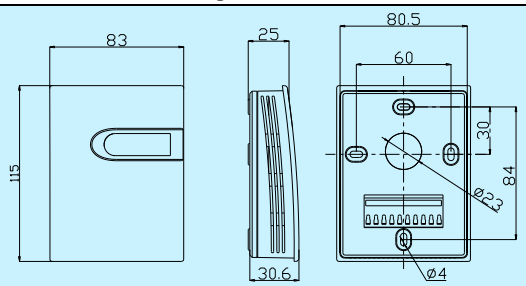
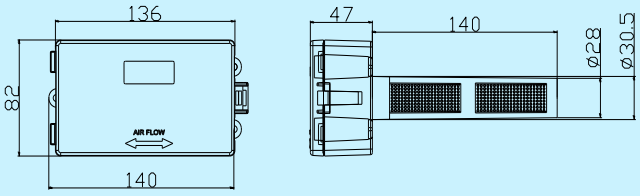
CDTH Carbon Dioxide (CO_2)/Temperature/Humidity Transmitter

CDTHW



CDTHD



Applications & Features

- CDTH series CO_2/temperature/humidity transmitters are designed for monitoring & controlling indoor air quality (CO_2), 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 CO_2 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 (CO_2), temperature and humidity alternatively

Specifications

Carbon dioxide (CO_2)
Sensor: NDIR sensor, with ABC algorithm*
Sampling Method: diffusion
Accuracy: (40+3%MV) ppm
Response time(T90): <120s (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: fire retardant PC(UL94V-0)(CDTHW), fire retardant ABS (UL94V-0) (CDTHD)
Protection: IP30 (CDTHW), IP65 (CDTHD)
Weight: 175g (CDTHW), 415g (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 CO_2.

Models

Model	CDTHW CDTHD				Room CO_2 /T/RH Transmitter Duct mount CO_2 / T/RH Transmitter
CO_2 /Hum. Output		1 C			4~20mA / 0~10VDC RS485/Modbus
Temp. Output			1 3 4 5 6 7 9 A C		4~20mA / 0~10VDC PT1000,±0.2°C @25°C PT100, ±0.2°C @25°C NTC20K, ±0.2°C @25°C Ni1000, ±0.5°C @25°C NTC10K-II, ±0.2°C @25°C NTC10K-III, ±0.3°C @25°C NTC10K-A, ±0.3°C @25°C RS485/Modbus
Display (CDTHW)				0 1	N/A 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

Outputs	CDTHW		CDTHD	
	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.