



CARBON DIOXIDE TRANSMITTERS CDT2000 DUCT SERIES

Multifunctional, duct mount CO₂ transmitters for building automation systems

The CDT2000 Duct series air quality transmitters are engineered for building automation systems in the HVAC/R industry. The CDT2000 Duct series measures carbon dioxide (CO₂), utilizing the industry standard NDIR measurement principle, and temperature (T). Illuminated display ensures easy readability also from a distance. The CDT2000 Duct has a screwless lid and an easily adjustable mounting flange that make the installation of the device easy.

The CDT2000 Duct series transmitters calibrate themselves automatically using ABC™ logic. The ABC™ logic requires that the space in which the transmitter is used needs to be unoccupied for four hours per day so that the indoor CO₂ concentration drops to the outside level. CDT2000-DC Duct is a dual channel model with a measuring channel and a reference channel that makes a continuous comparison and the necessary adjustment accordingly. CDT2000-DC Duct is also suitable for buildings that are continuously occupied.



CDT2000 Duct series devices include:

- Separate field configurable output for each measurement parameter (CO₂, T)
- Offset feature enabling field calibration for each measurement parameter (CO₂, T)
- Mounting flange

CDT2000 Duct series device options offer:

- Clear backlit display
- Modbus configuration
- 4-20 mA proportional output

APPLICATIONS

CDT2000 Duct series devices are commonly used to monitor:

- CO₂ levels of incoming and return air in ventilation system
- CDT2000-DC Duct series devices can also be used in applications where there is a constant source of carbon dioxide present (for example hospitals and greenhouses)

MODEL SUMMARY

| | CDT2000 Duct | | CDT2000 Duct with mA output | |
|--|------------------------|--------------|-----------------------------|--------------|
| Description | Model | Product code | Model | Product code |
| Carbon dioxide transmitter, duct mounted | CDT2000 Duct | 302.001.001 | CDT2000 Duct-A | 302.008.001 |
| - with display | CDT2000 Duct-D | 302.001.002 | CDT2000 Duct-A-D | 302.008.002 |
| - with Modbus configuration and display | CDT-MOD-2000 Duct-D | 302.001.006 | | |
| - with dual channel sensor | CDT2000-DC Duct | 302.007.001 | CDT2000-DC Duct-A | 302.008.007 |
| - with dual channel sensor and display | CDT2000-DC Duct-D | 302.007.002 | CDT2000-DC Duct-A-D | 302.008.008 |
| - with Modbus configuration, dual channel sensor and display | CDT-MOD-2000-DC Duct-D | 302.007.003 | | |

CARBON DIOXIDE TRANSMITTERS

CDT2000 DUCT SERIES

SPECIFICATIONS

Performance

Measurement ranges:

CO₂: 400–2000 ppm
Temperature: 0...50 °C

Accuracy:

CO₂: ±40 ppm + 2 % of reading, DC model: 75 ppm or 10 % of reading (whichever is greater)
Temperature: <0.5 °C

Technical Specifications

Media compatibility:

Dry air or non-aggressive gases

Measuring units:

ppm and °C

Measuring element:

CO₂: Non-dispersive infrared (NDIR)
Temperature: NTC10k

Calibration:

Automatic self-calibration ABC Logic™ or continuous comparison (DC)

Environment:

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

Physical

Dimensions:

Case: 120 x 96 x 45 mm
Probe: L=188 mm, d=12 mm

Mounting:

With flange, adjustable 40...155 mm

Weight:

150 g

Materials:

Case: ABS

Cover: PC

Probe: ABS

Protection standard:

IP54

Electrical connections:

4 spring loaded terminals
(24 V, GND, CO₂, T)
0.2–1.5 mm² (12–24 AWG)

A-model:

6 spring loaded terminals
(24 V, GND, Voltage_CO₂, Voltage_T, mA_CO₂, mA_T)
0.2–1.5 mm² (12–24 AWG)

Electrical

Supply voltage: 24 VAC or VDC ±10 %

Current consumption: max 230 mA (at 24 V) + 35 mA for each voltage output

Output signals:

0/2...5/10 VDC, Load R minimum 1 kΩ

Only A-model:

4...20mA, Load R maximum 500 Ω, minimum 20 Ω

Zero/Span output calibrated within ±0.08 mA

Conformance

Meets requirements for CE marking:

EMC Directive 2014/30/EU

RoHS Directive 2011/65/EU

WEEE Directive 2012/19/EU

**COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 = ISO 14001 =**



HOW TO GENERATE A MODEL?

| Example: | Product series | | | |
|----------------|----------------|---|--|----|
| CDT2000 Duct-D | CDT2000 | Carbon dioxide transmitter, analog configurations | | |
| | CDT-MOD-2000 | Carbon dioxide transmitter, Modbus configuration | | |
| | | Calibration | | |
| | | | ABC logic™, Automatic Background Calibration | |
| | -DC | Dual channel, for continuously occupied space | | |
| | | Mounting | | |
| | | Duct | Duct mount | |
| | | | Output | |
| | | | Voltage output | |
| | | -A | Voltage and current output | |
| | | Display | | |
| | | -D | With display | |
| | | | Without display | |
| Model | CDT2000 | Duct | | -D |