

CARBON DIOXIDE TRANSMITTERS CDT2000 Series

Multifunctional, wall mount CO₂ transmitters for building automation systems



The CDT2000 series air quality transmitters are engineered for building automation systems in the HVAC/R industry. The CDT2000 series measures carbon dioxide (CO₂), utilizing the industry standard NDIR measurement principle, and temperature (T). Optional relative humidity (rH) measurement is also available in the same device. The CDT2000 series devices are available with large touchscreen display making the configuration of the device quick and easy.

CDT2000 series devices include:

- Separate field configurable output for each measurement parameter (CO₂, rH, T).
- Proportional output options including: voltage (0–10 V, 2–10 V) and current (4–20 mA).

CDT2000 series device options offer:

- 2" x 3" touchscreen display
- Field configurable relay for any of the three parameters
- Modbus configuration



The versatility of the CDT2000 series air quality transmitters ensures that the right product for your application is available.

APPLICATIONS

CDT series devices are commonly used to monitor:

- CO₂ and humidity levels in offices, public spaces, meeting rooms and classrooms
- CO₂ levels of return air in ventilation systems
- incoming air and return air humidity levels in ventilation system
- humidity in various industrial applications
- temperatures in HVAC/R environment

MODEL SUMMARY

Description	CDT2000		Description	CDT2000-rH	
	Model	Product code		Model	Product code
Carbon dioxide transmitter for room	CDT2000	301.001.001	Carbon dioxide and humidity transmitter for room	CDT2000-rH	301.003.001
- with display	CDT2000-D	301.001.002	- with display	CDT2000-rH-D	301.003.002
- with relay and display	CDT2000-1R-D	301.001.003	- with relay and display	CDT2000-1R-rH-D	301.003.003
- with Modbus configuration and display	CDT-MOD-2000-D	301.001.004	- with Modbus configuration and display	CDT-MOD-2000-rH-D	301.003.004
- with Modbus configuration, relay and display	CDT-MOD-2000-1R-D	301.001.005	- with Modbus configuration, relay and display	CDT-MOD-2000-1R-rH-D	301.003.005

CARBON DIOXIDE TRANSMITTERS

CDT2000 Series

SPECIFICATIONS

Performance

Measurement ranges:

CO₂: 400–2000 ppm
 Temperature: 0...50 °C
 Relative humidity: 0–90 %

Accuracy:

CO₂: ±40 ppm + 2 % of reading
 Temperature: <0.5 °C
 Relative humidity: ±4 % max @0...50 °C and 0–90 % rH
 Total error band includes accuracy, hysteresis and temperature effect over 5...50 °C and 10–90% rH.

Technical Specifications

Media compatibility:

Dry air or non-aggressive gases

Measuring units:

ppm, °C and % rH

Measuring element:

CO₂: Non-dispersive infrared (NDIR)
 Temperature: Pt1000
 Relative humidity: Thermoset polymer capacitive sensing element

Environment:

Operating temperature: 0...50 °C
 Storage temperature: -20...70 °C
 Humidity: 0 to 95 % rH, non condensing

Physical

Dimensions:

Case: 99 x 90 x 32 mm

Weight:

150 g

Mounting:

3 screw holes slotted, 3.8 mm

Materials:

Case: ABS

Protection standard:

IP20

Display (Optional)

Touchscreen

Size: 77.4 x 52.4 mm

Electrical connections:

Power supply:
 5-screw terminal block
 (24 V, GND, CO₂, rH, T)
 12–24 AWG (0.2–1.5 mm²)

Relay out:

3-screw terminal block
 (NC, COM, NO)
 12–24 AWG (0.2–1.5 mm²)

Electrical

Input: 24 VAC or VDC, ±10 %
 Current consumption: max 90 mA (at 24 V) +
 10 mA for each voltage output or 20 mA for
 each current output

CO₂ output signal:

0–10 V, R>1 kΩ
 2–10 V, R>1 kΩ
 4–20 mA, R<500 Ω

Temperature output signal:

0–10 V, R>1 kΩ
 2–10 V, R>1 kΩ
 4–20 mA, R<500 Ω

Relative humidity output signal:

0–10 V, R>1 kΩ
 2–10 V, R>1 kΩ
 4–20 mA, R<500 Ω

Relay out:

SPDT Relay, 250 VAC / 30 VDC / 6 A

Conformance

Meets requirements for CE marking:
 EMC Directive: 2004/108/EC
 RoHS Directive: 2002/95/EC
 WEEE Directive: 2002/96/EC



How to generate a model?

Example: CDT2000-1R-D	Product Series				
	CDT2000	Carbon dioxide transmitter, analog configurations			
CDT-MOD-2000	Carbon dioxide transmitter, Modbus configuration				
	Mounting				
		Wall mount			
	Duct	Duct mount (not available with relay or relative humidity sensor)			
		Relay (only for wall mount model)			
	-1R	With relay			
		Without relay			
		Relative humidity sensor (only for wall mount model)			
	-rH	With relative humidity sensor			
		Without relative humidity sensor			
		Display			
	-D	With Display			
		Without Display			
Model	CDT2000	-1R		-D	