

# CARBON DIOXIDE/RH/TEMPERATURE TRANSMITTERS

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



AIR QUALITY



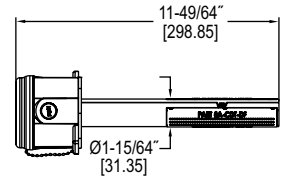
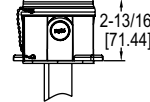
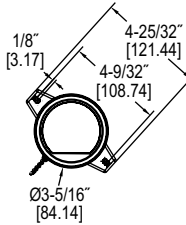
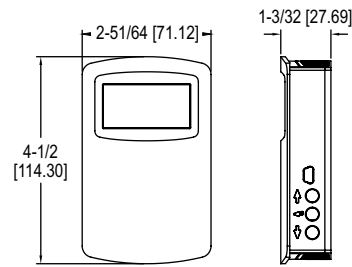
North American style



DSA compliant option -S



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.

The Series CDTR CO<sub>2</sub> transmitters are available with a -S option that provides the necessary attributes and parameters to be compliant with DSA requirements for monitoring CO<sub>2</sub> levels in schools. There is a front facing LED that illuminates when the CO<sub>2</sub> level exceeds 1100 PPM.

### 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 D				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 D E F		None 10K Ω NTC thermistor type III 10K Ω NTC thermistor type II 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 S	Factory calibration certificate LCD display (wall only) Relay School

### 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
A-449	Remote LCD display allows remote indication of select Dwyer® wall mount transmitters for validation or certification purposes
A-449A	Remote LCD display with buttons allows remote indication and calibration of select Dwyer® wall mount transmitters for validation and certification purposes



A-449



A-449A

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