

AX-GS-CD-T51-

Carbon Dioxide and Temperature Sensor c/w LED



Product Overview

The AX-GS-CD-T51- range is a low cost wall mounted CO₂ and Temperature sensor. The unit has the option of a multicoloured LED indicator for CO₂ thresholds to display air quality in enclosed spaces (i.e. school classrooms, offices, gymnasiums, theatres etc). The unit comes complete with "Automatic Background Calibration" software to reduce drift to better than +/-20ppm/year. Comes with a mounting plate with 2 piece terminal blocks to provide quick easy wiring.

Features

- Wall mounting
- Monitors CO₂ over range 0 to 2,000 ppm
- 24Vac/dc Power supply
- Digital UIP interface (RS-232 TTL Level)
- 0-10Vdc or 4-20mA output for Co₂
- Thermistor or Analogue output for Temperature
- Mounting plate with 2 piece terminal blocks
- 15 year calibration interval
- 5 Coloured LED on T51-EL version

Product Specifications

Sensor Type:	Non-dispersive Infra-red, gold plated optics
Range:	0-2000ppm standard, (0-5,000 option with UIP)
Calibration Interval:	15 Years
Accuracy:	+/- 50ppm (400-1250ppm)
Stability:	Self Calibrating <2% FS over life of sensor (typical 10yrs)
Temperature Dependence:	0.2% FS per °C
Output:	-V 1 x 0-10Vdc output (0-5V link selectable) 1 x Thermistor temperature output -I 1 x 4-20mA output 1 x Thermistor temperature output -L 2 x Analogue (link selectable 0-5/10V or 4-20mA) -IT Thermistor output of temperature (specify thermistor)
Power Supply:	18 to 30Vac 50/60Hz 18 to 42Vdc polarity protected
Consumption:	0.7W at 24Vac
LED Displays:	-L Version only <800 Blue 800-1200 Green 1200-1500 Yellow 1500-2000 Red >2000 Two Red
Hysteresis:	100ppm
Housing:	Flame retardant ABS
Ambient Temp. Range:	0 to +50°C, 0-95% RH non condensing
Dimensions:	82 x 86 x 28 mm approx
Conformity:	CE marked, EMC, LVD.
Warranty:	Two Years on mechanical defects
Country of Origin:	Mexico

Order Codes

AX-GS-CD-T51-EI	(Note: If thermistor temp o/p- specify thermistor) Space Mounted CO ₂ Sensor 1 x 4-20mA o/p
AX-GS-CD-T51-EIT	Space Mounted CO ₂ and Temperature Sensor 1 x 4-20mA & thermistor temp o/p
AX-GS-CD-T51-EV	Space Mounted CO ₂ Sensor 1 x 0-10Vdc o/p
AX-GS-CD-T51-EVT	Space Mounted CO ₂ and Temperature Sensor 1 x 0-10Vdc & thermistor temp o/p
AX-GS-CD-T51-EL	Space Mounted CO ₂ and Temperature Sensor 2 x Analogue outputs c/w LED
AX-GS-CD-T51-ELT	Space Mounted CO ₂ and Temperature Sensor 2 x Analogue outputs & thermistor c/w LED

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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.

ABC Software and Lifetime Guarantee

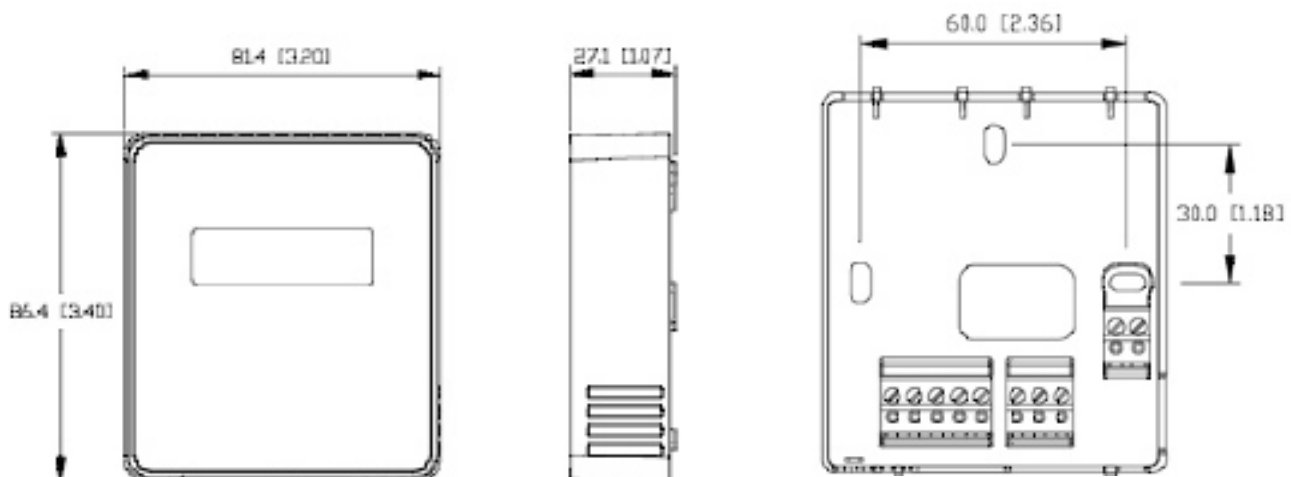
ABC Software

ABC (Automatic Background Calibration) Program utilises the computing power in the sensors onboard microprocessor to remember the lowest CO2 concentration that takes place every 24hours. 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.

Lifetime Calibration Guarantee

Based on the results of years of testing of ABC software, we now offers a 15 year calibration guarantee on all the AX-GS-CD-T51- series. If the sensor is found to be out of calibration more than 150ppm as compared to a calibration Gas or recently calibrated reference. This guarantee only applies if the sensor is operated in an environment where inside levels periodically drop to outside concentrations (i.e. during evenings or weekends when there is no occupancy) as is required by the ABC software. If a space does not experience a periodic drop to outside levels (i.e. where occupancy is 24Hrs/7days/week),ABC software should be deactivated. With ABC deactivated, calibration may be required every 2 years.

Dimensions



Every effort has been taken in the production of this data sheet to ensure it's accuracy. Axio can not, however, accept responsibility for any damage, expense, injury, loss or consequential loss resulting from any errors or omissions. Axio has a policy of continuous improvement and reserves the right to change this specification without notice.

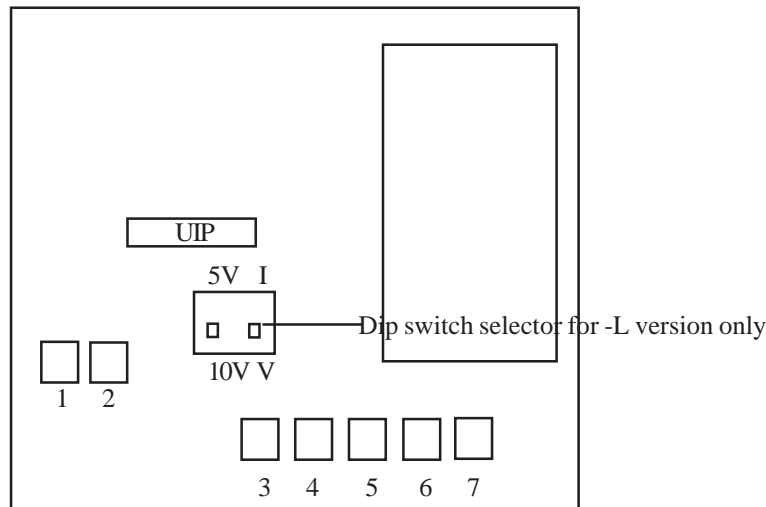
Wiring

Terminals

1	Voltage In
2	Ground
3	Thermistor (if fitted)
4	Thermistor (if fitted)
5	Temperature Output (only on -L versions)
6	Common output
7	Carbon Dioxide Output

Pin assignments for 4 pin UIP interface connector

1	VCC 2.5V to 5V from PCB to interface cable
2	Serial data, PC to device
3	Serial data, Device to PC
4	Ground



LED Indicator (Model T51-EL only)

Blue - Co2 levels are less than 800 ppm - indicates over ventilation

Green - Co2 levels are from 800 to 1000ppm, indicating Co2 levels are within acceptable limits.

Yellow- Co2 levels are from 1000 to 1500ppm, indicating Co2 levels high indicates under-ventilated

Red - Co2 levels are from 1500to 2000ppm indicating Co2 levels are very high indicates ventilation required

2 x Red- Co2 levels are above 2000ppm indicating Co2 levels are very high indicates -severely underventilated

The setpoint and hysteresis for LED operation will be adjustable using the UIP



AX-GS-T1505 Water resistant Wall mount NEMA 3-R enclosure to protect sensor from moisture or water spray. ABS plastic enclosure with 4 diffusion ports to allow for the entry of the Co2

A complete Installation and commissioning guide comes with the units