AX-GS-CM-V-65

Carbon Monoxide Transmitter, Voltage Output, IP65 with optional display

Product Overview

The AX-GS-CM-V-65 Carbon Monoxide (CO) Voltage Transmitter provides a linear output signal for CO levels from 0-100/300 ppm. The output voltage is configurable for either 0-5 VDC, 2-10 VDC, or 0-10 VDC with on-board jumpers. Options include relay(s) with set trip points, an LCD display, cable entry selection, a sounder, and various enclosure colours. See order codes for the available variants.

Refer to the AX-GS-CM-I data sheet for 4-20 mA current output variants and AX-GS-CM-M for Modbus output.

Application: Continuous monitoring of vehicle exhaust fumes in enclosed car parks.

Products Features

- UL recognized electrochemical sensing element
- Relay option with jumper set alarm levels
- 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:	0-5Vdc, 2-10Vdc or 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) can be set to trip at 25, 60 or 150 ppm
2 Relay (option):	Two SP relays, 50Vac 1A (resistive) can be set to trip at 25/50, 60/100 or 150/200ppm
Sounder (option):	85dB @ 10cm can be set to trip at 25, 60 or 150 ppm
Fault output :	Open collector. 30Vdc at 100mA maximum.
Display (option)	4 digit 9mm high character blue backlit LCD. Displays reading in ppm
Typical Coverage Area:	700m² or 15m radius
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:	92mm diameter x 52mm, 170gms
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 - ☐

	No relays
R	One Relay
R2	Two Relays
S	Sounder

	No Display
L	LCD Display

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

	White Enclosure
WR	Rear Entry / White Enclosure
BR	Rear Entry/ Black Enclosure
B	Black Enclosure

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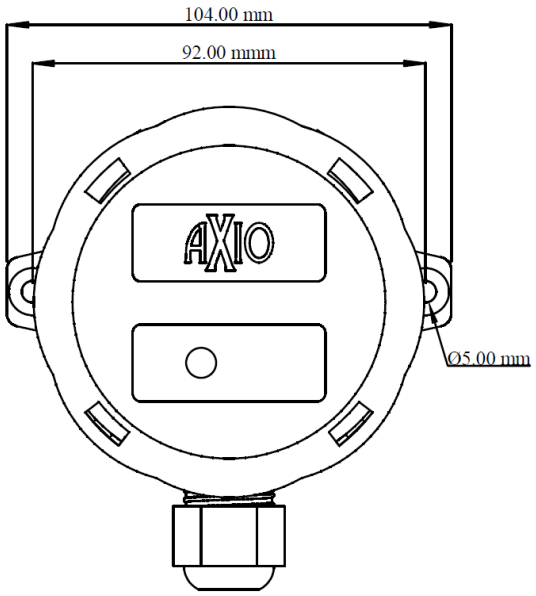
Dimensions



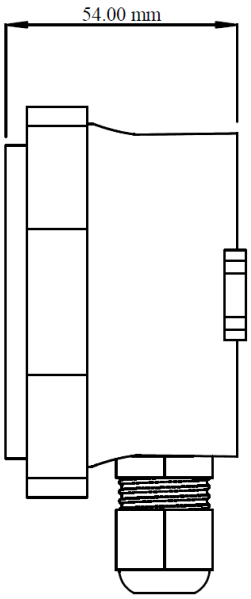


Figure 1

Installation

The AX-GS-CM-V-65 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 with good air circulation and representative of the monitored area.
- Mount the transmitter on a flat surface 1 to 1.5 metres from the floor of the area to be monitored.
- For best operation do not mount the sensor near doors, opening windows, supply air diffusers or other known air disturbances .
- Avoid areas where the transmitter would be exposed to vibrations or rapid temperature changes.
- The enclosure has integrated tabs for mounting. Use #10 screws (not provided) to secure the enclosure on to the wall.
- Rotate the lid in anti-clockwise direction to remove the lid and access the wiring terminals.
- Complete the wiring as per the below instructions. Reinstall the lid.
- Secure the lid to enclosure with the provided screw.

Connections

The transmitter should be connected to the controller using 0.5 to 1.5mm² cable. The unit requires three wires 24V supply, 0V and CO level output. 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 transmitter output is configured correctly for the unit being supplied.

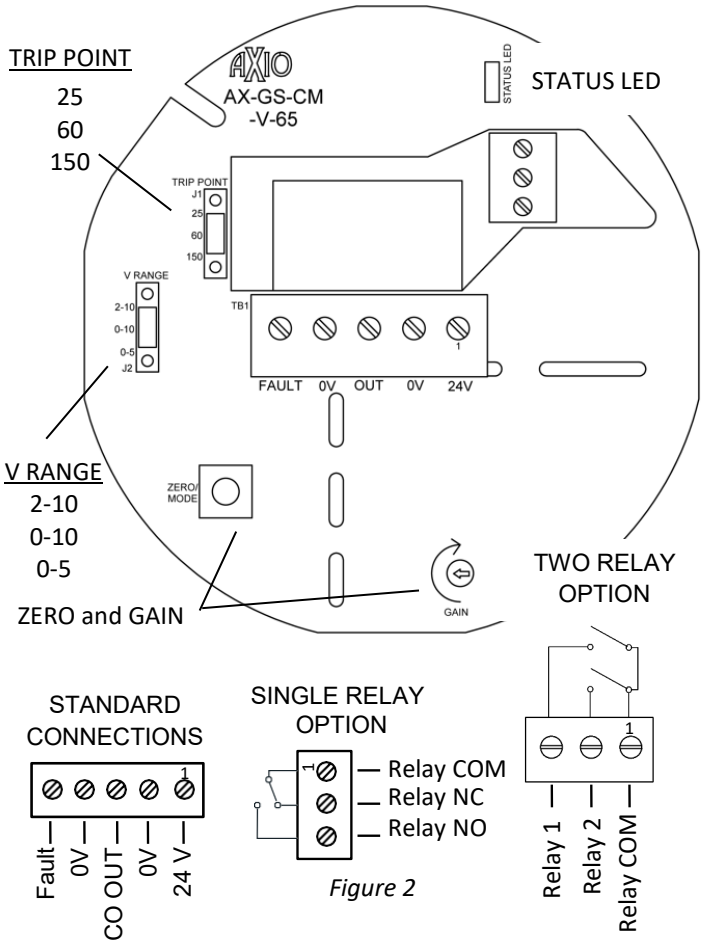


Figure 2

Voltage Range Selection

Place the RANGE jumper in position 0-5 for 0-5Vdc output, 2-10 for 2-10Vdc output or 0-10 for 0-10Vdc output. When the 2 -10V range is selected, and the unit detects a fault, the output will be set to 1V. Also if wiring becomes open-circuit, the measured voltage will drop to 0V.

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Image 1 - LCD Display

Image 2 - Black Enclosure

Image 3 - Rear Entry

Relay Trip Point (ppm) (option)

TRIP jumper	Single Relay	Dual Relay	
		Relay 1	Relay 2
25	25	25	50
60	60	60	100
150	150	150	200

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

Sounder Trip (ppm) (option)

Sounder activation level can be configured to 25, 60, and 150 ppm. Hysteresis is 10% of the set level. E.g., if the TRIP jumper is set to 60 ppm, the sounder gets activated at 60 ppm and deactivated when the reading goes below 54 ppm.

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 '----'.

Rear Cable Entry (option)

The AX-GS-CM-V-65 provides a side-entry M20 cable gland as standard, while the -xR version offers the option of rear cable entry, allowing the unit to be mounted to a wall with its cables hidden from view. The -xR version is supplied with an M20 grommet (membrane spout) (See Image 3). Cable diameters up to 15 mm can be passed through the grommet.

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.

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

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. Place the calibration cap (not supplied) over the sensor and 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 the 2-10V range and/or the Fault output to maintain confirmation of correct operation of the unit.

Datasheet Contents

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