CARBON DIOXIDE TRANSMITTERS CDT-MOD-2000 DUCT SERIES

5 YEAR WARRANTY

CO_2 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 (CO_2), 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 to be unoccupied for four hours per day so that the indoor CO_2 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 (CO_2 and T)
- Offset feature enabling field calibration for each measurement parameter (CO_2 and T)
- Mounting flange
- Clear backlit display

APPLICATIONS

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

- CO_2 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:
CO_2: 400–2000 ppm
Temperature: 0...50 °C
Accuracy:
CO_2: ±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:
CO_2: 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
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 =

RoHS 2 2011/65/EU

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		
			Duct		
				Display	
				-D	With display
					Without display
Model	CDT-MOD-2000		Duct	-D	