AX-GS-CM-V-65-D

Duct Carbon Monoxide Transmitter, Voltage Output, IP65

Product Overview

The AX-GS-CM-V-65-D is a duct-mounted carbon monoxide (CO) transmitter designed for monitoring CO levels in supply or return air ducts in ventilation systems. It features a high-accuracy Japanese electrochemical sensor that detects CO in the airstream and provides a 0–10 VDC analogue output compatible with most BMS controllers.

Models with relay output(s) are available for standalone operation in systems without a controller. Relay switching points are configurable via DIP switches.

Products Features

- UL recognized electrochemical sensing element
- Relay option with alarm levels set using dipswitches
- Easy installation and calibration
- 3 year warranty
- LCD option for local readout
- IP65 Ingress protection

Product Specifications

Sensor Type:	Electrochemical. Sensor is UL Recognized Component for ANSI/UL-2034, UL-2075, E240671
Power Supply:	24Vac ±10%, 100mA maximum or 24Vdc ± 10%, 60mA maximum
Output:	0-10Vdc at 5mA maximum load
Output Range:	0-300ppm (0-100ppm or 0-500ppm as an option. See order codes)
Output Accuracy:	±5ppm or ±5% of reading (whichever is greater) between 0-50°C
Output Stability:	<5% signal drift per year
Sampling:	Diffusion
Relay (option):	SPCO relay, 230Vac 5A (resistive) .
2 Relay (option):	Two SP relays, 50Vac 1A (resistive).
Fault output :	Open collector. 30Vdc at 100mA maximum.
Display (option)	4 digit 9mm high character blue backlit LCD. Displays reading in ppm
Response time(t_{90}):	<35 seconds
Settling Time:	3 minutes after power up
Life Expectancy:	>7 years dependant on environment
Ambient Temperature & RH:	0-50˚C, 15-90% RH non-condensing
Housing:	Flame retardant ABS, IP65, White (optional Black –see order codes)
Dimensions & Weight:	Enclosure: 92mm diameter x 52mm, Probe: 13mm Dia x 200mm(L), 200gms
Terminals:	Rising clamp for 0.5-1.5mm². Two part pluggable connectors
Warranty:	3 years
Country of origin:	United Kingdom

Order Codes

AX - GS - CM - V ☐☐ - ☐ - 65 - D - ☐

	No Relays
R	One Relay
R2	Two Relays

	No Display
L	LCD Display

	0-300 ppm
100	0-100 ppm
500	0-500 ppm

	White Enclosure
B	Black Enclosure

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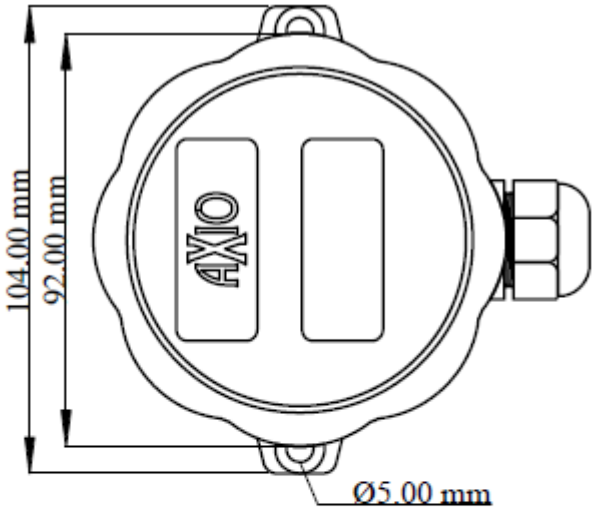
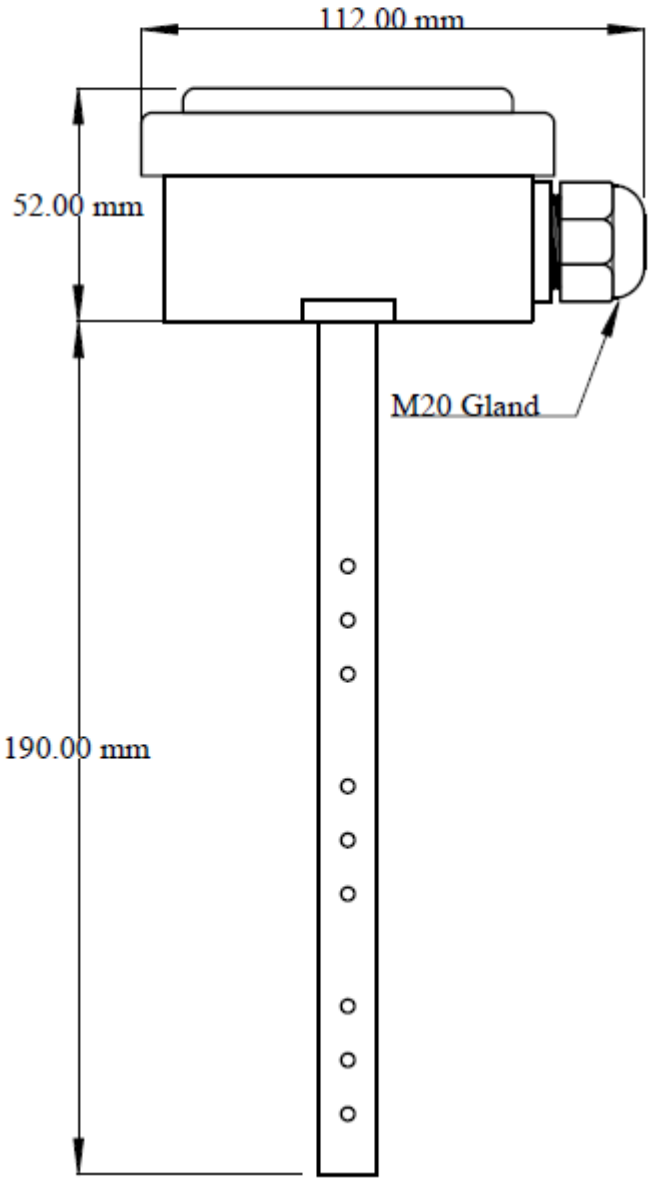
Dimensions



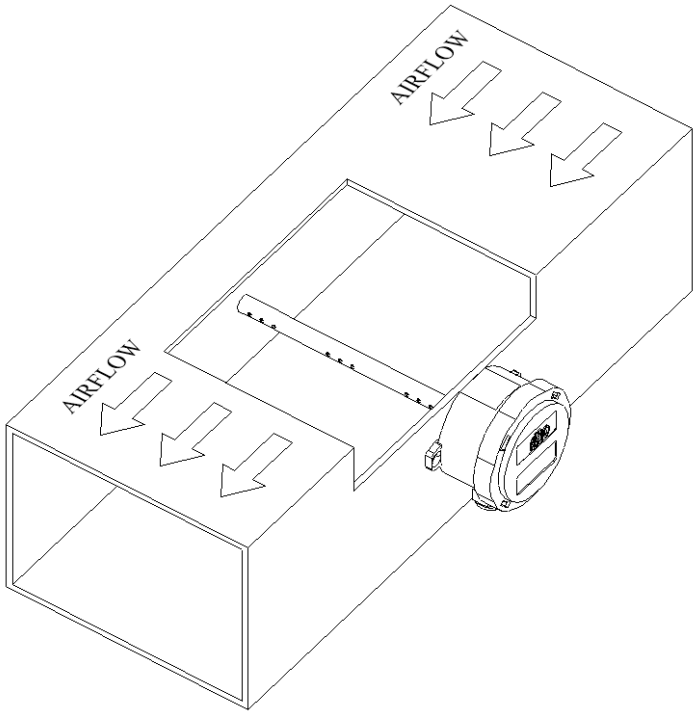


Installation

The AX-GS-CM-V-65-D should be installed by a suitably qualified technician in conjunction with any guidelines for the equipment it is to be connected to and any local regulations. Field wiring should be installed to satisfy the requirements set out by the manufacturer of the equipment that the module is being connected to.

Mounting

- Choose a location where the airflow is representative of the monitored area.
- Avoid locations with direct sunlight during the day. If unavoidable, use a shade to protect the unit from sun exposure.
- Drill a hole with a diameter of Ø13–16 mm in the duct for the probe insertion.
- Fully insert the probe into the duct to ensure accurate measurement.
- The direction of the probe should be as shown below



- The enclosure has integrated tabs for mounting. Use #10 screws (not provided) to secure the enclosure on to the duct.
- Rotate the lid in anti-clockwise direction to remove the lid and access the wiring terminals.
- Make all necessary electrical connections as per the wiring diagram and reinstall the lid
- Use the provided screw to firmly secure the lid to the enclosure.

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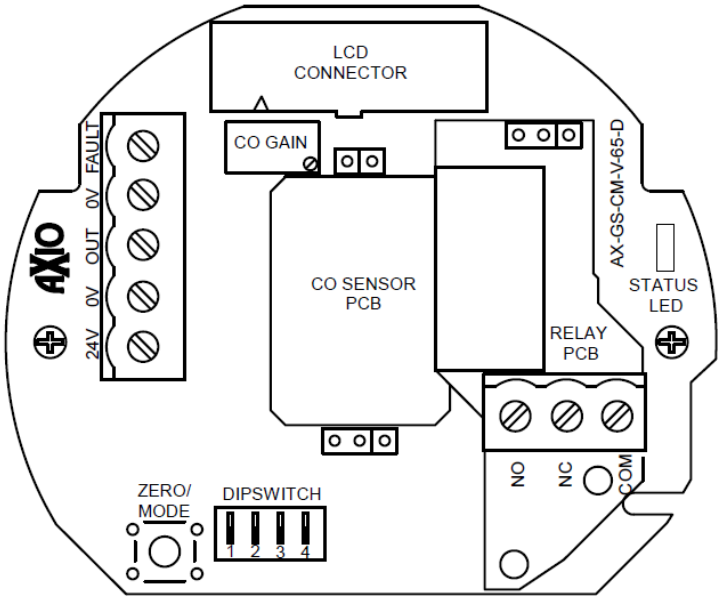
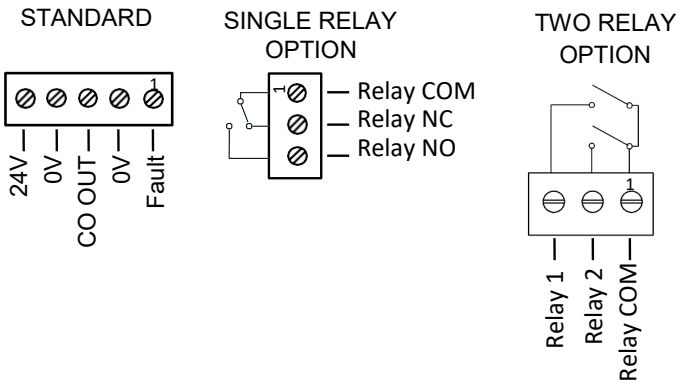
Connections

The transmitter should be connected to the controller using 0.5 to 1.5mm² cable. The use of shielded cable is recommended for the highest noise immunity. Do not route signal wires in the same conduit with power cables as signal degradation may occur. Before applying power, ensure that the AX-GS-CM-V-65-D transmitter output is configured correctly for the unit being supplied.





Status LED

This flashes 4 times every 6 seconds. A brighter flash in the sequence indicates a fault, ordered as:

1 - Calibration error 2 - Temperature sensor error

3 - CO Sensor error 4 - Sensor gain error

Fault Output

This is an open collector output. The output will be switched on when no faults are detected, and off when a fault is detected or no power is applied. Connect only dc voltages less than 30V and load current less than 100mA.

LCD Display (option)

The 4-digit, 9 mm high, blue backlit display (see Image 1) will show the CO level in ppm. In case of a sensor error, the display will show '----'.

Relay Trip Point (ppm) (option)

Dipswitch				Single Relay	Dual Relay	
					Relay 1	Relay 2
OFF	OFF	OFF	OFF	25	25	50
OFF	OFF	OFF	ON	30	30	60
OFF	OFF	ON	OFF	35	35	70
OFF	OFF	ON	ON	40	40	80
OFF	ON	OFF	OFF	45	45	90
OFF	ON	OFF	ON	50	50	100
OFF	ON	ON	OFF	60	60	110
OFF	ON	ON	ON	70	70	120
ON	OFF	OFF	OFF	80	80	130
ON	OFF	OFF	ON	90	90	140
ON	OFF	ON	OFF	100	100	150
ON	OFF	ON	ON	110	110	160
ON	ON	OFF	OFF	120	120	170
ON	ON	OFF	ON	130	130	180
ON	ON	ON	OFF	140	140	190
ON	ON	ON	ON	150	150	200

Once activated, the relays will turn off when the CO reading goes below 10% of the set level.

Calibration

The device comes with pre-calibrated sensors. The sensors have an expected lifetime of 7 years. It is recommended to verify the calibration once a year. Use a calibrated gas source (not supplied) to verify the calibration. The transmitter must be turned on for at least 15 minutes before applying the calibrated gas. Allow a steady flow of gas (0.4 to 1 litre/min) using a regulator for a minimum of 2 minutes.

ZEROING - Place the device in clean air or apply nitrogen gas. Press and hold the ZERO switch for 10 seconds. The display (if fitted) will show 'ZERO', save the value to EEPROM, and reset after 5 seconds.

SPAN ADJUSTMENT - Apply calibrated CO gas of known concentration and observe the output. If the output is less than expected, adjust the GAIN trimpot counterclockwise.

Usage

Suitable for monitoring and ventilation applications. Do NOT use in safety critical or hazardous applications. Axio recommend using Fault output to maintain confirmation of correct operation of the unit.

Datasheet Contents

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