

Product Overview

The AX-GS-CD-D80 Carbon Dioxide Duct mounted Transmitter uses single beam Infra-red technology to monitor CO₂ concentration levels and output a corresponding 0-10V signal. The unit is intended for use in return air ducts, to give a proportional signal to control ventilation and hence maintain air quality. The -AR versions have an adjustable switched relay output to directly control a fan.

Various passive temperature sensors are available as an option.

Features

- Duct mounting, with range of power supply options
- Monitors CO₂ over range of 0-2,000ppm
- Options of 105 and 205mm probe lengths
- Relay switched output versions available
- Lifetime calibration
- Gas permeable PTFE filter

Product Specifications

Power Supply:	AX-GS-CD-D8041,8042	18 to 30Vac 50/60Hz or 18 to 42Vdc, 0.65W at nominal voltage of 42Vdc (max. 1.65W peak)
	AX-GS-CD-D8041M,8042M	90 to 265Vac at 0.7W (max 1.7W peak)
Ambient Temp. Range:		0 to +50°C, 0-95% RH non condensing
Analogue Output:		0-10V at 5mA maximum. Resolution <25mV steps
Output Range:		0-2,000ppm for 0-10V signal
Accuracy:		±40ppm or 3% whichever is greater at 22°C
Stability:		Self Calibrating <2% FS over life of sensor (typical 10 yrs)
Linearity:		<1% FS @ 22°C
Settling Time:		<2 minutes after power up (10 minutes maximum accuracy)
Duct Air Velocity:		0 - 450m/min
Relay output:		CO contact rated 5A (NO) resistive at 250Vac , 100mA min load
Relay adjustment:		Independent on and off adjustable between 200-2000ppm
Enclosure:		Flame retardant ABS (UL 94 - 5VA). Protection IP30
Dimensions:		Refer to drawing on page 2
Sensor Type:		Non-dispersive Infra-red
Calibration Interval:		Lifetime (refer to ABC logic)
Conformity:		CE marked, EMC, LVD
Country of Origin:		UK and Mexico

Order Codes

AX-GS-CD-D8041	Duct Mounted CO2 Sensor 105mm probe 24V supply
AX-GS-CD-D8042	Duct Mounted CO2 Sensor 205mm probe 24V supply
AX-GS-CD-D8041-230	Duct Mounted CO2 Sensor 105mm probe 230V supply
AX-GS-CD-D8042-230	Duct Mounted CO2 Sensor 205mm probe 230V supply
Please contact the sales office for temperature sensor options	

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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.

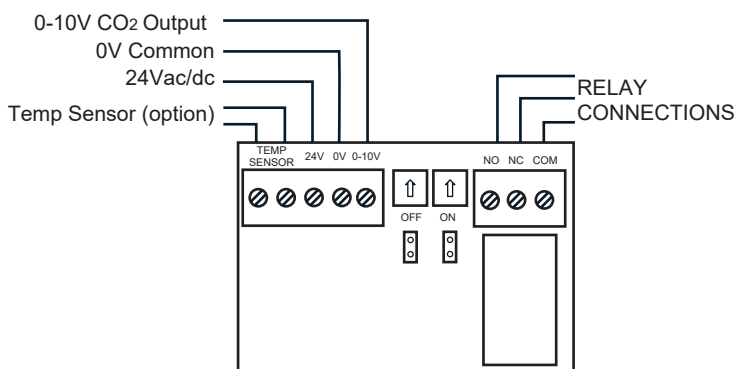
Operation

ABC Software and Lifetime Guarantee

The ABC (Automatic Background Calibration) program utilises the computing power in the sensors onboard microprocessor to remember the lowest 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 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).

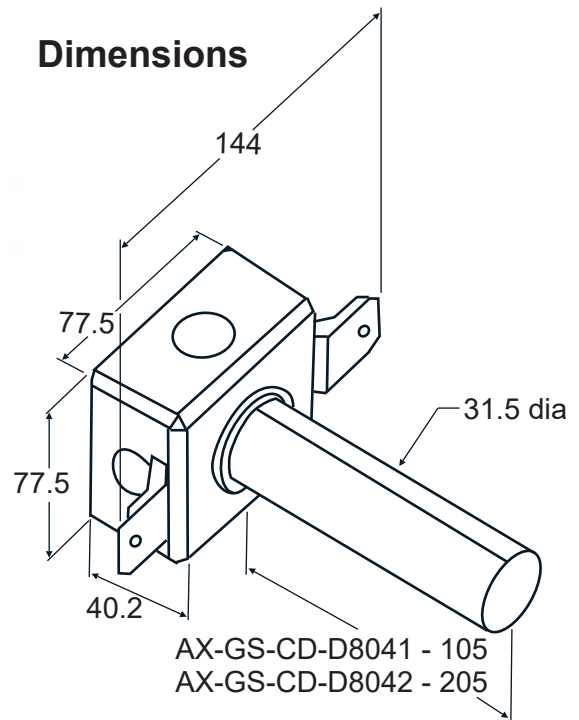
Connections AX-GS-CD-D8041AR, 8042AR



Relay Output Versions

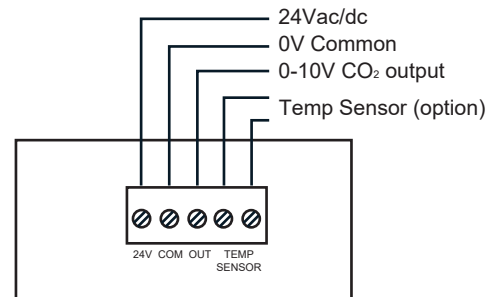
The relay has adjustable on and off settings. The units are set as default relay on at 800ppm, and off at 700ppm. Adjustment can be made using the ON and OFF potentiometers, whilst monitoring the voltage switch point on the pins marked ON and OFF. Always set the OFF voltage below the ON voltage for correct operation. For ease of adjustment slide the board out of the enclosure.

Dimensions

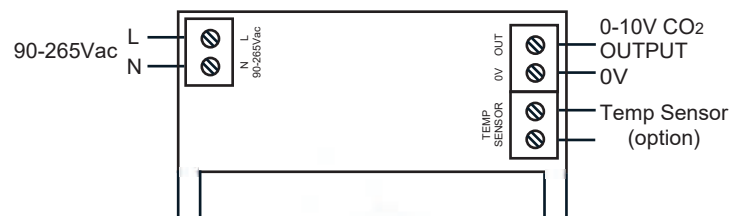


ALL DIMENSIONS IN mm

Connections AX-GS-CD-D8041, 8042



Connections AX-GS-CD-D8041-230, 8042-230



Datasheet Contents

Every effort has been taken in the production of this data sheet to ensure accuracy. Axio do not 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.