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)
- Offset feature enabling field calibration for each measurement parameter (CO$_2$, 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:
- 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 Duct		CDT2000 Duct with mA output	
	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:
CO_2: 400–2000 ppm
Temperature: 0...50 °C
Accuracy:
CO_2: ±40 ppm + 3 % 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 95.5 x 45 mm
Probe: L=186 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, CO_2, T)
0.2–1.5 mm^2 (16–24 AWG)
A-model:
6 spring loaded terminals
(24 V, GND, Voltage_ CO_2, Voltage_T, mA_CO_2, mA_T)
0.2-1.5 mm^2 (16-24 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
Output calibrated within ±0.08 mA

Conformance
Meets requirements for:

	CE:	UKCA:
EMC:	2014/30/EU	S.I. 2016/1091
RoHS:	2011/65/EU	S.I. 2012/3032
WEEE:	2012/19/EU	S.I. 2013/3113

COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001 ▪ ISO 14001

UKCA CE RoHS COMPLIANT

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	