



## Product overview

The AX-GS-CDRHT-D Carbon Dioxide and RH&T Duct mounted Transmitter uses Infra-red technology to monitor CO<sub>2</sub> levels and provide a 0-10V output. In addition the unit includes highly accurate capacitive humidity and band gap temperature sensors. The sensor is typically used in return air ducts to monitor CO<sub>2</sub> and RH&T levels to control air quality levels whilst maximising energy conservation.

## Features

- Duct mounting
- Monitors CO<sub>2</sub> over range 0-2,000ppm
- RH accuracy of 2.5%
- Lifetime calibration interval of CO<sub>2</sub>
- Gas permeable PTFE filters on both sensors
- Optional thermistor output for temperature

## Product specifications

Power Supply:	24Vac/dc (±15%) at 30mA average, 80mA peak
Ambient Temp. Range:	0 to +50°C, 0-95% RH non condensing
Duct Air Velocity:	0 - 450m/min
Analogue Outputs:	0-10V at 10mA maximum load
Range for 0-10V outputs:	CO <sub>2</sub> 0 - 2,000ppm, Temperature 0 - 70°C, RH 0 - 95%
Accuracy:	CO <sub>2</sub> ±40ppm or 3% whichever is greater at 22°C, RH ±2.5%, Temperature ±0.3°C
CO <sub>2</sub> long term Stability:	Self Calibrating <2% FS over life of sensor (typical 10 yrs)
RH long term Stability:	±1% at 50%RH in 5 years
CO <sub>2</sub> Non-linearity:	<1% full scale at 22°C
RH Repeatability / Hysteresis	±0.5% RH / ±1% of span max
CO <sub>2</sub> Settling Time:	<2 minutes after power up (10 minutes maximum accuracy)
RH&T Settling Time:	15 seconds, but dependant on airflow
Output Resolution:	<25mV steps
CO <sub>2</sub> Calibration Interval:	Lifetime (refer to ABC logic)
Housing material:	Flame retardant ABS (UL 94 - 5VA)
Dimensions and weight:	Housing 78 x 78 x 40mm, Probe 205 x 32mm. Weight 200gms
Conformity:	CE marked, EMC, LVD
Country of Origin:	United Kingdom

## Order codes

AX-GS-CDRHT-D Duct Mounted CO<sub>2</sub> and RH&T Sensor  
(Enquire for optional thermistor temperature sensors)

Order Online at:  
[www.annicom.com](http://www.annicom.com)  
Email orders and enquiries to:  
[Sales@annicom.com](mailto:Sales@annicom.com)

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# AX-GS-CDRHT-D

Duct Carbon Dioxide and RH&T Sensor



## Mounting Instructions

The Duct sensor includes mounting screws to enable installation directly in to the duct. Take note of the arrows moulded inside the terminal box which indicate the direction of air flow.

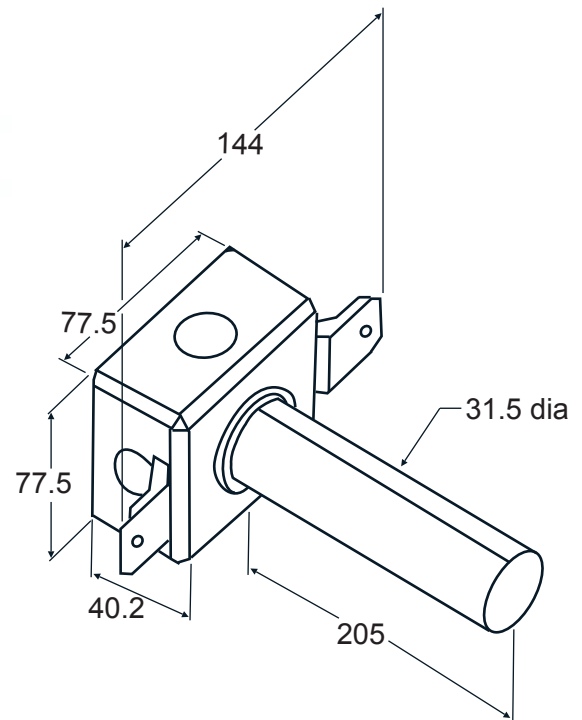
## Operation

### ABC Software and Lifetime guarantee

The ABC (Automatic Background Calibration) program utilises the computing power in the sensors onboard microprocessor to remember the lowest CO<sub>2</sub> 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 concentrated 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.

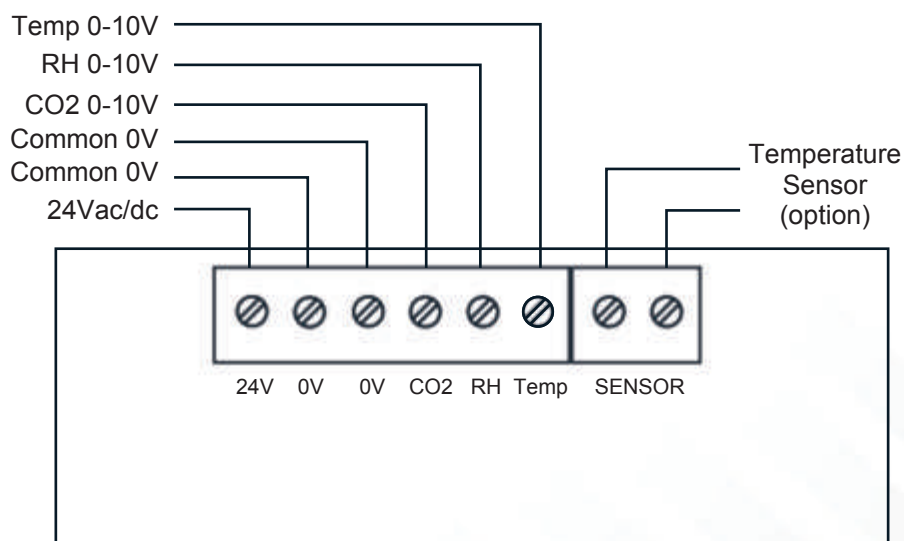
Note - this sensor should NOT be used where it does not experience a periodic drop to outside levels (i.e. where occupancy is 24 Hrs/ 7 days/week).

## Dimensions



ALL DIMENSIONS IN mm

## Connections



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