CO₂ Duct Transmitter

With Temperature and RH% Detection

Model: TG9XX8

- **Real time detection carbon dioxide of the air duct**
- **Detection high accuracy temperature and relative humidity**
- **Smart sensor probe with extendable probe   may 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**
- **Optional 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.
- Combined temperature and humidity digital sensor provide a high accuracy measurement in full range.
- Provide up to 3 analog outputs (0~10VDC or 4~20mA or 0~5VDC) for CO2 temperature and relative humidity.

- Optional Modbus RS485 communication interface.
- With LCD or without LCD selectable
- LCD display real-time measurements of CO2, temperature and relative humidity.
- Simple and smart design and installation of sensor probe with 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 more than 10-year lifetime
- ABC self-calibration technology guarantees reliable CO₂ measurement
- CO₂ range: 0~2000ppm/0~5000ppm 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 CO_2 and air quality which makes the measurements more accurate by minimizing environmental effects.

Typical Applications

◆ Building management for office areas and residental

◆ Ventilation control system

Specifications

Monitoring parameters	CO₂	Temperature	Relative humidity
Sensing element	Non-Dispersive Infrared Detector (NDIR)	Digital combined temperature and humidity sensor	
Measuring range	0~2000ppm(default) 0~5000ppm (selectable in the order)	0℃~50℃(32℉~122℉) (default)	0~100%RH
Display Resolution	1ppm	0.1℃	0.1%RH
Accuracy@25℃(77℉)	±60ppm + 3% of reading	±0.5℃ (0℃~50℃)	±3%RH (20%-80%RH)
Life time	15 years (normal)	10 years	
Calibration cycle	ABC Logic Self Calibration	——	——
Response Time	<2 minutes for 90% change	<10 seconds to reach 63%	
Warm up time	2 hours (first time) 2 minutes (operation)		
Electrical Characteristics			
Power supply	24VAC/VDC		
Consumption	3.5 W max. ; 2.5 W avg.		
Outputs	Two or three analog outputs 0~10VDC(default) or 4~20mA (selectable by jumpers) 0~5VDC (selected at place the order)		
Modbus RS485 interface (optional)	RS-485 with Modbus protocol, 19200bps rate, 15KV antistatic protection, independent base address		
Conditions of Using and Installation			
Operation conditions	0~50℃(32~122℉); 0~95%RH, non condensing		
Storage conditions	0~50℃(32~122℉)/ 5~80%RH		
Weight	320g		
Installation	Fixed on the air duct with 100mm installation hole size		
IP class of the housing	IP50 for no LCD IP40 for with LCD		
Standard	CE-Approval		

Dimensions & Mounting

Duct mounted

Probe Length   139.00mm
   can be extended
                          to 139+70mm
Probe Diameter   Ø26.00mm
Installation Holes   100mm

85.00
4.20
10.00
100.00
100.00
123.50

50.00
Ø26.00
100.00
139.00
189.50

①

②

air duct
air flow
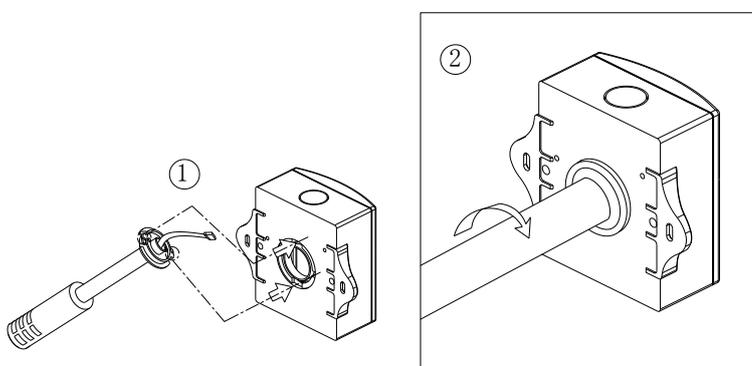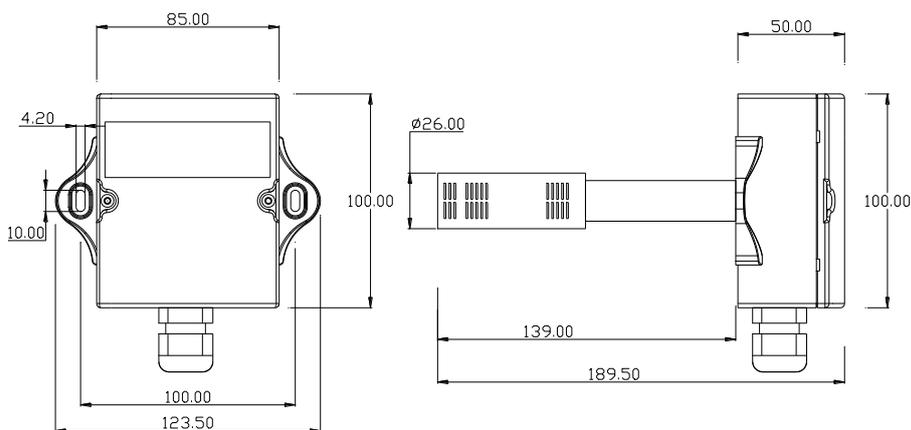
Install or move the probe
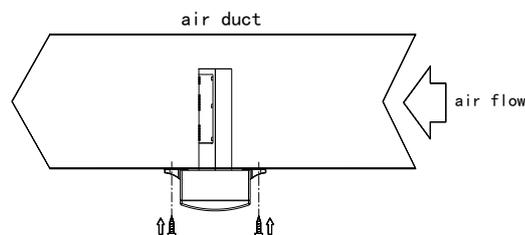
The air flow direction

Models Information

TG9X₁ X₂ 8 L – Y02/05 E –Tab

X₁: analog output

  3- 3Xanalog outputs for CO_2 + Temperature + Humidity

  1- 1xanalog output for CO_2

  0- no analog output

X₂: Modbus interface

  1- with Modbus interface

  0- no Modbus interface

8: CO_2 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℃~50℃(32℉~122℉) (default)

  T06: 0℃~60℃(32℉~140℉)

  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