



Insight Control CO Sensor

C-GAS-Co-150/300D

CO-Sensor for monitoring of car-parks for ventilation control and alarming

C-GAS-Co-
150/300D

0-150 or 0-300ppm
4-20mA output according to the range
Electro-chemical sensing element
Loop-powered (16-29Vdc) PCB with 4...20mA output
IP65 housing in ABS plastic

Applications

Car-parks and other areas where CO emissions require forced ventilation or CO level monitoring/alarming.

Design Features

- Fully sealed sensor cell with gas-specific gel electrolyte and hydrophobic filter.
 - High accuracy, selectivity and reliability with low calibration drift over time.
 - Long operational lifespan compared to solid state semiconductor sensors.
 - Simplified maintenance via onboard calibration adjustment.
 - Power supply input is diode-protected against reverse voltage
 - Fast tool-free wire termination via the supplied terminal block.
 - Supplied with shipping cap to protect sensor during transport
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Sensor Distribution

Sensor distribution should be according to local regulations. Typical regulations require that no sensor shall be further than 25m from any point in the space being monitored which corresponds to one sensor per 1,225m² when the sensor is positioned in the centre of the area.

If no regulations are defined locally then we recommend one sensor per 500m² to ensure adequate coverage.

Operation & Testing

The HSG1010 is supplied calibrated to a range of 0-150 or 0-300ppm CO. Using the test cap to apply test gas, it may be calibrated to a user defined range at time of installation. The test cap is also used for periodic checking and recalibration. The test gas applied should be at a flow rate of 0.5 l/min.

If for any reason the PCB is removed from the sensing element for a prolonged length of time then a shorting wire should be placed between the sensor pins. If this short-circuit is not applied then the sensor may polarize, in which case, when first plugging the PCB back on to the sensor, the complete assembled unit should be left un-powered for two to three hours to allow it to re-stabilize.

The HSG1010 is delivered with the PCB fitted. The PCB provides the necessary stabilization and so the

HSG1010 may be operated immediately in this case.

Brief disconnection of the PCB from the sensor unit will not de-stabilize the sensor. The screw terminals may be removed from the PCB for connection of the 4...20mA loop wiring without having to remove the PCB from the sensor unit.

To test the unit, connect a 20...28Vdc, 4...20mA loop to the screw terminals. With test gas applied, measure the 4...20mA output signal equivalent to the range. Alternatively, at the test pins adjacent to the wiring connection terminals, measure 0.4... 2Vdc equivalent to 0-150 or 0-300ppm CO.

Mounting instructions

Recommended mounting height is between 0.9m and 1.5m above floor level, or according to local regulations

The housing should be wall mounted in an area that has adequate air movement to ensure good air sampling

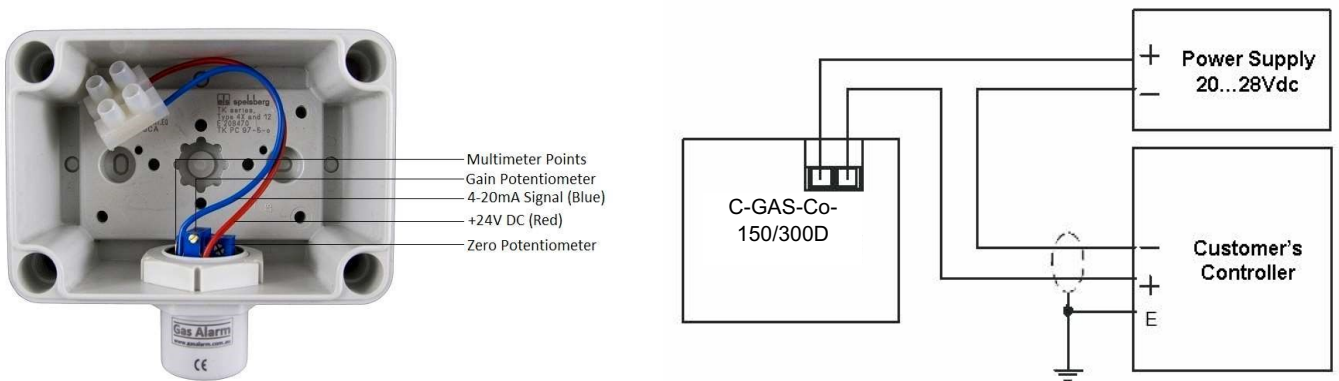
The housing should be positioned with the sensor aperture downward to ensure water cannot be allowed to enter

Cable entry point is freely selectable; rear, side or top

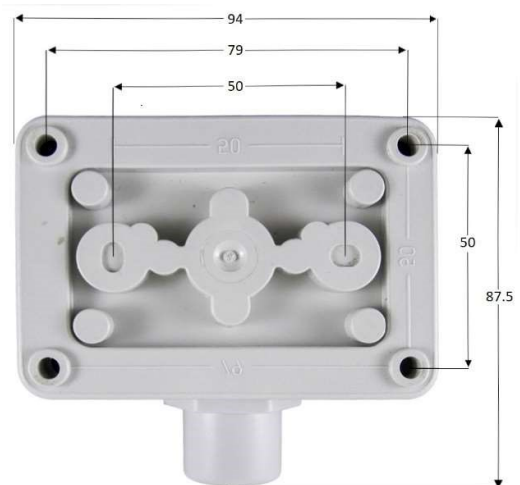
Cable entry should be sealed via conduit adapter or cable gland to ensure no water is able to enter the housing

Connections

Two-wire combined 20...28Vdc power supply and 4...20mA signal output.



Dimensions



 Technical Data

Electrical	
Power supply	+16 - 29 VDC with reverse polarity diode protection
Power consumption	22mA max. (0.5VA @ +24VDC)
Analog signal output	Linear proportional 4-20mA current loop
Output load	≤ 500 ohm for current signal
Sensor Performance	
Sensor element type	Electrochemical
Detected gas	Carbon Monoxide (CO)
Measurement range	0-150 ppm
Accuracy	±3 ppm
Resolution	0.5 ppm
Repeatability	< ±5% full scale signal
t90 Time	≤ 50 seconds
Zero-point variation	±4 ppm
Zero/Gain calibration drift	< ±0.4% full scale signal per month
Recommended calibration interval	6 months

Environmental Specifications

Operating temperature range	-15 to +50 °C
Humidity	10-95% relative humidity (non-condensing)
Pressure range	Atmospheric ±20%
Storage lifetime	6 months @ 5 – 30 °C
Dimensions (sensor cartridge only)	38mm (L) x M25 mounting diameter
Material – Sensor Cartridge	ABS with epoxy encapsulated sensor cell
Material – Optional Housings	ABS (IP44), Polycarbonate (IP65)

 Standards & Approvals Compliance

EN 50545
 EN 50271
 EN 61010-1
 ANSI/UL 61010-1
 CAN/CSA-C22.2 No 61010-1
 EMC Directives 2014/30/EU

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