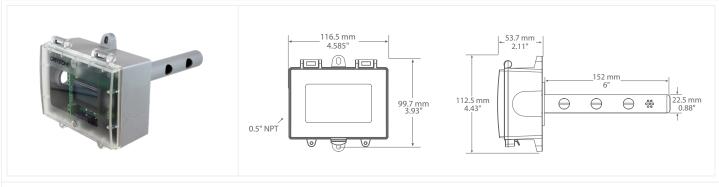


DUCT CARBON DIOXIDE/HUMIDITY/TEMPERATURE TRANSMITTER



CHTDT SERIES

PRODUCT DESCRIPTION

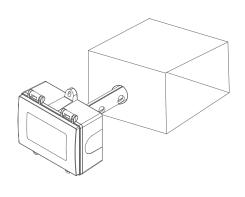
The CHTDT transmitter incorporates three sensors in one duct mount enclosure for the most efficient environmental monitoring and control system. It uses Infrared Technology to monitor ${\rm CO}_2$ levels within a range of 0 – 10000 ppm, a field-proven RH sensor to monitor relative humidity from 0-100 %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				
CARBON DIOXIDE	Sensor Type: Dual channel non-dispersive infrared (NDIR) Measurement Range: 0-10000ppm, adjustable, Default is 0-2000ppm Accuracy: ± (30ppm + 3% of measured value) Temperature Dependency: ±2.5ppm/°C Sensor Life Span: >15 years Response Time: 20 seconds (T63) Warm-up Time: 1 minute			
RELATIVE HUMIDITY	Measurement Range: 0-100 %RH, non-condensing Accuracy: ±2 %RH (5 to 95 %RH) Resolution: ±0.01 %RH Hysteresis: ±0.8 %RH @ 25°C (77°F) Response Time: 8 seconds typical Stability: <0.25 %RH/year			
TEMPERATURE	Range: 0 to 35°C (32 to 95°F) or 0 to 50°C (32 to 122°F) selectable via keypad Accuracy: ±0.2°C Resolution: 0.1°C			
OPTIONAL PASS-THRU TEMPERATURE	Type: Thermistor or RTD Accuracy: Thermistors: ±0.2°C (±0.36°F) @ 25°C (77°F) Platinum RTD's: ±0.3°C (±0.54°F) @ 0°C (32°F) Nickel RTD's: ±0.4°C (±0.72°F) @ 0°C (32°F) Output: 2-wire resistive			
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, BACnet® or Modbus			
OUTPUT DRIVE CAPABILITY	Current: 550Ω maximum Voltage: 5 $KΩ$ minimum			
NETWORK INTERFACE	Hardware: 2-wire RS-485 Software: Native ModBus MS/TP RTU protocol, Native BACnet MS/TP protocol Baud Rate: 9600, 19200, 38400, 57600, 76800 or 115200 MAC Address Range: BACnet: 0-127, Modbus: 1-255			
OPTIONAL RELAY	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			
STORAGE TEMPERATURE	-20 to 60°C (-4 to 140°F)			
OPERATING CONDITIONS	0 to 50°C (32 to 122°F), 0-95 %RH non-condensing			
ENCLOSURE	Polycarbonate, UL94-V0, IP65 (NEMA 4X)			
DIMENSIONS	Enclosure: 116.5mm x 99.7mm x 53.7mm (4.6" x 3.9" x 2.1") Probe: 152mm L x 22.5mm D (6" x 0.85")			
WIRING CONNECTIONS	Screw terminal block (14 to 22 AWG)			
APPROVALS	CE			
COUNTRY OF ORIGIN	Canada			

NOTE: This CO2 sensor incorporates a Self Calibration feature to correct CO2 sensor drift. This feature is recommended for applications where the CO2 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 CO2, it is recommended that this feature be turned off, but yearly calibration will be required.



5-YEAR CALIBRATION GUARANTEE

Greystone offers a 5-year calibration guarantee on all its Carbon Dioxide wall and duct mount sensors used for CO2 based ventilation control when operated in an environment that can utilize autocalibration feature. 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 the auto-calibration feature. If a space does not experience a periodic drop to outside levels (i.e. where occupancy is 24 hours, 7 days/week) the auto-calibration feature should be turned off.

ACCESSORIES - INCLUDED WITH F ENCLOSURE OPTION







CABLE GLAND FITTING

THREAD ADAPTER 1/2" NPT TO M16

WIRING INFORMATION **FUNCTION TERMINAL TERMINAL FUNCTION** Network Version: Analog Version: **PWR** +24 Vac/dc **PWR** +24 Vac/dc COM COM Common Common B (+) Network Output CO2 **Analog Output** ្ន A (-) **Network Output TEMP Analog Output SHLD Network Output** RH **Analog Output** TEMPA **Resistive Output** NO Digital Output **TEMPA Resistive Output** Digital Output. **RELAY Digital Output** NO Terminals only present if option is ordered. 6 RELAY Digital Output Terminals only present if option is ordered.

ORDERING			PART NUMBER
PRODUCT	CHTDT	Duct Carbon Dioxide, Humidity & Temperature Transmitter	CHTDT
ENCLOSURE	B F	Polycarbonate with hinged and gasketed cover Same as B, with thread adapter and cable gland fitting	
CO ₂ SENSOR	1	Dual channel non-dispersive infrared (NDIR)	
ОИТРИТ	V B M	Current 4-20 mA Voltage 0-5 Vdc, 0-10 Vdc, field selectable BACnet® communications Modbus communications	
RELAY OUTPUT	X R	No relay Relay	
OPTIONAL PASS-THRU TEMPERATURE SENSOR (NOT APPLICABLE IF BACNET® OR MODBUS SELECTED FOR OUTPUT)	02 05 06 07 08 12 13 14 20 24	Leave Blank if Not Required or if BACnet® or Modbus is selected for output $100~\Omega~\text{Platinum, IEC}~751, 385~\text{Alpha, thin film}\\ 1801~\Omega~\text{NTC}~\text{Thermistor, }\pm0.2^{\circ}\text{C}\\ 3000~\Omega~\text{NTC}~\text{Thermistor, }\pm0.2^{\circ}\text{C}\\ 10,000~\Omega~\text{Type 3, NTC}~\text{Thermistor, }\pm0.2^{\circ}\text{C}\\ 2.252K~\Omega~\text{NTC}~\text{Thermistor, }\pm0.2^{\circ}\text{C}\\ 1000~\Omega~\text{Platinum, IEC}~751, 385~\text{Alpha, thin film}\\ 1000~\Omega~\text{Nickel, Class B, DIN 43760}\\ 10,000~\Omega~\text{Type 3, NTC}~\text{Thermistor, }\pm0.2^{\circ}\text{C}~\text{c/w}~11K~\text{shunt resistor}\\ 20,000~\Omega~\text{NTC}~\text{Thermistor, }\pm0.2^{\circ}\text{C}~\text{c}\\ 10,000~\Omega~\text{Type 2, NTC}~\text{Thermistor, }\pm0.2^{\circ}\text{C}\\ 10,000~\Omega~\text{Type 2, NTC}~\text{Thermistor, }\pm0.2^{\circ}\text{C}\\ 10,000~\Omega~\text{Sc}^{\circ}\text{C},\pm1\%, B=3435~\pm1\%~(25/85)}$	

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







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