



Product Overview

The GS-CD Carbon Dioxide Transmitter uses NDIR single beam Infra-red technology to monitor CO₂ levels within the range of 0 - 10,000 PPM and outputs a linear signal as either 4-20 mA or 0-10 Vdc. Operating parameters are easily programmed by an on-board keypad to configure the transmitter to a specific application. The options include a LCD display displaying the ppm levels. The output scale can be programmed using the Out-Lo and Out-High variables, this is useful to obtain an analogue output of a required range e.g. 400 to 800ppm

Features

- Wall and Duct Sensor versions
- Fully menu driven set-up/ calibration
- Monitors CO₂ over range 0 to 10,000 ppm
- Solid State Sensing Element
- Optional Modbus output
- 5 year calibration interval
- Adjustable Analogue Output

Product Specifications

Sensor Type:	Non-dispersive Infra-red
Range:	0-2000ppm standard, programmeable from 1500 upto 20,000ppm in 500ppm steps
Power Supply:	20 to 30Vac/dc @80mA max
Calibration Interval:	5 years
Accuracy:	+/- 75ppm or 3% whichever is greater
Stability:	20ppm signal loss per year
Output:	0-10Vdc or 4-20mA link selectable (modbus output available at additional cost)
Settling Time:	<2 minutes after power up
Response Time:	<60seconds for 90% step change
Ambient Temp. Range:	0 to +50°C, 0-95%RH
Housing:	Material: Flame retardant ABS
Room	Dimensions: 127 x 91 x 43 mm
Duct	Dimensions: 183 x 124 x 43 mm
Conformity:	CE marked, EMC, LVD.
Country of Origin:	Canada

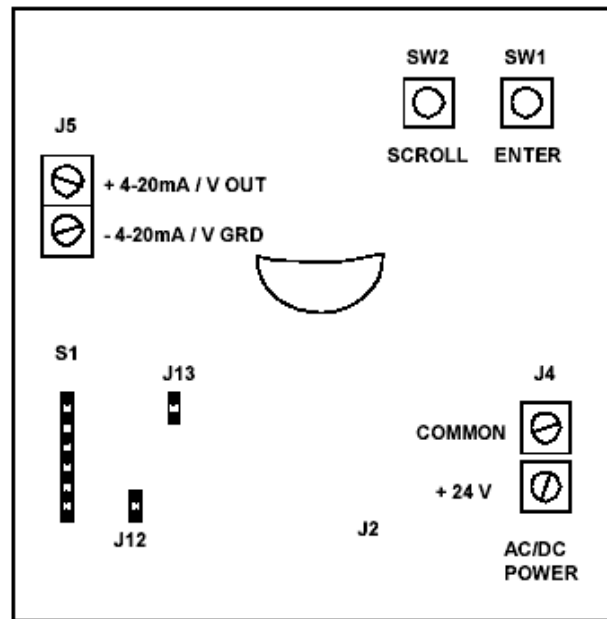
Order Codes

AX-GS-CD-S	Space Mounted Carbon Dioxide Sensor
AX-GS-CD-SL	Space Mounted Carbon Dioxide Sensor with LCD display
AX-GS-CD-D	Duct Carbon Dioxide Sensor
AX-GS-CD-DL	Duct Carbon Dioxide Sensor with LCD display
AX-GS-CD-xx/Mod	Modbus output

Mounting Instructions

The Decorative type room sensor has mounting provisions to install directly on a standard electrical box and should be mounted at a height about five feet from the floor of the area to be controlled. For best operation, do not mount the sensor near doors, opening windows, supply air diffusers or other known air disturbances.

The Duct sensor should be mounted on the outside of a return air duct with the air sampling tube inserted into the duct. Mount the sensor in an easily accessible location in a straight section of duct at least five feet from corners and other items that may cause disturbances in the airflow. Avoid areas where the transmitter would be exposed to vibrations or rapid temperature changes.



Wiring Instructions

The transmitter has standard screw block connectors and easy wire access to facilitate wiring. It is recommended that shielded twisted pair wiring at least 22 AWG be used for all connections and that the device wires not be run in the same conduit with wiring used to supply inductive loads such as motors. The device power (20-30 Vac/dc) is connected to the terminal marked POWER. This terminal is used for the positive dc voltage or the hot side of the ac voltage. The device is reverse voltage protected and as such will not operate if connected backwards. The common of the power supply is connected to the terminal marked COMMON. Note that this device has a half-wave type power supply, which means the power supply common is the same as the output signal common. Therefore, several devices may be connected to one power supply and the output signals all share the same signal common. Use caution when grounding the secondary of an ac transformer or when wiring multiple devices to ensure that the circuit ground point is the same on all devices and the controller. The analogue output signal is available on the SIGNAL OUTPUT terminal. This signal is jumper selectable for either a voltage output or a standard 4-20 mA active output signal type. When voltage mode is selected, the output is 0-5 Vdc. These options are clearly indicated on the device circuit board. The 4-20 mA current output signal operates in the Active mode and does not require a loop power supply. This means that the signal current is generated by the Carbon Dioxide Transmitter and must not be connected to a powered input or device damage will result. Check the controller Analogue Input to determine the proper connection before applying power. Both the current and voltage signals are referenced to the COMMON terminal. The analogue output signal is typically connected directly to the Building Automation System (B.A.S.) and used as a control parameter or for logging purposes.

Calibration

The menus may be accessed any time after the initial warm-up period. The menus are accessed with the four buttons on the circuit board labeled MENU, SAVE, UP and DOWN. The standard menu is used for setup and calibration. A special test menu is available by temporarily shorting pin 1 and 2 on J6 on the PCB. This menu can be used during setup. See operation manual for full explanation of the all menus and set-up procedures.

Set-Up menus

If necessary, the 4 mA, 20 mA and 10 Vdc outputs can be calibrated by using the keypad and a meter connected to the output. Calibration with gas requires a field calibration kit consisting of an LCD, a bottle of zero gas (nitrogen), a bottle of span gas (2000 PPM CO₂ in nitrogen), a tank pressure regulator with flow restrictor and the necessary tubing to connect to the device. Note that because of the dual beam design and other technology incorporated into the CDD series, only a single point 0 PPM calibration is required to meet specified accuracy. The span gas calibration can also be done if required. See operation manual for full calibration procedures.

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