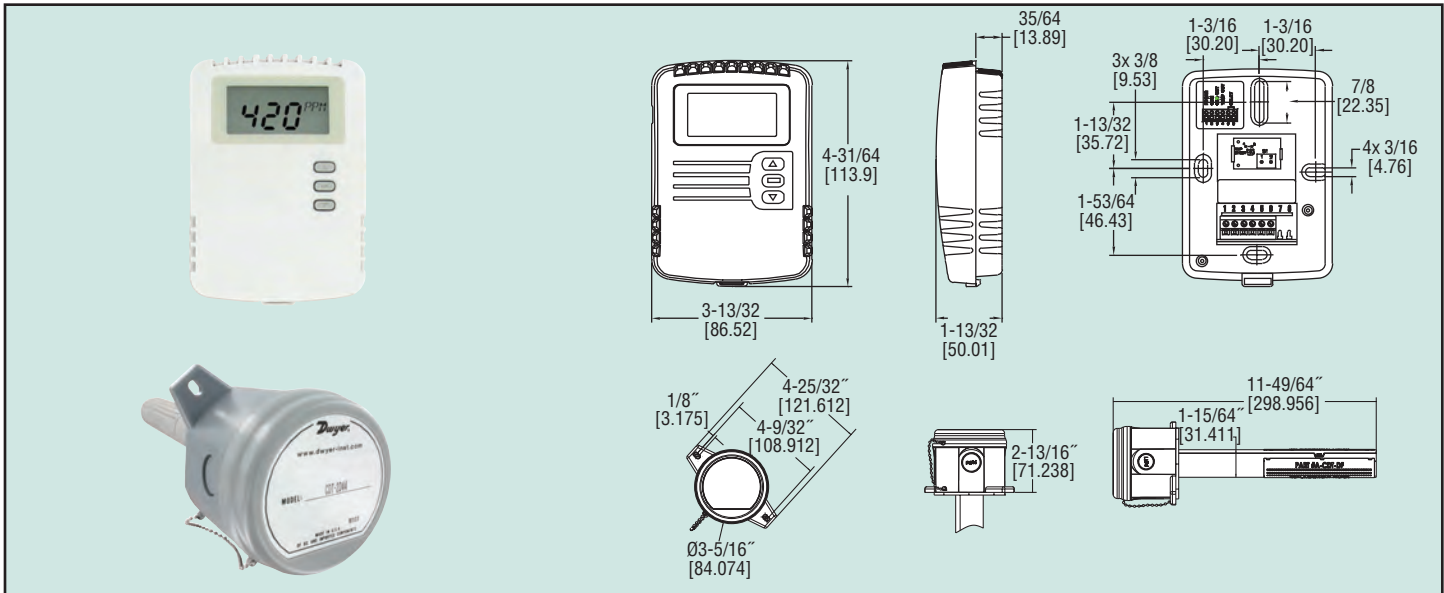




Series
CDTR

Carbon Dioxide/RH/Temperature Transmitter

NDIR CO₂ Sensor, Universal CO₂/RH Outputs, Optional Relay



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.

Like our popular Series CDT Carbon Dioxide Transmitter, 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 a higher 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 the best possible accuracy, the Series CDTR also includes digital barometric pressure adjustment and the ability to field-calibrate the sensor.

Universal outputs for both carbon dioxide and relative humidity allow users to select the transmitter output to be 4 to 20 mA, 0 to 5 VDC, or 0 to 10 VDC to work with virtually any building management controller. Additionally, passive thermistor or RTD sensor can be ordered for a temperature output. An optional relay for the carbon dioxide measurement can be used to control exhaust fans, open actuated windows or dampers, or signal a light or horn.

For applications that require visual indication, the wall mount configurations of the Series CDTR can be ordered with an integral LCD display. When ordering a duct mount configuration or a wall mount configuration without the display, the Model A-449 remote LCD display can plug into the miniature connector port on the transmitter. The display can be configured to display temperature only, relative humidity only, CO₂ only, CO₂ and humidity, or CO₂ and temperature. Push buttons are standard on all configurations of the transmitters for access to the menu structure, but wall mount configurations can be ordered without the buttons. To prevent tampering, the action of the buttons can be locked out using an internal jumper selection. Menu items that can be accessed via the push buttons include: engineering units, relay output set points, display configuration, transmitter output scaling, ambient barometric pressure, and field calibration of the transmitter.

*For buildings occupied 24 hours per day, it is recommended that calibration be verified every 6 to 12 months depending on application.

SPECIFICATIONS

- Range:**
CO₂: 0 to 2000 or 0 to 5000 ppm (depending on model);
Relative Humidity: 0 to 100%;
Temperature: 32 to 122°F (0 to 50°C).
- Accuracy:** ±40 ppm + 3% of reading (CO₂); ±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.
- Temperature Limits:** 32 to 122°F (0 to 50°C).

- Humidity Limits:** 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:**
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).
- Weight:** 5.6 oz (158.8 g).
- Agency Approvals:** CE (duct mount only).

Series	CDTR-	2	W	4	A	4	-LCD	Example: CDTR-2W4A4-LCD
Range		2						0 to 2000 ppm CO ₂ range 0 to 5000 ppm CO ₂ range
Configuration			W					Wall Duct
CO₂ 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)

ACCESSORIES

A-449, Remote LCD Display allows remote indication of select Dwyer Wall Mount Transmitters for validation or certification purposes

GCK-200CO-2000CO2, Calibration Gas Kit includes a 99.99% Nitrogen gas cylinder for calibrating the zero point, and a 200 PPM CO / 2000 PPM CO₂ gas cylinder for calibrating the span point on Dwyer's gas sensing transmitters



AIR QUALITY

Carbon Dioxide Transmitters