Tongdy

Tongdy Sensing Tech.

IAQ Transmitter of CO2 plus VOCs

Applications

- CO2 plus VOCs detection and transmitting
- Using for building ventilation systems
- Industry ventilation systems
- Public places for air quality real time detection, like offices, scholls, airports, gyms

Product No: G01-IAQ Series

- Real time detection and transmission of carbon dioxide and air quality (TVOC)
- 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 indoor air quality including carbon dioxide, TVOC, temperature and
  relative humidity is optional.
- NDIR infrared CO2 sensor with Self Calibration and up to15 years lifetime.
- Mix gases sensor with high sensitivity for VOC and cigarette.
- Integrated digital humidity and temperature sensor with high precision.
- 2 or 3 analog outputs for CO2, air quality (VOC's) and temperature or relative humidity.
- LCD or without LCD selectable, display CO2, temperature and humidity measurements as well as VOCs level.
- Modbus RS485 interface optional
- 24VAC/VDC power supply
- EU standard

Detection Focus

Carbon Dioxide (CO2)

- High quality NDIR CO_2 sensor with up to 15 year lifetime
- ABC self-calibration technology guarantees reliable CO_2 measurement
- CO_2 range: 0~2000ppm or 0~5000ppm
- Rapid response, high stability and consistency

Mix Gases including VOC(VOCs or TVOC)

VOCs 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, H2S, 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.

- TVOC should display six levels but no VOC actual number.
- Semi-conduct mix gases sensor with 5~7 years life time
- High sensitive to volatile gases like ammonia, toluene, formaldehyde, cigarette smoke, alcohol, H2S, etc.

Temperature and humidity

Switzerland digital temperature/humidity sensor in with high accuracy and stability. It also has compensation to CO2 and VOCs measurements .

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Specifications

Monitoring parameters	CO_2	Air Quality (VOCs)	Temperature	Relative humidity
Sensing element	NDIR CO2 sensor	Semiconductor mix gases sensor	Integrated temperature and humidity sensor	
Measuring range	0~2,000ppm(default) 0~5,000ppm (selectable in the order)	1~30ppm	0~50℃（default） -20~60℃selectable	0~100%RH
Display Resolution	1ppm	0.1ppm	0.1℃	0.1%RH
Accuracy@25℃(77℉)	±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^2 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	
LCD Display	White backlit LCD display: CO2+VOC+Temperature&Humidity measurement
Conditions of Using and Installation	
Operation conditions	-20~60℃(-4~140℉); 0~95%RH, non condensing
Storage conditions	0~50℃(32~122℉)/ 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

Models Guide

G01-IAQ-B <u>X</u> <u>Y</u> C –<u>Z</u> 0 1 – <u>U</u> <u>02/05</u> – <u>Tab</u>

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 DC power socket

    3-with a DC power socket to connect a power adaptor

C: 24VAC/VDC power supply

Z: analog output

    3-3Xlinear analog outputs for CO2+air quality +Temp.(default)/RH (selectable by jumpers)
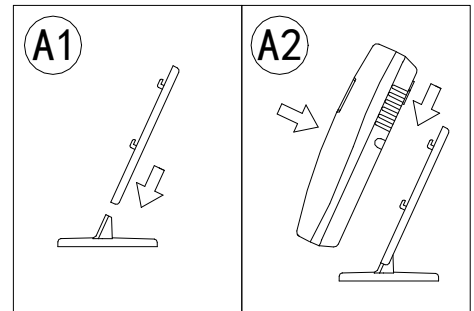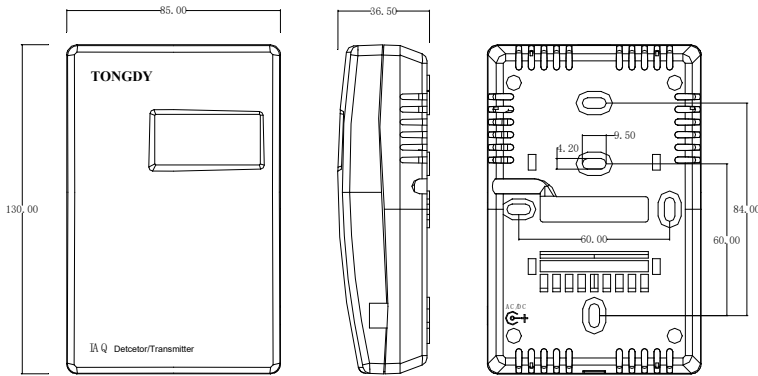
    2-2xlinear analog outputs for CO2+air quality

    0-no analog output

U: 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℃ (default)

    T06- 0~60℃

    T26- -20℃~60℃

Accessory (selectable at placing order)

921: back plate for wall mounting

922: desktop bracket

Mounting and Wiring

921+922-Desktop bracket