

CO₂ DETECTOR - DUCT MOUNT WITH TEMPERATURE AND RH% DETECTION

PRODUCT BROCHURE



HDM-TG9XX8 SERIES

PRODUCT DETAIL

- 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

APPLICATION

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

FEATURES

- Designed for real time detection of carbon dioxide, temperature or relative humidity inside air ducts
- NDIR infrared CO₂ 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 CO₂ temperature and relative humidity.
- Optional Modbus RS485 communication interface
- With or without LCD selectable
- LCD displays real-time measurements of CO₂, 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 (CO₂)

Measurement of indoor CO₂ levels is a universally accepted parameter for the indoor air quality in order to control ventilation. Ampcontrol CO₂ duct monitoring range provides class leading features such as:

Non-dispersive infrared (NDIR) CO₂ sensor with more than 10-year lifetime

Automated self-calibration technology guarantees reliable CO₂ measurement

CO₂ range: 0~2000ppm/0~5000ppm optional

Rapid response, high stability and consistency

TEMPERATURE AND HUMIDITY

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

Built in digital compensation to CO₂ and air quality sensors makes measurements more accurate by offsetting environmental effects.

| SPECIFICATIONS | | | |
|---|---|--|-------------------|
| Parameters | CO ₂ | 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 | 1ppm | 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) | | |
| Electrical Characteristics | | | |
| 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) | | |
| Additional Data, Dimensions and Approvals | | | |
| 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 | | |

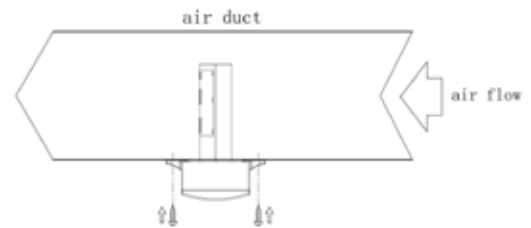
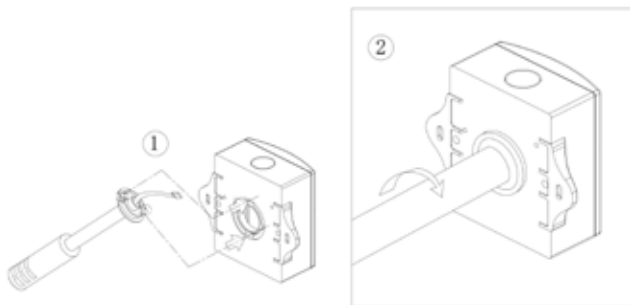
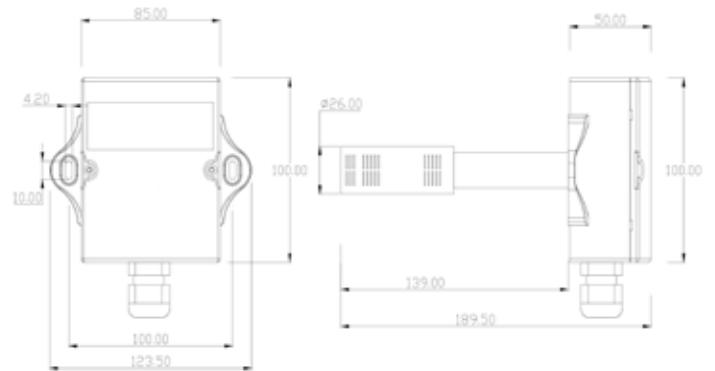
DIMENSIONS AND MOUNTING

Duct mountable

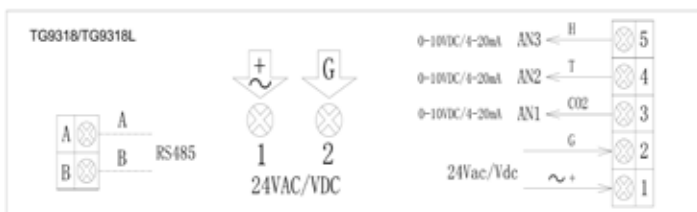
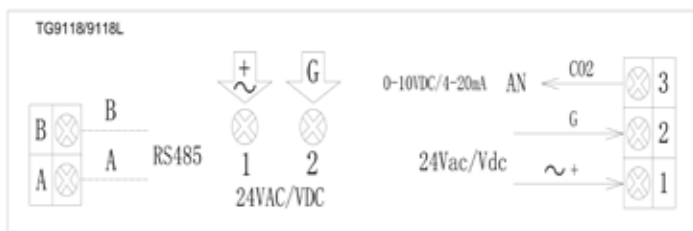
Probe Length: 139.00mm
can be
extended to
139+70mm

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

Installation Holes: 100mm



WIRING DIAGRAM



MODEL SELECTION

HDM-TG9X₁X₂ 8 L – Y O2/O5 E – TAB

- X₁: analog output
3- 3 x analog outputs for CO₂ + Temperature + Humidity
2- 2 x analog outputs for CO₂
0- no analog output
- X₂: Modbus interface
1- with Modbus interface
0- no Modbus interface
- 8: CO₂ 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)
- O2/O5: CO2 measurement range
O2- 0~2,000ppm (default)
O5- 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.