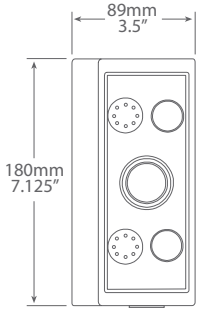
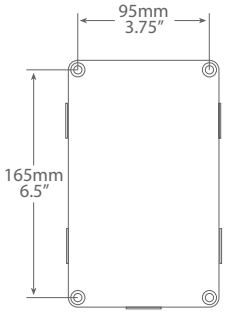
GREYSTONE
ENERGY SYSTEMS INC

OUTSIDE CARBON DIOXIDE TRANSMITTER







CD2OS SERIES

PRODUCT DESCRIPTION

The outside CO_2 transmitter device uses a highly accurate and reliable non-dispersive infrared (NDIR) sensor in an vented, weatherproof enclosure to monitor outside CO_2, levels. The sensor uses dual wavelength optics and LTA (long term adjustment) signal processing technology to deliver industry leading long-term accuracy and reliability.

Standard features include a field selectable output signal of either 4-20 mA, 0-5 Vdc or 0-10 Vdc for the highest versatility, programmable CO2 measurement span, a backlit alpha-numeric LCD and easy menu operation for configuration.

Optional features include a resistive temperature sensor output and a control relay with programmable setpoint,hysteresis and time delay.

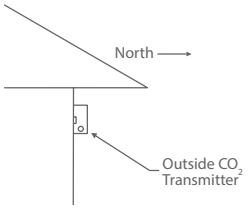
TYPICAL INSTALLATION

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

The CD2OS should be mounted on an outside North facing wall, under the eaves which will provide protection from direct sunlight and wind.

The CD2OS can be mounted directly to buildings wall face using the provided mounting holes. There are 0.85" knockouts for conduit connection.

The basic CD2OS has a 3 wire configuration with a screw block terminal provided for connection to the Building Automation System.



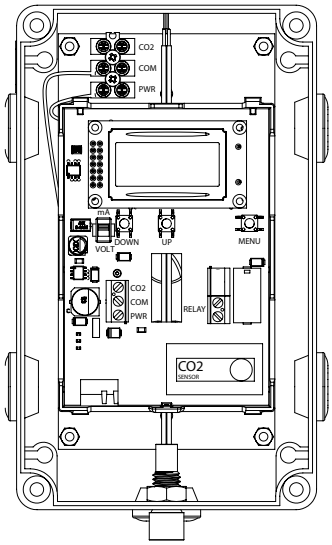
SPECIFICATIONS

GAS TYPE DETECTED	Carbon Dioxide (CO_2)
SENSOR TYPE	Dual Wavelength Non-Dispersive Infrared (NDIR)
SENSOR ACCURACY	± (30ppm + 3% of measured value)
MEASUREMENT RANGE	0-2000ppm, adjustable 1000 - 10,000ppm
ALTITUDE ADJUSTMENT	0-2550m in 50m increments
TEMPERATURE DEPENDENCY	±2.5ppm/°C
RESPONSE TIME	20 seconds (T63) - See Note
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 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 (4-20 mA OUTPUT)	**Heated:** 1.0A max @ 24 Vdc 1.1 A max @ 24 Vac **Unheated:** 75 mA max @ 24 Vdc 150 mA max @ 24 Vac
CURRENT CONSUMPTION (0-5/10 Vdc OUTPUT)	**Heated:** 1.0 A max @ 24 Vdc 1.1 A max @ 24 Vac **Unheated:** 50 mA max @ 24 Vdc 100 mA max @ 24 Vac
OUTPUT DRIVE @ 24 VDC	**Current:** 550Ω max **Voltage:** 10,000Ω min
OPERATING CONDITIONS	**Heated:** -40 to 50°C (-40 to 122°F) **Unheated:** 0 to 50°C (32 to 122°F) 5 to 90 %RH non-condensing
STORAGE CONDITIONS	-40 to 70°C (-22 - 158°F), 5 to 90 %RH non-condensing
CONCEALED LCD DISPLAY (USED FOR SETTING PARAMETERS)	**Units:** ppm (CO2) **Range:** 0-10,000ppm **Size:** 35mm W x 15mm H (1.4" x 0.6"), Alpha-numeric 2 line x 8 character
OPTIONAL TEMPERATURE SENSOR	**Type:** Thermistor and RTD (see ordering chart) **Accuracy:** See ordering chart **Output:** 2-wire resistive
OPTIONAL RELAY (2-WIRE OUTPUT)	Selectable CO_2 high or CO_2 low **Rating:** Form A (N.O.), 2 Amps @ 140 Vac / 30 Vdc
ENCLOSURE	110mm W x 180mm H x 89mm D (4.3" x 7.125" x 3.5") IP65 (NEMA 4X)
WIRING CONNECTIONS	Screw terminal block (14 to 22 AWG) Optional Temperature: Pigtail, 2 or 3 wire
APPROVALS	CE
COUNTRY OF ORIGIN	Canada

NOTE: The outside enclosure slows the sensor response time to approximately 30 minutes for a 90% step change of CO_2 concentrations.

GREYSTONE
ENERGY SYSTEMS INC

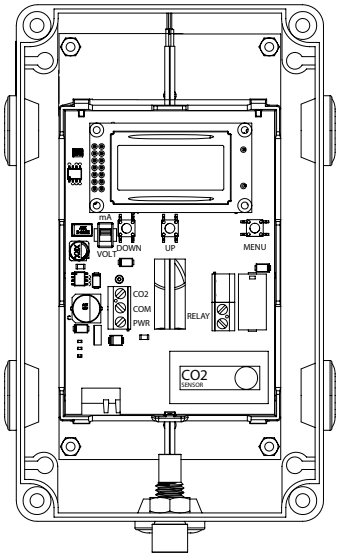
WIRING INFORMATION



HEATED

TERMINAL	FUNCTION
CO2	Analog Output
COM	COMMON
PWR	Supply Voltage
RELAY	Relay Output

OPTIONAL TEMPERATURE
Pigtail, 2 or 3 wire



UNHEATED

TERMINAL	FUNCTION
CO2	Analog Output
COM	COMMON
PWR	Supply Voltage
RELAY	Relay Output

OPTIONAL TEMPERATURE
Pigtail, 2 or 3 wire

ORDERING

PRODUCT	**CD2OS**	Outside Carbon Dioxide Transmitter
ENCLOSURE	**H**	Weatherproof, heated
	N	Weatherproof, unheated
OPTIONAL TEMPERATURE SENSOR	**XX**	None
	02	100Ω Platinum, IEC 751, 385 Alpha, thin film, 3 wire
	05	1801Ω NTC Thermistor, ±0.2°C
	06	3000Ω NTC Thermistor, ±0.2°C
	07	10,000Ω Type 3, NTC Thermistor, ±0.2°C
	08	2.252KΩ NTC Thermistor, ±0.2°C
	12	1000Ω Platinum, IEC 751, 385 Alpha, thin film
	13	1000Ω Nickel, Class B, DIN 43760
	14	10,000Ω Type 3, NTC Thermistor, ±0.2°C c/w 11,000 shunt resistor
	20	20,000Ω NTC Thermistor, ±0.2°C
	24	10,000Ω Type 2, NTC Thermistor, ±0.2°C
	59	10,000Ω @ 25°C, ±1%, B = 3435 ±1% (25/85)
RELAY	**X**	None
	R	Relay

PART NUMBER

CD2OS

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

RoHS COMPLIANT

Greystone Energy Systems, Inc.
150 English Drive, Moncton,
New Brunswick, Canada E1E 4G7

Ph: +1 (506) 853-3057 Fax: +1 (506) 853-6014
North America: 1-800-561-5611
E-mail: mail@greystoneenergy.com