



Right Choice. Right Price. Right Now.

Series CDT



CARBON DIOXIDE *Transmitters*



www.dwyer-inst.com/CarbonDioxideTransmitters

CO₂



Reduce Energy Cost Using On Demand Ventilation

Right Choice. Right Price. Right Now.

Series CDT Carbon Dioxide and Temperature Transmitters accurately monitor the CO₂ concentration and temperature in schools, office buildings, and other indoor environments to help achieve LEED® certification. For increased sensor accuracy, a single-beam dual-wavelength non-dispersive infrared (NDIR) sensor is used to automatically correct the measurement in both occupied and unoccupied buildings against light source aging effects. The single-beam dual-wavelength sensor technology provides the highest level of accuracy compared to Automatic Baseline Correction methods which can unintentionally shift the calibration based on CO₂ levels and barometric pressure conditions. In order to achieve a higher level of accuracy, the Series CDT includes digital barometric pressure adjustment and the ability to field-calibrate the sensor.

Series CDTR Carbon Dioxide, Relative Humidity and Temperature Transmitters reduce the number of sensors mounted on a wall or in a duct. By combining CO₂, RH, and temperature in one device, system integrators are able to lower installation time of mounting multiple housings, while lowering material cost at the same time. Even with the three sensors combined into a single unit, replacement cost is not increased due to the pluggable nature of the humidity sensor, which allows it or the temperature to be replaced at a fraction of the cost of a new CO₂ transmitter.

The Series CDTA Communicating Carbon Dioxide Detector combines the function of three room sensors into a single, compact housing. Parameters include carbon dioxide, humidity, temperature, and temperature set point with override. By having field selectable Modbus® and BACnet Communications, only four wires are needed for power and the communication signal. The communicating detectors can be daisy-chained together to further reduce installation cost. In order to reduce the set up time, the RS-485 MAC address is set up using on board dip switches. A second set of dip switches are used to select whether output is Modbus® RTU or BACnet MS/TP communication protocols and to limit access to the set up menu.

SENSOR ADVANTAGES

SINGLE BEAM DUAL-WAVELENGTH SENSOR ADVANTAGES

- Automatically corrects for aging effects in occupied and unoccupied buildings
 - Perfect for hospitals and manufacturing plants that are occupied 24 hours per day
- Measures actual unfiltered light intensity directly
 - Eliminates error from incorrect assumptions of gas concentration in theoretical logic assumption methods

Series CDT

Series	CDT	-2	N	4	4	-LCD	Example: CDT-2N44-LCD
Range		2					0 to 2000 ppm CO ₂ range 0 to 5000 ppm CO ₂ range
Configuration			E N D				European Wall North American Wall Duct
CO ₂ Output				4			4 to 20 mA / 0 to (5 or 10) VDC
Temperature Output					0 4 A B C D E F		None 4 to 20 mA / 0 to (5 or 10) VDC 10 KΩ NTC thermistor type III 10 KΩ NTC thermistor type II 3 KΩ NTC thermistor Pt100 Ω RTD Pt1000 Ω RTD 20 KΩ NTC thermistor
Options						LCD RLY NBC	LCD display Relay No buttons

REMOTE DISPLAY CONNECTOR

- Allows one LCD display to be used or multiple transmitters
- Eliminates building occupant questions about proper CO₂ level

SINGLE-BEAM DUAL-WAVELENGTH SENSOR

- Reduces error due to light source aging effects

FRONT BUTTON LOCK OUT

- Disables the front buttons from accessing the menu items to prevent tampering

ZERO AND SPAN OUTPUT SELECTION

- Allows installers to select 5 VDC or 10 VDC span output
- Informs building controllers if the transmitter loses its output by increasing the low end of the output to 1 V or 2 V (depending on which span output is selected)

OPTIONAL RELAY OUTPUT

- Provides immediate notification or control based on high or low CO₂ level

FIELD SELECTABLE CURRENT/VOLTAGE OUTPUT

- Prevents human error of installing wrong transmitter on a job
- Reduces the number of models that must be carried in stock

Inside View of Wall Mount

Series CDTA

Series	CDTA-	2	N	0	0	0	-LCD	Example: CDTA-2N000-LCD
Range		2						0 to 2000 ppm CO ₂ range 0 to 5000 ppm CO ₂ range
Configuration			E N					European Wall Mount North American Wall Mount
CO ₂ Output				0				None
Temperature Output					0			None
RH Output						0		None
Options							-LCD -NBC	LCD display No buttons

Series CDTR

Series	CDTR-	2	N	4	A	4	-LCD	Example: CDTR-2N4A4-LCD
Range		2						0 to 2000 ppm CO ₂ range 0 to 5000 ppm CO ₂ range
Configuration			E N D					European Wall Mount North American Wall Mount Duct Mount
CO ₂ Output				4				4 to 20 mA / 0 to (5 or 10) VDC
Temperature Output					0 A B C D E F			None 10 KΩ NTC thermistor type III 10 KΩ NTC thermistor type II 3 KΩ NTC thermistor Pt100 Ω RTD Pt1000 Ω RTD 20 KΩ NTC thermistor
RH Output						4		4 to 20 mA / 0 to (5 or 10) VDC
Options							-LCD -RLY -NBC	LCD display (wall only) Relay No buttons (wall only)

PROBE GASKET

- Prevents false CO₂ and temperature readings by blocking air flow from unsealed conduit entries

PUSH BUTTONS

- Used to access and navigate display menus that allow users to calibrate the sensor, adjust set points on relay models, and scale the analog outputs

OUTPUT SELECTOR SWITCH

- Allows installers to select 4 to 20 mA, 0 to 5 VDC, or 0 to 10 VDC output in order to reduce number of stocked models and eliminate ordering mistakes

REMOTE DISPLAY CONNECTOR

- Allows the building engineer to locally check the CO₂ and temperature readings in the duct without having to access the building management system or connect to the transmitter wires

REMOVABLE TERMINAL BLOCK

- Reduces installation time by giving the installer more room to work on installing the wires

Inside View of Duct Mount

SPECIFICATIONS

Range:

- CO₂: 0 to 2000 or 0 to 5000 ppm (depending on model);
- Temperature: 32 to 122°F (0 to 50°C).

Humidity: 0 to 100% RH (CDTR and CDTA only).

Accuracy: ±40 ppm + 3% of reading; ±2% RH.

Temperature Dependence: ±8 ppm / °C at 1100 ppm.

Non-Linearity: 16 ppm.

Pressure Dependence: 0.13% of reading per mm of Hg.

Response Time: 2 minutes for 99% step change.

Ambient Operating Temperature: 32 to 122°F (0 to 50°C).

Ambient Operating Humidity: 10 to 95% RH (non-condensing).

Power Requirements: 16 to 35 VDC / 19 to 28 VAC.

Power Consumption: Average: 2 watts; Peak: 3.75 watts.

Sensor: Single beam, dual-wavelength NDIR.

Output (CDT and CDTR):

- Current: 4 to 20 mA (max 500 Ω);
- Voltage: 0 to 5 VDC or 0 to 10 VDC (min 500 Ω);
- Relay: SPST NO 2A @ 30 VDC;
- RTD or thermistor per r-t curves (depending on model).
- CDTA BACnet MS/TP or Modbus® RTU.

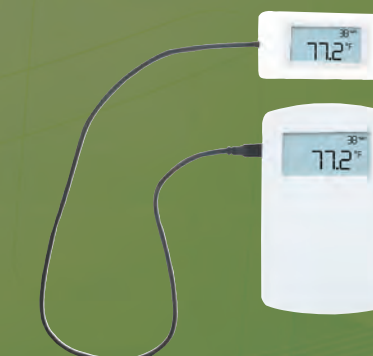
Weight: 5.6 oz (158.8 g).

Agency Approvals: CE, RoHS.

ACCESSORY

A-449 REMOTE DISPLAY

Remote LCD Display allows remote indication of select Dwyer Wall Mount Transmitters for validation or certification purposes.



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Return Service Requested



CARBON DIOXIDE *Transmitters*



WE HAVE ALL YOUR FIELD INSTRUMENTATION NEEDS

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via email at lit@dwyer-inst.com or at
<http://www.dwyer-inst.com/BASCatalogRequest>

