HK INSTRUMENTS
USER-FRIENDLY MEASURING DEVICES

CARBON DIOXIDE TRANSMITTERS
CDT2000 DUCT SERIES

Multifunctional, duct mount CO$_2$ 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 (CO$_2$), 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 to be unoccupied for four hours per day so that the indoor CO$_2$ 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 (CO$_2$, T)
- Mounting flange

CDT2000 Duct series device options offer:
- Clear backlit display
- Modbus configuration

APPLICATIONS

CDT2000 Duct series devices are commonly used to monitor:
- CO$_2$ 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

Description	CDT2000	
	Model	Product code
Carbon dioxide transmitter, duct mounted	CDT2000 Duct	302.001.001
- with display	CDT2000 Duct-D	302.001.002
- with Modbus configuration and display	CDT-MOD-2000 Duct-D	302.001.006
- with dual channel sensor	CDT2000-DC Duct	301.007.001
- with dual channel sensor and display	CDT2000-DC Duct-D	301.007.002
- with Modbus configuration, dual channel sensor and display	CDT-MOD-2000-DC Duct-D	301.007.003

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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: 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
(24 V, GND, CO_2, T)
0.2–1.5 mm^2 (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
Output signals for every media:
0/2...5/10 VDC, Load R minimum 1 kΩ

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 =

CE

RoHS 2
2011/65/EU

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	
				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		Duct	-D