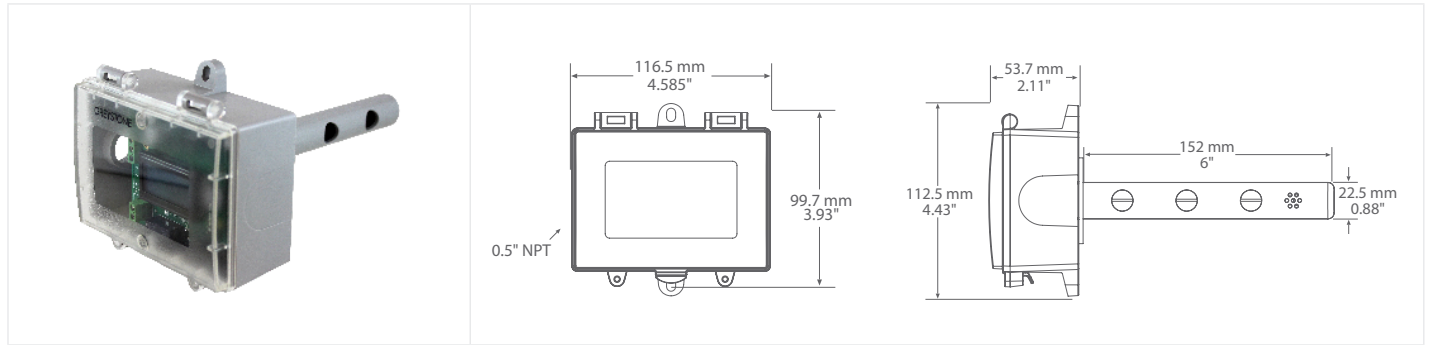




DUCT CARBON DIOXIDE DETECTOR



CHTDT SERIES

PRODUCT DESCRIPTION

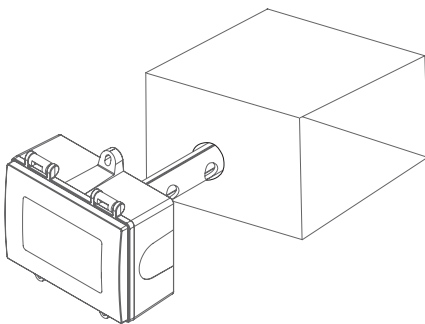
The CHTDT transmitter incorporates three sensors in one duct mount enclosure for the most efficient environmental monitoring and control system. It uses Infrared Technology to monitor CO₂ levels within a range of 0 – 2000 ppm, a field-proven RH sensor to monitor relative humidity from 0-100 %RH and a curve-matched thermistor to measure temperature over common field-selectable ranges. A hinged and gasketed Polycarbonate enclosure is included for ease of installation.

TYPICAL INSTALLATION

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

The CHTDT 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

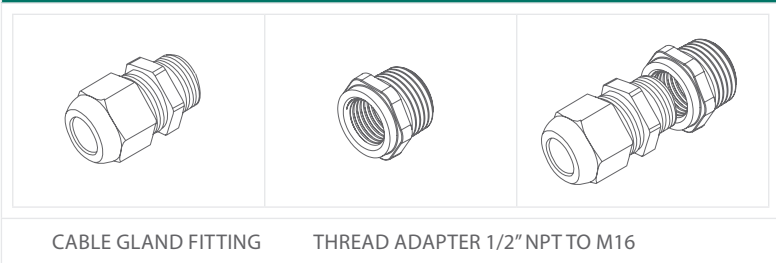
POWER SUPPLY	20 - 28 Vac/dc (non-isolated half-wave rectified)
CONSUMPTIONS	Current: 120 mA max @ 24 Vdc, 212 mA max @ 24 Vac Voltage: 79 mA max @ 24 Vdc, 129 mA max @ 24 Vac
OUTPUT SIGNALS	4-20 mA active (sourcing), 0-5 Vdc / 0-10 Vdc (field selectable), BACnet® or Modbus
NETWORK INTERFACE	Hardware: 2-wire RS-485 Software: Native ModBus MS/TP protocol, Native BACnet MS/TP protocol, Baud Rate: Locally set to 9600, 19200, 38400, 57600, 76800 or 115200 Slave Address Range: Modbus - Locally set to 1 to 255 (factory default is 1) BACnet® - 1 to 127 (factory default is 1)
OUTPUT DRIVE CAPABILITY	Current: 550Ω maximum Voltage: 5 KΩ minimum
OUTPUT RESOLUTION	10 bit PWM
INPUT VOLTAGE EFFECT	Negligible over specified operating range
PROTECTION CIRCUITRY	Reverse voltage protected, and output limited
OPERATING CONDITIONS	0 to 50°C (32 to 122°F), 0-95 %RH non-condensing
LCD RESOLUTION	1 ppm CO ₂
LCD SIZE	35mm W x 15mm H x (1.4" x 0.6")
WIRING CONNECTIONS	Screw terminal blocks (14 to 22 AWG)
ENCLOSURE	Polycarbonate, UL94-V0, IP65 (NEMA 4X)
PROBE	152mm L x 22.5mm D (6" x 0.85")
COUNTRY OF ORIGIN	Canada
CO ₂ SIGNAL	Measurement Type: Non-Dispersive Infrared (NDIR), diffusion sampling Measurement Range: Sensor 1 - 0-2000ppm Sensor 2 - 0-20,000ppm Programmable span Standard Accuracy: +30ppm +3% of reading (Sensor 1, 0-2000ppm with Auto-cal) +75ppm or 10% of reading (whichever is greater) (Sensor 2, 0-20,000ppm range with dual channel sensor) Temperature Dependence: 0.2 %FS per °C Stability: 2 %FS over life of sensor (15 years typical) Sensor 1 (0-2000ppm), <5 %FS over life of sensor (15 years typical) Sensor 2 (0-20,000ppm)
PRESSURE 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
TEMPERATURE SIGNAL	Sensing Element: 10,000 thermistor +0.2°C (0.4°F) Range: 0 to 35°C (32 to 95°F) or 0 to 50°C (32 to 122°F) selectable via keypad Resolution: 0.1°C
RELATIVE HUMIDITY SIGNAL	Sensor: Thermoset polymer based capacitive Accuracy: +2 %RH Range: 0-100 %RH, non-condensing Resolution: 2 %RH Hysteresis: +3 %RH Response Time: 15 seconds typical Stability: +1.2 %RH typical @ 50 %RH in 5 years
OPTIONAL RELAY OUTPUT	Contact Ratings: Form A contact (N.O.), 2 Amps @ 140 Vac, 2 Amps @ 30 Vdc Relay Trip Point: Programmable via keypad Relay Hysteresis: Programmable via keypad



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) a dual sensor channel should be selected.

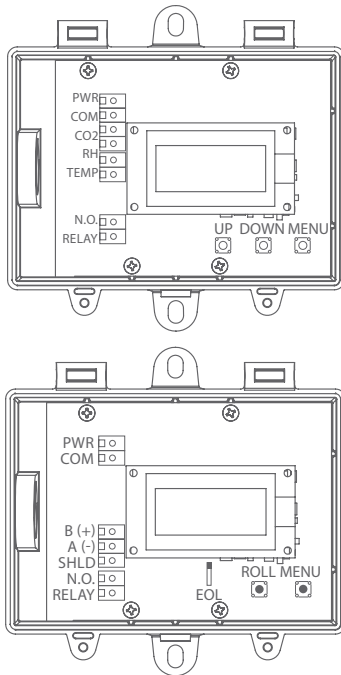
ACCESSORIES - INCLUDED WITH F ENCLOSURE OPTION



CABLE GLAND FITTING

THREAD ADAPTER 1/2" NPT TO M16

WIRING INFORMATION



TERMINAL FUNCTION

Analog Version:

TERMINAL	FUNCTION
PWR	+24 Vac/dc
COM	Common
CO2	Analog Output
RH	Analog Output
TEMP	Analog Output
NO	Digital Output
RELAY	Digital Output

Network Version:

TERMINAL	FUNCTION
PWR	+24 Vac/dc
COM	Common
B (+)	Network Output
A (-)	Network Output
SHLD	Network Output
NO	Digital Output
RELAY	Digital Output

Terminals only present if option is ordered.

ORDERING

PRODUCT	CHTDT	Duct Carbon Dioxide, Humidity & Temperature Transmitter
ENCLOSURE	B	Polycarbonate with hinged and gasketed cover
	F	Same as B, with thread adapter and cable gland fitting
CO ₂ SENSOR & RANGE	1	Non-Dispersive Infrared (NDIR), diffusion sampling, 0-2000ppm
	2	NDIR, diffusion sampling, 0-20,000ppm, adjustable
OUTPUT	I	Current 4-20 mA
	V	Voltage 0-5 Vdc, 0-10 Vdc, field selectable
	B	BACnet® communications
	M	Modbus communications
RELAY OUTPUT	X	No relay
	R	Relay

PART NUMBER

CHTDT

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



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