

# CO<sub>2</sub> Detector - Duct Mount

With Temperature and RH% Detection



Technical  
Data Sheet

## HDM-TG9XX8 Series

- ◆ Real time detection of carbon dioxide in the air ducts
- ◆ High accuracy temperature and relative humidity measurement
- ◆ Smart extendable probe for easy installation
- ◆ Water-proof and porous film around the sensor probe
- ◆ Up to 3 x analog linear outputs
- ◆ Optional Modbus RS485 interface
- ◆ With or without LCD display
- ◆ CE-approval

### Features

- ▶ Designed for real time detection of carbon dioxide, temperature or relative humidity inside air ducts.
- ▶ NDIR infrared CO<sub>2</sub> sensor with auto calibration and v up to 15 years sensor life.
- ▶ Digitally compensated temperature and humidity sensor provides a high accuracy measurement in full range.
- ▶ Provide up to 3 analog outputs (0~10VDC or 4~20mA or 0~5VDC) for CO<sub>2</sub> temperature and relative humidity.
- ▶ Optional Modbus RS485 communication interface.
- ▶ With or without LCD selectable
- ▶ LCD displays real-time measurements of CO<sub>2</sub>, temperature and relative humidity.
- ▶ Simple and smart probe design incorporates a water-proof but porous membrane for reliable functioning.
- ▶ Extendable probe suitable to various air duct systems
- ▶ 24VAC/VDC power supply.
- ▶ EU standard and CE-approval.



### Detection parameters

#### Carbon Dioxide (CO<sub>2</sub>)

Measurement of indoor CO<sub>2</sub> levels is a universally accepted parameter for the indoor air quality in order to control ventilation. Austech CO<sub>2</sub> duct monitoring range provides class leading features such as:

- ▶ Non-dispersive infrared (NDIR) CO<sub>2</sub> sensor with more than 10-year lifetime
- ▶ Automated self-calibration technology guarantees reliable CO<sub>2</sub> measurement
- ▶ CO<sub>2</sub> range: 0~2000ppm/0~5000ppm optional
- ▶ Rapid response, high stability and consistency

#### Temperature and humidity

Austech IAQ range uses combined digital temperature and humidity sensor with high accuracy and stability.

Built in digital compensation to CO<sub>2</sub> and air quality sensors makes measurements more accurate by offsetting environmental effects.

### Typical Applications

- ▶ Building ventilation control systems
- ▶ Industrial ventilation control systems
- ▶ Airport, train station, shopping mall, office, classroom and other public places for air quality measurement and indication

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## Specifications

Parameters	CO <sub>2</sub>	Temperature	Relative humidity
Sensing element	Non-Dispersive Infrared Detector (NDIR)	Digital combined temperature and humidity sensor	
Measuring range	0~2000ppm(default) 0~5000ppm (Not configurable by user - select at time of ordering)	0~50°C default	0~100%RH
Display Resolution	1 ppm	0.1°C	0.1%RH
Accuracy @ 25°C	±60ppm + 3% of reading	±0.5°C	±3%RH (20-80%RH)
Life time	15 years (normal)	10 years	
Calibration cycle	Auto Self Calibration	—	—
Response Time	<2 minutes for 90% change	<10 seconds to reach 63%	
Warm up time	2 hours (first time) , 2 minutes (operation)		
<b>Electrical Characteristics</b>			
Power supply	24VAC/VDC		
Power Consumption	3.5 W max. ; 2.5 W avg.		
Outputs	Two or three analog outputs 0~10VDC (default) or 4~20mA (user selectable by jumpers) 0~ 5VDC (selected while placing order, user cannot change later)		

<b>Additional Data, dimensions and approvals</b>	
Operation conditions	0~50°C; 0~95%RH, non-condensing
Storage conditions	0~50°C / 5~80%RH
Weight	320g
Installation	Fixed on the air duct with 100mm installation hole size
Housing IP class	IP50 no LCD IP40 with LCD
Standard	CE-Approval

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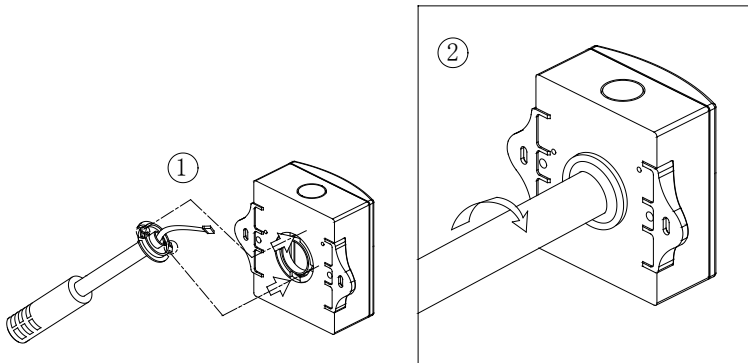
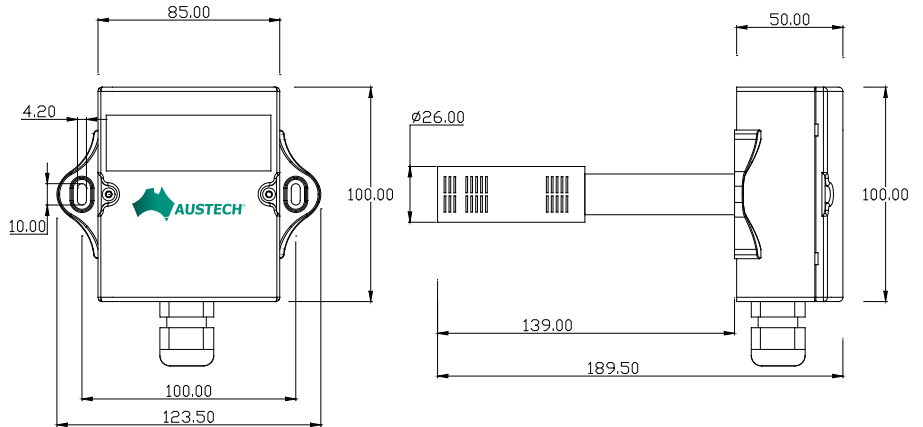
## Dimensions & Mounting

### Duct mountable

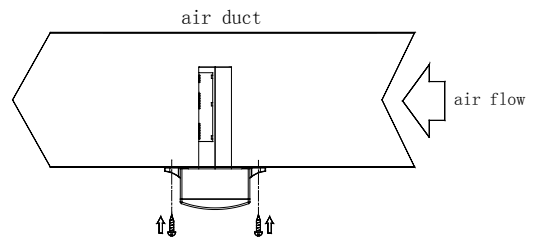
Probe Length 139.00mm  
can be extended to 139+70mm

Probe Diameter  $\varnothing$ 26.00mm

Installation Holes 100mm

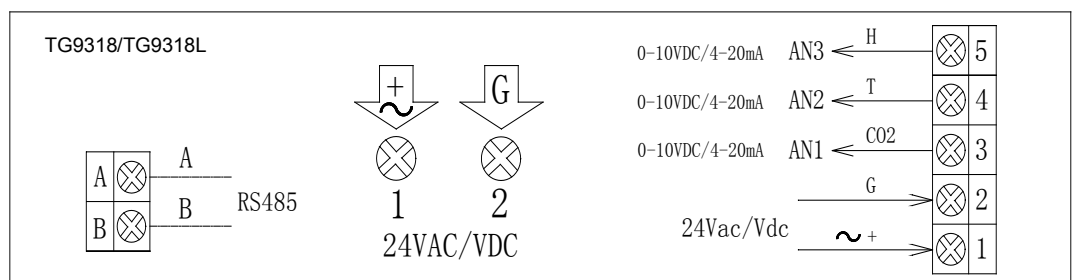
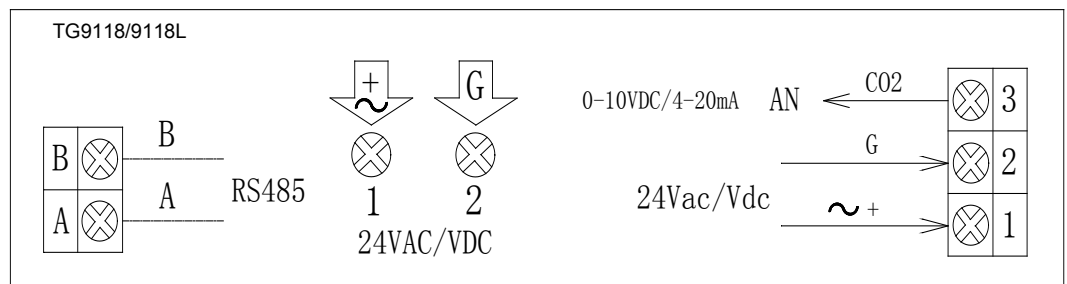


Install or move the probe



Air flow direction

## Wiring Diagram



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## Models Information

### HDM-TG9X<sub>1</sub>X<sub>2</sub> 8 L – Y 02/05 E – Tab

- X<sub>1</sub>:** analog output
    - 3- 3 x analog outputs for CO<sub>2</sub> + Temperature + Humidity
    - 2- 2 x analog outputs for CO<sub>2</sub>
    - 0- no analog output
  - X<sub>2</sub>:** Modbus interface
    - 1- with Modbus interface
    - 0- no Modbus interface
  - 8:** CO<sub>2</sub> sensor code
  - L:** LCD display
    - No L means LCD not required
  - Y:** default output type
    - A- 4~20mA (selectable via jumpers)
    - V- 0~10VDC (default)
    - V5- 0~5VDC (can't be changed to another output by jumpers)
  - 02/05:** CO<sub>2</sub> measurement range
    - 02- 0~2,000ppm (default)
    - 05- 0~5,000ppm
  - E:** extended duct probe up to 209mm
    - No E indicates the standard probe length of 139mm
  - Tab:** temperature scaling
    - T05: 0~50°C default
    - T06: 0~60°C
- Without the item option indicates no output for temperature measurement.