

AX-GS-CD-T81

Room Carbon Dioxide, Temperature & Relative Humidity Sensors

AXIO



Product overview

The AX-GS-CD-T81 Combined Humidity, Temperature and Carbon Dioxide Transmitter uses NDIR single beam Infra-red technology to monitor the CO₂ levels and give both a Voltage and Current output of CO₂ levels and a Thermistor to monitor the Temperature and a Thermoset Polymer Based Capacitive sensor for the RH and outputs a linear signal as either 4-20mA or 0-5/10Vdc. The options include a LCD display displaying the ppm levels.

Features

- Wall mounting
- Monitors CO₂ over range 0-2000ppm
- Optional Temperature RH Outputs
- Solid State Sensing Element
- Lifetime calibration interval
- Adjustable Analogue Output

Product specifications

Power Supply:	18 to 30Vac 50/60Hz
Consumption:	0.7W @ nominal voltage of 24Vac
Ambient Temp. Range:	0 to +50°C, 0-95% RH non condensing
LCD Display: (optional)	Displays all parameters 33 x 14mm (optional at additional cost)
Housing:	Flame Retardant ABS, UL 94 5VA
Dimensions:	82 x 87 x 28mm
Analogue Outputs:	0-10V (100 ohm output impedance) 4-20mA (R _L maximum 500 ohm)
Conformity:	CE marked, EMC, LVD
Country of Origin:	Mexico
Carbon Dioxide	
Sensor Type:	Non-dispersive Infra-red
Range:	0-2000ppm standard, 0-5000ppm available (-S version)
Calibration Interval:	Lifetime
Accuracy:	400-1250ppm ±30ppm or 3% of reading (Whichever is greater) 1250-2000ppm ±5% of reading +30ppm
Stability:	Self Calibrating <2% FS over life of sensor (typical 15yrs)
Altitude Correction:	Programmable from 0-5000ft in 500ft increments
Output:	0-5/10Vdc and 4-20mA Bacnet MS/TP RS485 38400 or 9600 baud + Relay
Settling Time:	2 minutes operational, 10 minutes (max accuracy)

Order codes

AX-GS-CD-T81-E	Space Mounted CO ₂ Sensor & thermistor temperature o/p
AX-GS-CD-T81-EB	Space Mounted CO ₂ Sensor & thermistor temperature & Bacnet MSTP o/p
AX-GS-CD-T81-ES	Space Mounted CO ₂ Sensor 0-5000ppm & thermistor temperature o/p
AX-GS-CD-T81-ED	Space Mounted CO ₂ Sensor & thermistor temperature o/p & LCD display
AX-GS-CD-T81-EH	Space Mounted CO ₂ Sensor & analogue temperature & RH o/p
AX-GS-CD-T81-EHD	Space Mounted CO ₂ Sensor & analogue temperature & RH o/p & LCD display

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Product specifications cont.

Temperature	
Sensor Type:	10K3A1 Thermistor
Temperature Range:	0-50°C
Temperature Accuracy:	±1°C
Output:	Thermistor or 0-5/10Vdc or 4-20mA
Relative Humidity	
Sensor Type:	Thermoset Polymer Based Capacitive
RH Range:	0-99% RH (non-condensing)
RH Accuracy:	±2.5% RH (20-80% RH)
Output:	0-5/10Vdc or 4-20mA

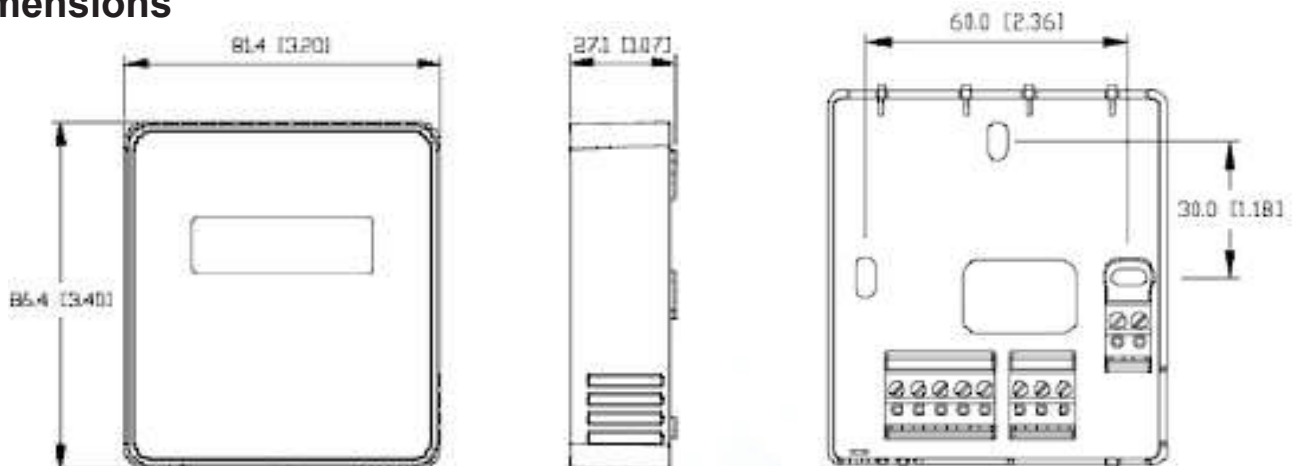
Mounting instructions

The 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.

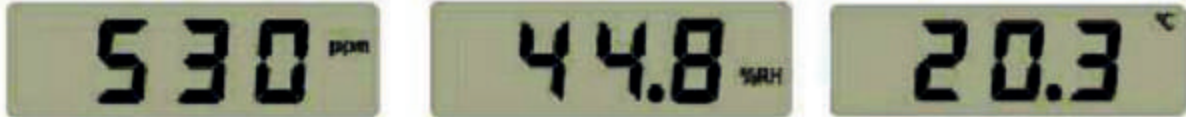
ABS Software

ABC (Automatic Background Calibration) Program utilises the computing power in the sensors onboard microprocessor to remember the lowest CO2 concentration that takes place every 24 hours. The sensor assumes this low point is at outside levels. The sensor is also smart enough to discount periodic elevated readings that might occur if for example a space was used 24 hours a day over a few days. Once the sensor has collected 14 days worth of low concentration points, it performs a statistical analysis to see if there has been any small changes in the sensor reading over background levels that could be attributable to sensor drift. If the analysis concludes there is drift, a small correction factor is made to the sensor calibration to adjust to this change.

Dimensions



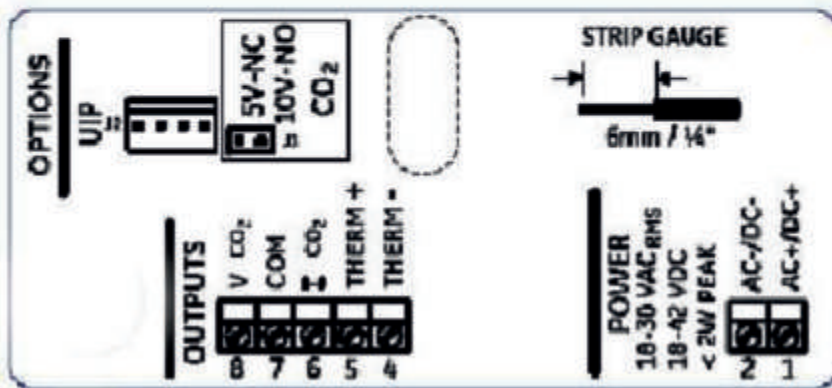
Multi Measurement



Display versions scroll between ppm CO₂, %RH Humidity and °C Temperature when the option is selected

Non-Display Wiring

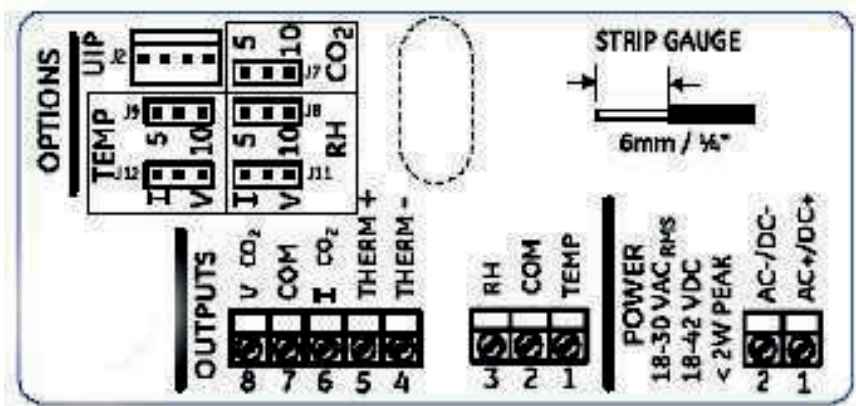
No display, basic functionality for CO₂, and passive thermistor only.



Non-Display Wiring

Display Wiring

Digital display, functions of CO₂ and thermistor are standard. Humidity and active temperature options are available. Display scrolls all measurements that are included.



Display Wiring

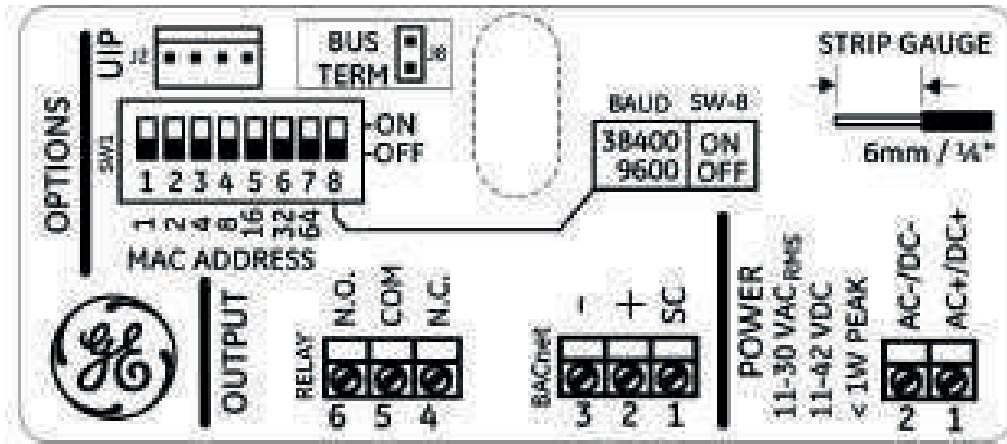
A complete installation and commissioning guide come with the units

AX-GS-CD-T81

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Bacnet Version Wiring



BACnet Wiring



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