

GS-CO2-AQ-D

Duct Mount CO₂, Air Quality, RH & T Transmitter



Features:

- CO₂ 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 CO₂, 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, H₂S, 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 ₂	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 ₂	±40ppm +3% of reading
AQ	±10%
RH	<±3%RH
Temp.	±0.5°C

CO₂ 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 dimensions:

Housing	100 x 80 x 50mm (3.94 x 3.15 x 1.97")
Probe	139 x 26mm (5.47 x 1.02")

Housing material ABS

Protection IP54

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-D

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

GS-CO2-AQ-RHT-D-M

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 in the duct where dust & contaminants are at a minimum.
2. Unscrew and remove the front panel from the base.
3. Drill two pilot holes at 100mm centres, and a 30mm hole centre for the probe in the surface to which the sensor is to be mounted.
4. Feed cable through the knockout in the base of the housing and terminate the cores at the terminal block. Install wiring into terminal blocks as required.
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, and tighten the screws.
8. Power the unit, pre-commissioning checks can be made after 10 minutes. Full commissioning should not be carried out for at least 48 hours. This will enable the ABC Logic self-calibration procedure to complete.
9. 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 CO₂ 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 CO₂ and VOC's.



Jumper Settings:

Output signal type:

0-10Vdc (default):



4-20mA:



Humidity or temperature output for OUT3

Humidity (default):



Temperature:

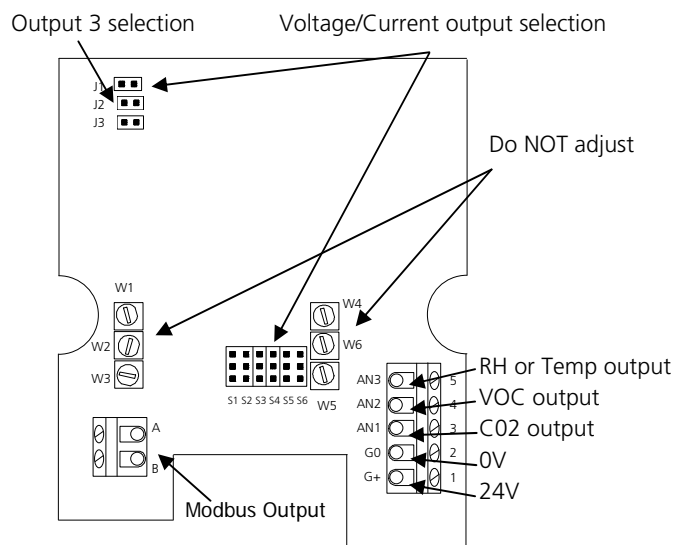


S1 S2 S3 S4 S5 S6



S1 S2 S3 S4 S5 S6

Connections:



Please Note:

Current output

If using in current output mode, the sensor must only be used with a 24Vdc supply. The sensor may be damaged if supplied with AC. When using current output mode they are **NOT** loop powered and will require a common 0V connection.

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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