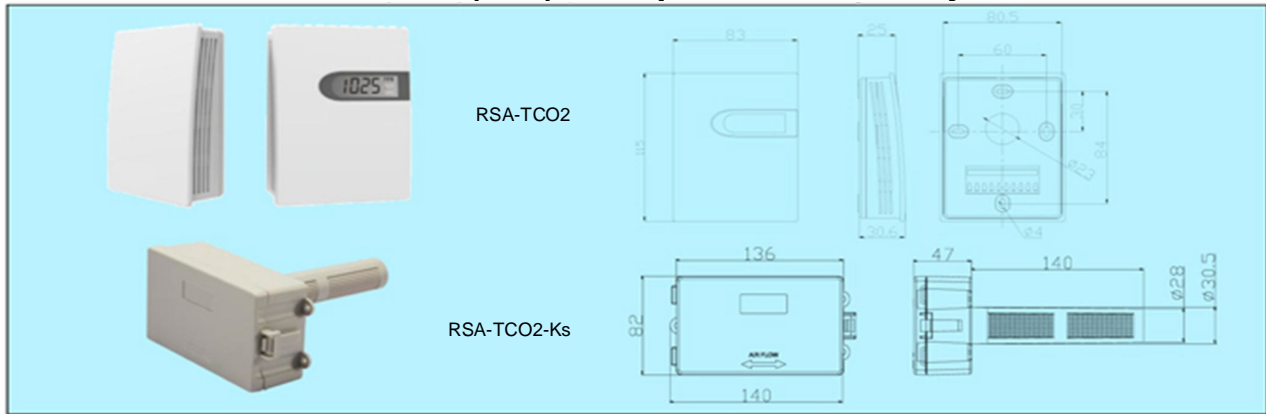


RSA-DCTH Carbon Dioxide (CO₂) / Temperature/ Humidity Transmitter



Applications & Features

- RSA-DCTH series carbon dioxide (CO₂) /temperature/ humidity transmitters are designed for monitoring & controlling indoor air quality, temperature and humidity in one unit
- RSA-DCTH 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(RSA-DCTHW)
- Digital technology applied, multiple outputs optional, over voltage and reverse polarity protection, high reliability and anti-interference capability
- Large LCD with unit indicator(RSA-DCTHW), 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 (RSA-DCTHW), IP65 (CDTHD)

Weight: 175g (RSA-DCTHW), 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.

Models

Model	RSA-DCTHW		Room CO ₂ /T/RH Transmitter
	RSA-DCTHD		Duct mount CO ₂ / T/RH Transmitter
CO₂/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, ±0.4°C @25°C Ni1000, ±0.4°C @25°C NTC10K-II, ±0.4°C @25°C NTC10K-III, ±0.4°C @25°C NTC10K-A, ±0.4°C @25°C RS485/Modbus
Display (RSA-DCTHW)		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, RSA-DCTHW's total error will be 0.5°C more than the accuracy in the models while RSA-DCTHD's total error is the same as in the models.