



## CO<sub>2</sub> + Air Quality DETECTOR With Temperature and RH detection

Model: G01-IAQ series

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

### ■ Features

- ◆ Designed for real time measuring ambience carbon dioxide level, air quality (VOC's), temperature and relative humidity.
- ◆ NDIR infrared CO<sub>2</sub> sensor inside with special Self Calibration. It makes CO<sub>2</sub> measurement more accurate and reliable.
- ◆ More than 10 years lifetime of CO<sub>2</sub> sensor.
- ◆ Mix gases sensor with high sensitivity for VOC and cigarette.
- ◆ High accuracy temperature and relative humidity measurement optional
- ◆ Combined both humidity and temperature sensors seamlessly with digital auto compensation
- ◆ Provide up to 2 or 3 analog outputs for CO<sub>2</sub>, air quality (VOC's) and temperature or relative humidity.
- ◆ With LCD or without LCD selectable
- ◆ LCD display CO<sub>2</sub>, temperature and humidity measurements as well as air quality (VOC's) level.
- ◆ Wall mounting type with easy installation.
- ◆ Modbus RS485 interface with outputs for CO<sub>2</sub>, temperature, humidity and air quality (VOC's).
- ◆ 24VAC/VDC power supply or
- ◆ EU standard

### ■ Detection Focus

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

Indoor CO<sub>2</sub> level is a universal accepted parameter for the condition of indoor ventilation and air quality.

- Non-dispersive infrared (NDIR) CO<sub>2</sub> sensor with more than 10-year lifetime
- ABC 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



### ✓ Air Quality (VOC)

The air quality sensor is a mix gases sensor with high sensitivity for VOC (kinds of volatile pollutant gases) such as ammonia, toluene, formaldehyde and cigarette smoke, alcohol, H<sub>2</sub>S, and carbon monoxide. So it is very suitable to detector the general indoor air quality in real time and long term. It responds quickly to any change of the concentration of such gases.

- Semi-conduct mix gases sensor with 5~7 years life time
- High sensitive to volatile gases like ammonia, toluene, formaldehyde, cigarette smoke, alcohol, H<sub>2</sub>S, etc.
- Small volume, lower consumption

### ✓ Temperature and humidity

Combined digital temperature and humidity sensor with high accuracy and stability. It also has compensation to CO<sub>2</sub> and air quality which makes the measurements more accurate by minimizing environmental effects.

## ■ Application

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

## ■ Specifications

Specifications

Monitoring parameters	CO <sub>2</sub>	Air Quality (VOC's)	Temperature	Relative humidity
Sensing element	Non-Dispersive Infrared Detector (NDIR)	Semiconductor mix gases sensor	Digital combined temperature and humidity sensor	
Measuring range	0~2000ppm(default) 0~5000ppm (selectable in the order)	1~30ppm	0~50℃（default） -20~60℃ selectable	0~100%RH
Display Resolution	1ppm	5ppm	0.1℃	0.1%RH
Accuracy@25℃(77°F)	±30ppm + 3% of reading	±10%	±0.5℃	±3%RH
Life time	15 years (normal)	5~7 years	10 years	
Calibration cycle	ABC Logic Self Calibration	——	——	——
Response Time	<2 minutes for 90% change	<1 minute (for 10ppm hydrogen, 30ppm ethanol) <5 minute (for a cigarette) in 20m <sup>2</sup> room	<10 seconds to reach 63%	
Warm up time	72 hours (first time) 1 hour (operation)			
Electrical Characteristics				
Power supply	24VAC/VDC			
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 in placing order, cannot be changed)			
Modbus interface	RS-485 with Modbus protocol, 19200bps rate, 15KV antistatic protection, independent base address.			

Display and Alarm	
<b>LCD Display</b>	White backlit LCD display: CO <sub>2</sub> +VOC+Temperature&Humidity measurement
Conditions of Using and Installation	
<b>Operation conditions</b>	-20~60℃ (-4~140°F); 0~95%RH, non condensing
<b>Storage conditions</b>	0~50℃ (32~122°F)/ 20~60%RH
<b>Weight</b>	240g
<b>Dimensions</b>	130mm(L)×85mm(W)×36.5mm(H)
<b>Installation</b>	Wall mount (65mm×65mm or 85mm×85mm or 2"×4" wire box)
<b>Housing IP class</b>	PC/ABS, protection class: IP30
<b>Standard</b>	CE-Approval

## ■ Models Selection

### G01-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 CO<sub>2</sub>+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

3-3Xanalog outputs for CO<sub>2</sub>+air quality +Temp.(default)/RH (selectable by jumpers)

2-2xanalog outputs for CO<sub>2</sub>+air quality

0-no analog output

**U:** default analog output type

A- 4~20mA

V- 0~10VDC (default)

V05- 0~5VDC

**02/05:** CO<sub>2</sub> range

02- 0~2000ppm

05- 0~5000ppm

**Tab:** temperature scaling

T05- 0~50℃ (default)

T06- 0~60℃

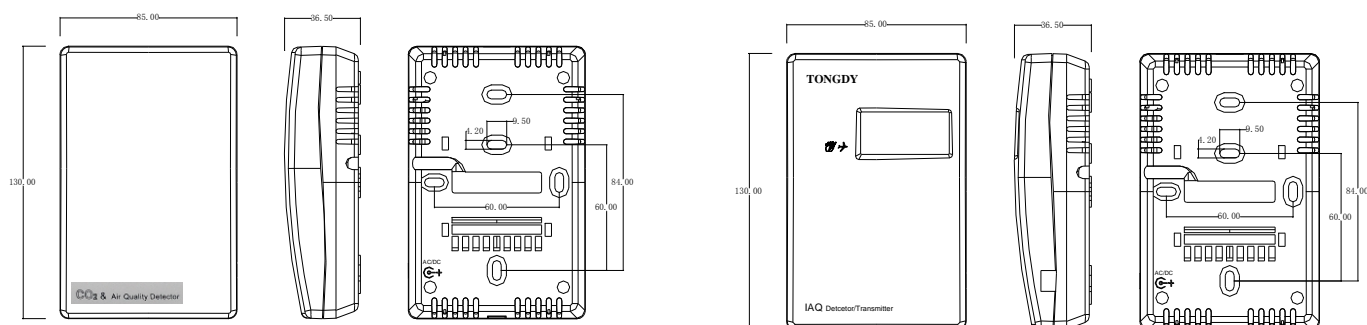
T26- -20℃~60℃

**Accessory** (selectable at placing the order)

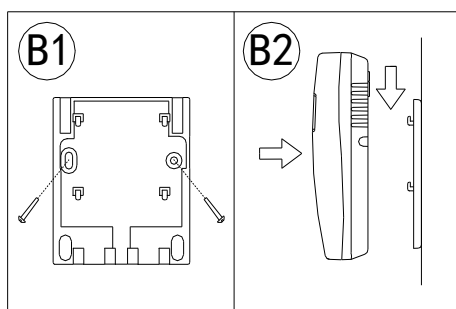
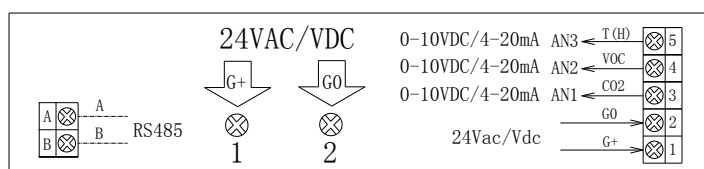
**921:** back plate for wall mounting

**921+922:** desktop bracket

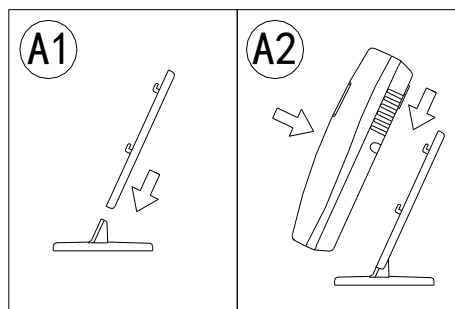
## ■ Mounting and Dimensions



## ■ Wiring Diagrams



921-Wall mounting plate



921+922-Desktop bracket