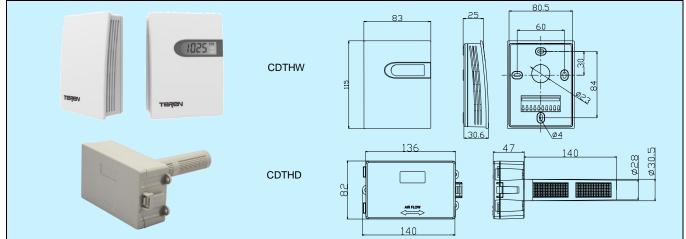
CDTH Carbon Dioxide (CO₂) / Temperature/ Humidity Transmitter





Models

Applications & Features

- CDTH series carbon dioxide (CO2) /temperature/ humidity transmitters are designed for monitoring & controlling indoor air quality, temperature and humidity in one unit
- CDTHW is suitable for wall mount and CDTHD is suitable for duct mount
- High performance NDIR digital sensor and circuit, ensure precise measurement and temperature compensation
- Multiple optional RTD or thermistor sensors, compatible with a variety of control systems
 Stable, reliable and fast response
- 15 years of CO₂ sensor life without maintenance
- All electrical terminals are on the inside bottom, avoid any possible destroy to PCB when wiring(CDTHW)
- Digital technology applied, multiple outputs optional, over voltage and reverse polarity protection, high reliability and anti-interference capability
- Large LCD with unit indicator(CDTHW), display carbon dioxide (CO₂), temperature and humidity alternatively

Specifications

Carbon dioxide (CO₂) Sensor: NDIR sensor, with ABC algorithm* Sampling Method: diffusion Accuracy: (40+3%MV) ppm Response time: <10s (30cc/min, low airflow) Drift: <±10ppm/year Range: 0~2000ppm (measure range 400~2000ppm) Output: 4~20mA, 0~10V, RS485/Modbus

Temperature

Sensor: Digital, RTD or thermistor, see models Range: 0~50°C Accuracy: see accuracy table Output: 4~20mA, 0~10V, RS485/Modbus or RTD / thermistor

Relative Humidity

Sensor: Digital polymer Range: 0~100%RH Accuracy: see accuracy table Hysteresis: <±1%RH Response time: <10s (25°C, in slow air) Drift: <±0.5%RH/year Output: 4~20mA, 0~10V, RS485/Modbus

Power supply: 16~28VAC/16~35VDC Load resistance: ≤500Ω (Current output), ≥2kΩ (Voltage output) Display: Optional LCD Display (CDTHW) Display resolution: 1ppm, 0.1°C, 0.1%RH Working environment: 0~50°C, 0~95%RH (Non-cond.) Temp. compensation: 0~50°C Storage temperature: -20~60°C Housing material: ABS+PC (CDTHW), fireproof ABS (CDTHD) Protection: IP30 (CDTHW), IP65 (CDTHD) Weight: 175g (CDTHW), 416g (CDTHD) Approval: CE

*ABC algorithm: Automatic Baseline Correction, it constantly keeps track of the sensor's lowest reading over a few days interval and slowly corrects for any long term drift detected as compared to the expected fresh air value of 400 ppm CO₂.

Model	CDTHW				Room CO ₂ /T/RH Transmitter	
	CDTHD				Duct mount CO ₂ /	
					T/RH Transmitter	
CO ₂ /Hum.		1			4~20mA / 0~10VDC	
Output		С			RS485/Modbus	
Temp. Output			1		4~20mA / 0~10VDC	
			3		PT1000,±0.2°C @25°C	
			4		PT100, ±0.2°C @25°C	
			5		NTC20K, ±0.4°C @25°C	
			6		Ni1000, ±0.4°C @25°C	
			7		NTC10K-II, ±0.4°C @25°C	
			9		NTC10K-III, ±0.4°C @25°C	
			А		NTC10K-A, ±0.4°C @25°C	
			С		RS485/Modbus	
Display				0	N/A	
(CDTHW)				1	LCD	

1. All products are factory set to 4~20mA as output default, and can be set to 0-10V by jumper on the PCB.

2. See resistance table on page 1 of this catalog

Accuracy table for temperature/ humidity

	CD	гнw	CDTHD		
Outputs	T (@10~40°C)	RH (@25°C, 20~80%RH)	T (@10~40°C)	RH (@25°C, 20~80%RH)	
0~10V DC	<±0.5°C	3%RH	<±0.5°C	3%RH	
4~20mA	<±1.0°C	5%RH	<±0.5°C	3%RH	
RS485/ Modbus	<±0.5°C	3%RH	<±0.5°C	3%RH	
RTD/ thermistor	See models	See models	See models	See models	

When select RTD/ thermistor, CDTHW's total error will be 0.5°C more than the accuracy in the models while CDTHD's total error is the same as in the models.