

CO₂ + Air Quality Detector - Wall Mount

With Temperature and Humidity Detection

HWM-IAQ Series



Product Detail

- Real time detection and transmission of carbon dioxide and air quality (VOC's)
- High accuracy temperature and relative humidity detection
- Up to 3 x Analog linear outputs
- Modbus RS485 interface
- Optional LCD display
- CE-approval

Features

- + Designed for measuring ambient carbon dioxide, air quality (VOC's), temperature and relative humidity
- + NDIR infrared CO₂ sensor inside with special Self Calibration. It makes CO₂ measurement more accurate and reliable
- + More than 10 years lifetime of CO₂ sensor.
- + Mix VOC gases sensor with high sensitivity for VOC present in cigarette
- + Optional temperature and relative humidity measurement
- + Digital auto compensation for temperature and relative humidity
- + Provide up to 2 or 3 analog outputs for CO₂, air quality (VOC's) and temperature or relative humidity
- + With LCD or without LCD selectable
- + LCD display CO₂, temperature and humidity measurements as well as air quality (VOC's) level
- + Wall mounting type with easy installation
- + Modbus RS485 interface with outputs for CO₂, temperature, humidity and air quality (VOC's).
- + 24VAC/VDC power supply
- + EU standard

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

CO₂ + Air Quality Detector - Wall Mount

With Temperature and Humidity Detection

Targeting the sick building syndrome

Carbon Dioxide (CO₂)

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

- Non-dispersive infrared (NDIR) CO₂ sensor with more than 10-years life
- Automated self-calibration technology guarantees reliable CO₂ measurement
- CO₂ range: 0~2000ppm/0~5000ppm (optional)
- Rapid response, high stability and consistency

Air Quality (VOC)

The air quality sensor is a mix gases VOC sensor with high sensitivity for VOC (volatile organic compounds) such as ammonia, toluene, formaldehyde and cigarette smoke, alcohol, H₂S, and carbon monoxide. It is important to measure and record indoor air quality in real time and long term. Ampcontrol IAQ VOC sensor responds quickly to any change in the concentration of these gases.

- Ampcontrol IAQ VOC sensors utilise gas sensitive MEMS semiconductor technology. This offers rapid response, high sensitivity; excellent accuracy, long term stability and low drift characteristics with 5~7 years life time
- Highly sensitive to volatile gases like ammonia, toluene, formaldehyde, alcohol, H₂S and cigarette smoke, etc.

Temperature and humidity

Ampcontrol's IAQ range uses combined digital temperature and humidity sensor with high accuracy and stability. Built in digital compensation to CO₂ and air quality sensing makes the measurements more accurate by offsetting environmental effects.

Specifications

Parameters	CO ₂	Air Quality (VOC's)	Temperature	Relative Humidity
Sensing element	Non-Dispersive Infrared Detector (NDIR)	MEMS type	Digital combined temperature and humidity sensor	
Measuring range	0~2000ppm (default) 0~5000ppm (selectable in the order)	1~30ppm	0~50°C default -20~60°C selectable	0~100%RH
Display Resolution	1ppm	5ppm	0.1°C	0.1%RH
Accuracy@25°C	±30ppm + 3% of reading	±10%	±0.5°C	±3%RH
Life time	15 years (normal)	5~7 years	10 years	
Calibration cycle	Auto Self Calibration	---	---	---
Response Time	<2 minutes for 90% change	<1 minute (for 10ppm H ₂ S, 30ppm ethanol) <5 minute (for a cigarette) in 20m ² room	<10 seconds to reach 63%	
Warm up time	72 hours (initial), 1 hour (operation)			

CO₂ + Air Quality Detector - Wall Mount

With Temperature and Humidity Detection

Specifications cont.

Electrical Characteristics	
Power supply	24VAC/VDC
Power Consumption	3.5 W max. ; 2.5 W avg.
Outputs	Up to three analog outputs
0~10VDC (default) or 4~20mA (selectable by jumpers)	
0~ 5VDC (selected while placing order, user cannot change later)	
Display and Alarm	
LCD Display	White backlit LCD display: CO2+VOC+Temperature & Humidity measurement
Additional Data, dimensions and approvals	
Operation conditions	-20~60°C; 0~95%RH, non condensing
Storage conditions	0~50°C/ 20~60%RH
Weight	240g
Dimensions	130mm(L)×85mm(W)×36.5mm(H)
Installation	Wall mount (65mm×65mm or 85mmX85mm or 2"×4" wire box)
Housing IP class	PC/ABS, protection class: IP30
Standard	CE-Approval
Modbus interface	RS-485 with Modbus protocol, 19200bps rate, 15KV antistatic protection, independent base address.

CO₂ + Air Quality Detector - Wall Mount

With Temperature and Humidity Detection

Model Selection

HWM-IAQ-B X Y C – Z 0 1 – U 02/05 – Tab

X: LCD or no LCD

1- basis type without LCD

3- standard type with LCD (LCD displays real-time measurement of CO₂+air quality+Temp.+RH)

Y: Power socket

0- without a power socket

3- with a power socket to connect a power adaptor

C: 24VAC/VDC power supply

Z: analog output

3- 3 x analog outputs for CO₂+air quality +Temp.(default)/RH (selectable by jumpers)

2- 2 x analog outputs for CO₂+air quality

0- no analog output

U: default analog output type

A- 4~20mA

V- 0~10VDC (default)

V05- 0~5VDC

02/05: CO₂ range

02- 0~2000ppm

05- 0~5000ppm

Tab: temperature scaling

T05- 0~50°C (default)

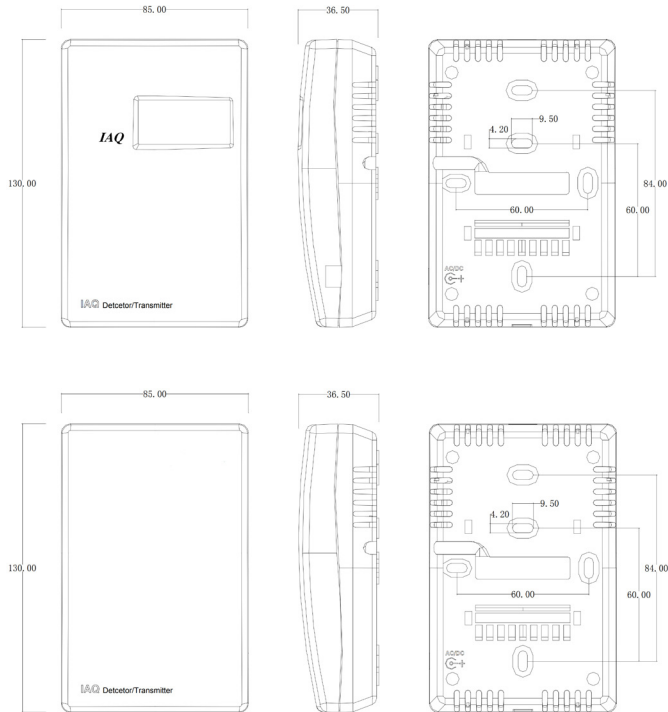
T06- 0~60°C

T26- -20~60°C

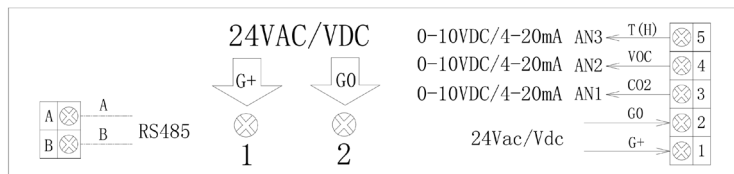
CO₂ + Air Quality Detector - Wall Mount

With Temperature and Humidity Detection

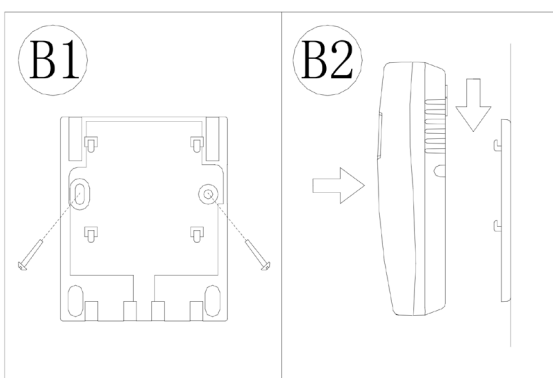
Dimensions and Mounting



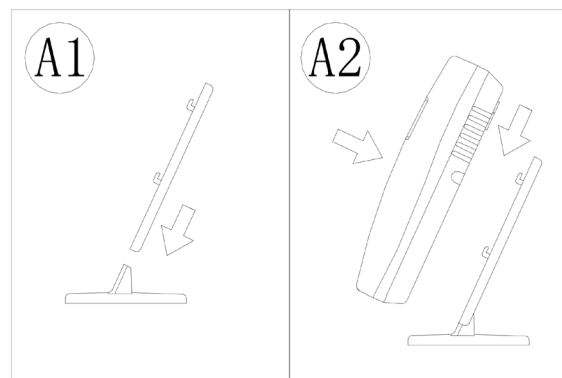
Wiring Diagram



921-Wall Mounting Plate



921+922-Desktop Bracket



Accessories (selectable while placing order)

921: back plate for wall mounting
 921+922: desktop bracket