

CARBON DIOXIDE TRANSMITTERS CDT-MOD-2000 DUCT SERIES



CO₂ transmitters with temperature output for duct that use Modbus serial communication protocol

The CDT-MOD-2000 Duct series air quality transmitters are engineered for building automation systems in the HVAC/R industry. The CDT-MOD-2000 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 CDT-MOD-2000 Duct has a screwless lid and an easily adjustable mounting flange that make the installation of the device easy.

The CDT-MOD-2000 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. CDT-MOD-2000-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. CDT-MOD-2000-DC Duct is also suitable for buildings that are continuously occupied.



CDT-MOD-2000 Duct series devices include:

- Separate Modbus output for each measurement parameter (CO₂ and T)
- Mounting flange
- Clear backlit display

APPLICATIONS

CDT-MOD-2000 Duct series devices are commonly used to monitor:

- CO₂ and temperature levels of incoming and return air in ventilation system
- CDT-MOD-2000-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

	CDT-MOD-2000	
Description	Model	Product code
Duct mounted carbon dioxide transmitter with Modbus configuration and display	CDT-MOD-2000 Duct-D	302.001.006
- with dual channel sensor	CDT-MOD-2000-DC Duct-D	301.007.003

CARBON DIOXIDE TRANSMITTERS

CDT-MOD-2000 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: 119 x 100 x 44.7 mm
Probe: L=188 mm, d=12 mm

Mounting:

With flange, adjustable 0...188 mm

Weight:

150 g

Materials:

Case: ABS
Cover: PC
Probe: ABS

Protection standard:

IP54

Electrical connections:

4 spring loaded terminals

Power supply:

(24 V and GND)
0.2–1.5 mm² (12–24 AWG)

Modbus RTU:

A and B line
0.2–1.5 mm² (12–24 AWG)

Electrical

Supply voltage: 24 VAC or VDC ±10 %
Current consumption: max 230 mA (at 24 V) + 10 mA for each voltage output

Communication

Protocol: MODBUS over Serial Line

Transmission Mode: RTU

Interface: RS485

Byte format (11 bits) in RTU mode:

Coding System: 8-bit binary

Bits per Byte:

1 start bit
8 data bits, least significant bit sent first
1 bit for parity
1 stop bit

Baud rate: selectable in configuration

Modbus address: 1–247 addresses selectable in configuration menu

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: CDT-MOD-2000 Duct-D	Product series		
	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		
		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	CDT-MOD-2000	Duct	-D