

# CARBON DIOXIDE/RH/TEMPERATURE TRANSMITTERS

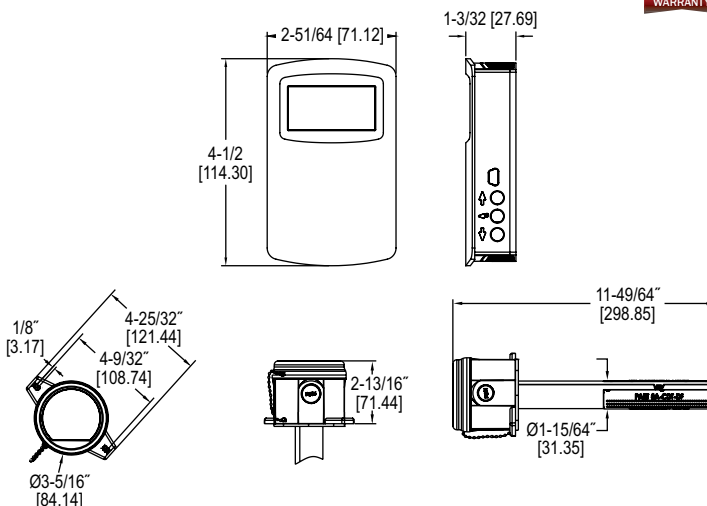
NDIR CO<sub>2</sub> Sensor, Universal CO<sub>2</sub>/RH Outputs, Optional Relay



North American style



Duct



The **Series CDTR Carbon Dioxide, Relative Humidity and Temperature Transmitters** reduce the number of sensors mounted on a wall or in a duct. By combining CO<sub>2</sub>, RH, and temperature in one device, system integrators are able to reduce installation time while lowering material cost at the same time.

Like our popular Series CDT Carbon Dioxide Transmitter, a non-dispersive infrared (NDIR) sensor is used to make the CO<sub>2</sub> measurement. In order to achieve the best possible accuracy, the Series CDTR also includes digital barometric pressure adjustment.

Universal outputs for both carbon dioxide and relative humidity allow users to select the transmitter output to be 4-20 mA, 0-5 VDC, or 0-10 VDC to work with virtually any building management controller. Additionally, passive thermistor or RTD sensor can be ordered for a temperature output.

For applications that require visual indication, the wall mount configurations of the Series CDTR can be ordered with an integral LCD display. The display can be configured to display temperature only, relative humidity only, CO<sub>2</sub> only, CO<sub>2</sub> and humidity, or CO<sub>2</sub> and temperature. To prevent tampering, the action of the buttons can be locked out using an internal jumper selection.

## BENEFITS/FEATURES

- Minimize inventory and save time by combining CO<sub>2</sub>, RH and temperature measurements into one transmitter
- Reduces the number of devices mounted in the space with integral humidity and temperature sensors
- Requires minimal maintenance with Automatic Baseline Correction (ABC) to account for sensor drift
- Field selectable Modbus® and BACnet communications reduces wiring
- Simplify installation with backplate electrical connection
- Relay output option

## APPLICATIONS

- Demand control ventilation in schools, office buildings, hospitals, and other indoor environments
- LEED® certification

MODEL CHART									
Example	CDTR	-2	N	4	A	4	-LCD	CDTR-2N4A4-LCD	
Series	CDTR							Carbon dioxide/RH/temperature transmitter	
Range		2 5						0 to 2000 PPM CO <sub>2</sub> range 0 to 5000 PPM CO <sub>2</sub> range	
Configuration			N					North American style wall mount Duct mount	
CO <sub>2</sub> Output				4				4-20 mA / 0 to (5 or 10) VDC	
Temperature Output					0 A B C D E F			None 10K Ω NTC thermistor type III 10K Ω NTC thermistor type II 3K Ω NTC thermistor Pt100 Ω RTD Pt1000 Ω RTD 20K Ω NTC thermistor	
RH Output						4		4-20 mA / 0 to (5 or 10) VDC	
Options							FC LCD RLY	Factory calibration certificate LCD display (wall only) Relay	

## SPECIFICATIONS

**Sensor:** NDIR, 15 year life expectancy.  
**Range:** CO<sub>2</sub>: 0 to 2000 or 0 to 5000 PPM (depending on model); Temperature: 32 to 122°F (0 to 50°C).  
**Accuracy\*:** CO<sub>2</sub>: ±40 PPM + 3% of reading (2000 PPM CO<sub>2</sub>); ± 50 PPM + 5% of reading (5000 PPM CO<sub>2</sub>); RH: ±2% (10 to 90% RH) (for units configured with humidity output); Temperature: ±1°C @ 25°C.  
**Response Time:** 2 min for 90% step change.  
**Temperature Limits:** 32 to 122°F (0 to 50°C).  
**Humidity Limits:** 0 to 85% (non-condensing).  
**Power Requirements:** 16-35 VDC or 19-28 VAC.  
**Power Consumption:** Average: 2 w; Peak: 3.75 w.  
**Output: Current:** 4-20 mA (max. 500 Ω); Voltage: 0-5 VDC or 0-10 VDC (min. 500 Ω); Relay: SPST NO rated 2A @ 30 VDC; RTD or thermistor per r-t curves on page 4 (depending on model).  
**Compliance:** CE.

\*The specified CO<sub>2</sub> accuracy is only guaranteed after three weeks of continuous operation in environments which are intermittently occupied.

ACCESSORIES	
Model	Description
<b>A-449</b>	Remote LCD display allows remote indication of select Dwyer® wall mount transmitters for validation or certification purposes
<b>A-449A</b>	Remote LCD display with buttons allows remote indication and calibration of select Dwyer® wall mount transmitters for validation and certification purposes
<b>A-CDT-KIT</b>	Accessory kit including terminal block and power supply



A-449



A-449A