

## GS-CO2-AQ-W

### Wall Mount CO<sub>2</sub>, Air Quality, RH & T Transmitter



#### Features:

- CO<sub>2</sub> Self-calibration algorithm
- LCD Display with real time measurements

#### Benefits:

- One housing solution
- High and long term stability
- 4-20mA and 0-10Vdc outputs for compatibility with a wide range of controllers

#### Technical Overview

This innovative one housing solution for combined sensing of CO<sub>2</sub>, Air Quality, RH and Temp measurement, offers long term high stability and accuracy for all measured parameters.

The air quality sensor is a mix gases sensor with high sensitivity for VOC such as ammonia, toluene, formaldehyde and cigarette smoke, alcohol, H<sub>2</sub>S, and carbon monoxide.

The sensor can be used to ensure adequate ventilation while maximizing energy savings by ventilating at the optimum level, making these ideal for all types of ventilation in many applications.

## Specification:

### Range's:

CO <sub>2</sub>	0 to 2000ppm
AQ	0 to 30ppm
RH	0 to 100%
Temp.	0 to 50°C (32 to 122°F)

### Output signals up to three (jumper selectable):

0-10Vdc, 4-20mA or Modbus

Modbus RS485 19200bps, 15KV antistatic protection

### Power supply:

Voltage output	24Vac/dc, ±10%
Current output	24Vdc only, ±10%

Consumption Max, 3.5W, Avg, 2.8W

Maximum current 146mA

### Accuracy @ 25°C (32°F):

CO <sub>2</sub>	±50ppm +3% of reading
AQ	±10%
RH	<±3%RH
Temp.	±0.5°C

CO<sub>2</sub> Stability <2% of FS over sensor life

Sensor life 10 years, typical

Response time <2 minutes, for 90% step change

### Stabilization time:

First time	2 Hours
Operational	2 Minutes

LCD display White backlit

### Environmental:

Operational:	
Temp	-10 to + 50°C (14 to 122°F)
RH	0 to 95% non-condensing
Storage temp.	-40 to +70°C (-40 to 158°F)

CE Conformity CE Marked

### Housing:

Material	ABS
Dimensions	130 x 85 x 36.5mm (5.12 x 3.35 x 1.44")

Protection IP30

Country of origin China



The products referred to in this data sheet meet the requirements of EU Directive 2004/108/EC

## Part Codes:

### GS-CO2-AQ-RHT-W

Carbon dioxide, air quality, humidity or temperature transmitter with current or voltage selectable outputs

### GS-CO2-AQ-RHT-D-W

Carbon dioxide, air quality, humidity or temperature transmitter with current, voltage and Modus selectable outputs



Please Note:

Current versions are NOT loop powered and will require a common 0V connection.

## Installation:



Antistatic precautions must be observed when handling these sensors. The PCB contains circuitry that can be damaged by static discharge.

1. Select a location on a wall of the controlled space which will give a representative sample of the prevailing room condition. **Avoid sitting the sensor in direct sunlight, near diffusers, steam sources rubbish bins and gas appliances.**
2. Gently remove the front cover from the back plate. The front plate is removed by pressing the tab on the base of the sensor with a flat bladed screwdriver. Gently slant the screwdriver and this will separate the front cover from the back plate.
3. Using the base as a template mark the hole centres and fix to the wall with suitable screws. Alternatively the base plate can be mounted on to a conduit box or a standard recessed back box.
4. Feed cable through the knockout in the base of the housing and terminate the cores at the terminal block on the back plate. Install wiring into terminal blocks as required, and push excess wire back into wall or junction box.
5. Select output type, 4-20mA or 0-10Vdc. Do **not** adjust any of the potentiometers as this will void warranty.
6. Ensure that the supply voltage is within the specified tolerances.
7. Replace the front cover to the base plate until a click is heard.
8. Power the unit, a red light will flash for about 120 sec. This is situated at the bottom of the housing face cover. After the count down the analogue output will be activated.
9. Pre-commissioning checks can be made after 10 minutes. Full commissioning should not be carried out for at least 24 hours. This will enable the ABC Logic self-calibration procedure to complete.
10. It is recommended that screened cable be used and that the screen should be earthed at the controller only. Care should be taken not to lay control signal wiring in close proximity to power or other cables which may produce significant electromagnetic noise.

## ABC Logic Self-Calibration & Display:

When first powering the transmitter, it needs to be powered continuously for at least 2 days. This will allow the CO<sub>2</sub> sensors ABC Logic self-calibration system to operate correctly.

The white backlit display shows all measured parameters and depending on the real time levels of CO<sub>2</sub> and VOC's.

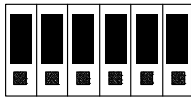


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## Jumper Settings:

0-10Vdc (default):



S1 S2 S3 S4 S5 S6

4-20mA:



S1 S2 S3 S4 S5 S6

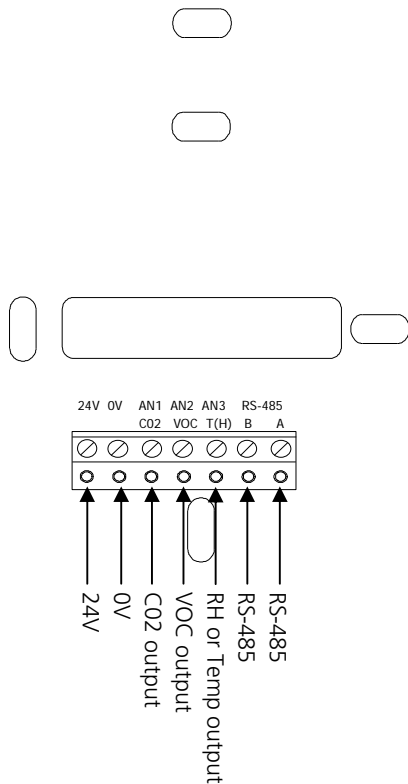
Humidity (default):



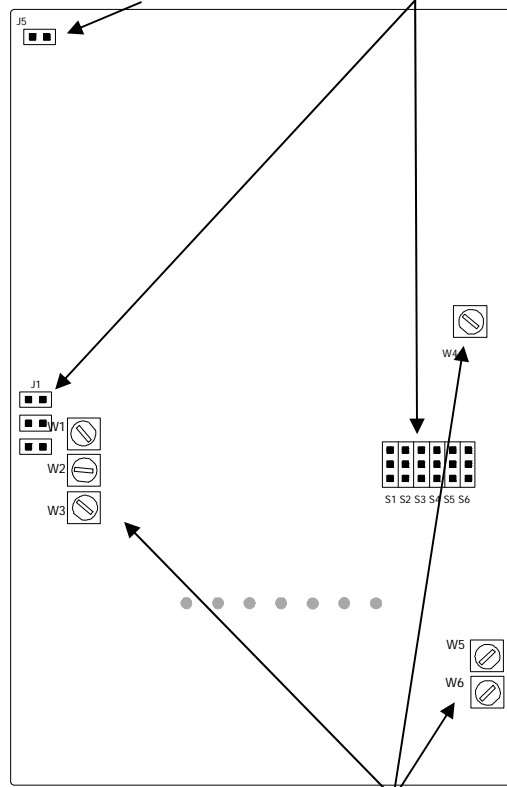
Temperature:



## Connections & PCB Layout:



Output 3 selection      Voltage/Current output selection



Do NOT adjust

Whilst every effort has been made to ensure the accuracy of this specification, Sontay cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

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