

Overview

The **TxCdT380** series CO₂ & temperature sensors by NeoWave Co. are advanced, all-in-one devices designed for precise monitoring and control of indoor air quality (IAQ) and temperature. Available in wall-mount (TxCDT380W) and duct-mount (TxCDT380D) versions, these sensors integrate high-performance NDIR technology for accurate CO₂ measurement and temperature compensation, ensuring long-term reliability and minimal maintenance.

Features

- **Dual Monitoring:** Measures CO₂ levels and temperature in a single unit.
- **High-Accuracy NDIR Sensor:** Digital technology ensures precise CO₂ readings with temperature compensation.
- **Long Lifespan:** 15-year CO₂ sensor life with no maintenance required.
- **Multiple Sensor Options:** Supports RTD or thermistor for flexible integration with control systems.
- **Robust Design:** Overvoltage & reverse polarity protection, anti-interference, and durable construction.
- **Clear Display:** Large LCD (on TxCDT380W) shows CO₂ and temperature readings alternately (except RTD/thermistor models).
- **Secure Wiring:** Internal electrical terminals (on TxCDT380W) prevent PCB damage during installation.

TxCdT380

Carbon Dioxide (CO₂)/Temperature Sensor

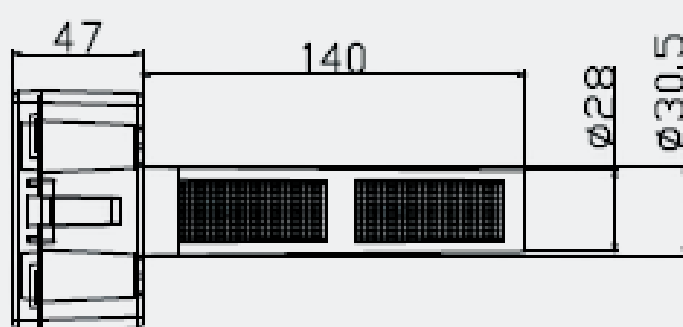
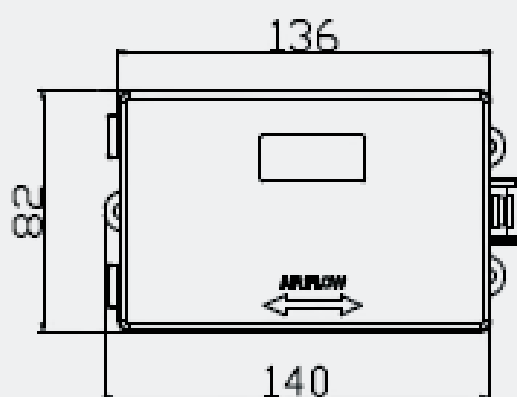
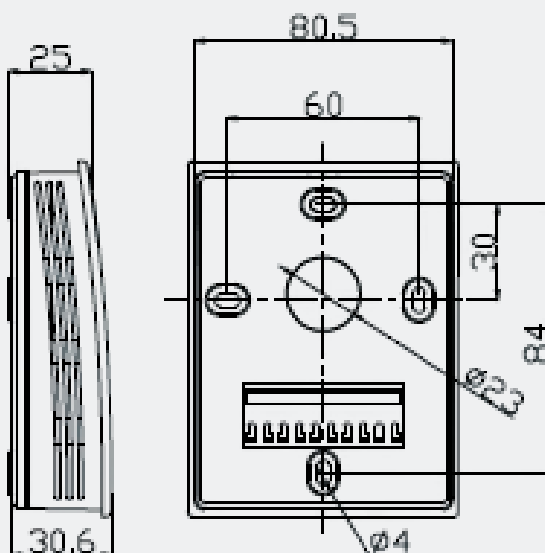
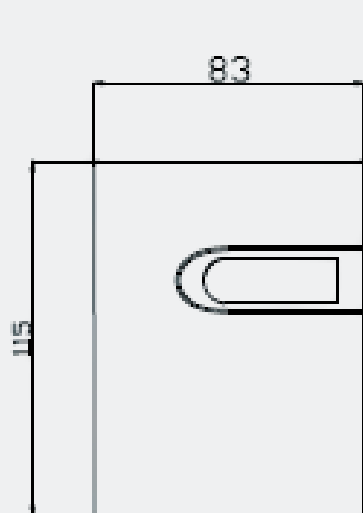


Applications

- HVAC systems for smart ventilation control.
- Commercial buildings, offices, and schools for IAQ management.
- Greenhouses and agricultural environments.
- Hospitals and laboratories requiring air quality monitoring.
- Smart homes and IoT-based climate control systems.

Dimensions

TxCdT380W



TxCdT380D

Specifications

Carbon Dioxide (CO₂)/Temperature Sensor

Power supply	16~28VAC/16~35VDC
Load resistance	≤500Ω (Current output), ≥2kΩ (Voltage output)
Display	Optional LCD Display (TxCDT380W)
Display resolution	1ppm, 0.1°C
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) (TxCDT380W), fire retardant ABS(UL94V-0) (TxCDT380D)
Protection	IP30 (CDTW), IP65 (TxCDT380D)
Weight	175g (CDTW), 415g (TxCDT380D)
Approval	CE

Carbon dioxide (CO₂) measurement

Sensor	NDIR sensor, with ABC algorithm*
Sampling Method	diffusion
Accuracy	(40+3%MV) ppm
Response time(T ₉₀)	<120s (30cc/min, low airflow)
Drift	<±10ppm/year
Range	0~2000ppm (measure range 400~2000ppm)
Output	4~20mA, 0~10V, RS485/Modbus

Temperature Measurement

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

***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.

Accuracy table for temperature

Outputs	TxCdT380W	TxCdT380D
0~10V DC	<±0.5°C@10~40°C	<±0.5°C@10~40°C
4~20mA	<±0.8°C@10~40°C	<±0.5°C@10~40°C
RS485/Modbus	<±0.5°C@10~40°C	<±0.5°C@10~40°C
RTD/ thermistor	See models	See models

Selection Code:
Code and description

Remark

TxCDT380W

Room CO2 / Temp. Sensor

Model

TxCDT380D

Duct mount CO2 /Temp. Sensor

VA

4~20mA/0~10VDC

 CO2
Output

RS

RS485/Modbus

VA

4~20mA / 0~10VDC

 Temp.
Output

1

 PT1000, $\pm 0.2^{\circ}\text{C}$ @25°C

2

 PT100, $\pm 0.2^{\circ}\text{C}$ @25°C

3

 NTC20K, $\pm 0.2^{\circ}\text{C}$ @25°C

4

 Ni1000, $\pm 0.5^{\circ}\text{C}$ @25°C

5

 NTC10K-II, $\pm 0.2^{\circ}\text{C}$ @25°C

5

 NTC10K-III, $\pm 0.3^{\circ}\text{C}$ @25°C

7

 NTC10K-A, $\pm 0.3^{\circ}\text{C}$ @25°C

RS

RS485/Modbus

1

N/A

 Display
(TxCDT380W)

2

LCD