

# CO<sub>2</sub> Duct Transmitter with Temperature and RH



## Applications

- Building management for office areas and residential
- Ventilation control system



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## Product No: TG9 Series

- Real time detection carbon dioxide of the air duct
- Detection high accuracy temperature and relative humidity
- Smart sensor probe can be easily installed into any air duct
- With the water-proof and porous film around the sensor probe
- Up to 3xanalog linear outputs for measurements
- Modbus RS485 interface
- With or without LCD display
- CE-approval

## Features

- Designed for real time detecting carbon dioxide, temperature or relative humidity in air ducts.
- NDIR infrared CO2 sensor inside with special Self Calibration and up to 15 years' lifetime. It makes CO2 measurement more accurate and reliable.
- Digital temperature & humidity sensor provides the high accuracy measurement in full range.
- Provides up to 3 analog outputs (0~10VDC or 4~20mA or 0~5VDC) for CO2 temperature and relative humidity.
- Modbus RS485 communication interface.
- The end user can adjust CO2/Temp. range which correspond with the analog outputs via Modbus, also can preset the inverse proportion liner outputs for some different applications.
- With LCD or without LCD selectable
- LCD display real-time measurements of CO2, temperature and relative humidity.
- Simple and smart design for the installation of sensor probe, which has a water-proof and porous film
- Extendable probe meets more air duct systems
- 24VAC/VDC power supply.
- EU standard and CE-approval.



## Detection Focus

### ✓ Carbon Dioxide (CO2)

Indoor CO2 level is a universal accepted parameter for the condition of indoor ventilation and air quality.

A time period can be preset from 1 to 24 hours, e.g. 5 hours, then the monitor can display CO2 average level during this period, which provides an objective and true data for the measurement of the air quality in a certain space.

- Non-dispersive infrared (NDIR) CO2 sensor with up to 15-year lifetime
- ABC self-calibration technology guarantees reliable CO2 measurement
- CO2 range: 0~2,000ppm/0~5,000ppm optional
- Rapid response, high stability and consistency

### ✓ Temperature and humidity

Combined digital temperature and humidity sensor with high accuracy and stability. It also has compensation to CO2 and air quality which makes the measurements more accurate by minimizing environmental effects.

## Typical Applications

- Building Automation Systems
- Ventilation control system

## Specifications

Monitoring parameters	CO <sub>2</sub>	Temperature	Relative humidity
<b>Sensing element</b>	Non-Dispersive Infrared Detector (NDIR)	Digital combined temperature and humidity sensor	
<b>Measuring range</b>	0~2,000ppm(default) 0~5,000ppm (selectable in the order)	0°C~50°C(32°F~122°F) (default)	0~100%RH
<b>Display Resolution</b>	1ppm	0.1°C	0.1%RH
<b>Accuracy@25°C(77°F)</b>	±60ppm + 3% of reading	±0.5°C (0°C~50°C)	±3%RH (20%-80%RH)
<b>Life time</b>	15 years (normal)	10 years	
<b>Calibration cycle</b>	ABC Logic Self Calibration	—	—
<b>Response Time</b>	<2 minutes for 90% change	<10 seconds to reach 63%	
<b>Warm up time</b>	2 hours (first time) 2 minutes (operation)		
<b>Electrical Characteristics</b>			
<b>Power supply</b>	24VAC/VDC		
<b>Consumption</b>	3.5 W max. ; 2.5 W avg.		
<b>Analog Outputs</b>	Three analog outputs 0~10VDC(default) or 4~20mA (selectable by jumpers) 0~5VDC (selected at place the order) Can be set the inverse proportion linear output by Modbus		
<b>Modbus RS485 interface (optional)</b>	RS-485 with Modbus protocol, 19200bps rate, 15KV antistatic protection, independent base address		
<b>Conditions of Using and Installation</b>			
<b>Operation conditions</b>	0~50°C(32~122°F); 0~95%RH, non condensing		
<b>Storage conditions</b>	0~50°C(32~122°F)/ 5~80%RH		
<b>Weight</b>	320g		



<b>Installation</b>	Fixed on the air duct with 100mm installation hole size
<b>IP class of the housing</b>	IP50
<b>Standard</b>	CE-Approval

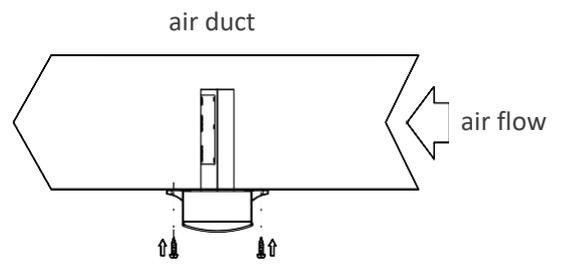
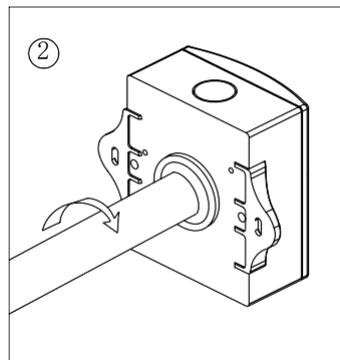
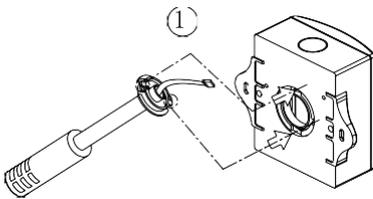
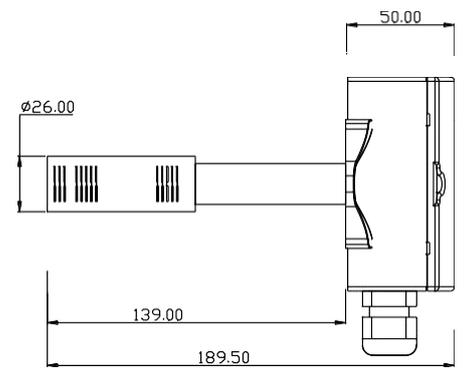
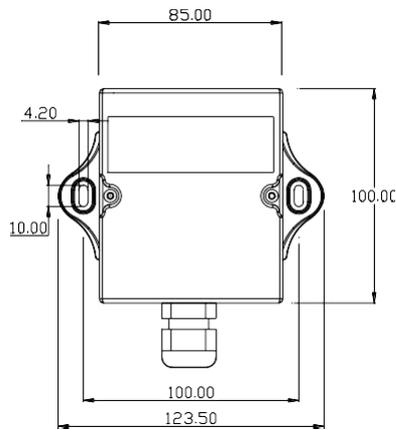
## Dimensions & Mounting

### Duct mounted

Probe Length 139.00mm  
can be extended  
to 139+70mm

Probe Diameter  $\varnothing 26.00\text{mm}$

Installation Holes 100mm



The air flow direction

Install or move the probe

## Models Information

### TG9X<sub>1</sub> X<sub>2</sub> 8L- Y02/05 E-Tab

**X1:** analog output

**3-** 3Xanalog outputs for CO2 + Temperature + Humidity

**1-** 1xanalog output for CO2

**0-**no analog output

**X2:** Modbus interface

**1-**with Modbus interface

**0-** no Modbus interface

**8:** CO2 sensor code

**L:** LCD display

Non-required option. No L indicates no LCD

**Y:** default output type

**A-** 4~20mA

**V-** 0~10VDC (default)

**V5-** 0~5VDC (can't be changed to another output by jumpers)

**02/05:** CO2 measurement range

**02-** 0~2000ppm (default)

**05-** 0~5000ppm

**E:** extended duct probe up to 209mm

Non-required option. No **E** indicates the standard probe length of 139mm

**Tab:** temperature scaling

**T05:** 0°C~50°C(32°F~122°F) (default)

**T06:** 0°C~60°C(32°F~140°F)

No this item indicates no output for temperature measurement.

## Shipping Information

Indiv. Ctn. Dim	185mm×130mm×110mm
Master Ctn. Qty	20
Master Ctn. Dim	44cm(L) X32cm (W) X32cm (H)
Master Ctn. Wt. (volume weight)	15.0KG

# Wiring Diagram

