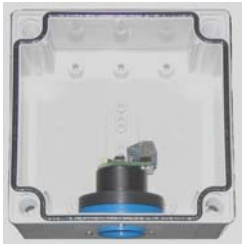

HSG1010 – CO Sensor

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

HSG1010

- 0…300ppm
- 4…20mA output according to the range
- Range adjustable at time of installation using test cap and applying test gas

Applications

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

Design

The HSG1010 applies an electro-chemical principal to sense CO ppm concentration in air.

The assembly comprises:

- Electro-chemical sensing element
- Loop-powered (20…28Vdc) PCB with 4…20mA output
- Sinter filter
- IP65 housing in ABS plastic

Operation & Testing

The HSG1010 is supplied calibrated to a range of 0…300ppm CO. Using the test cap, HSG1001, 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 place 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.

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Operation & Testing (cont…)

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 0…300ppm CO. Alternatively, at the test pins adjacent to the wiring connection terminals, measure 0.4… 2Vdc equivalent to 0…300ppm CO.

Accessories & Spares

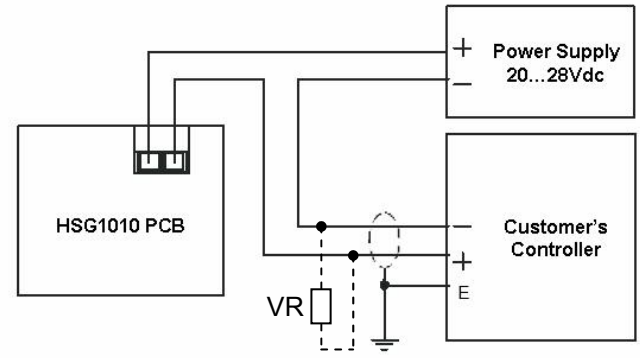
HSG1001	▪ Test Cap
HSG1002	▪ CO sensor unit
HSG1003	▪ Sinter filter
HSG1004	▪ PCB assembly

Mounting instructions

- 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

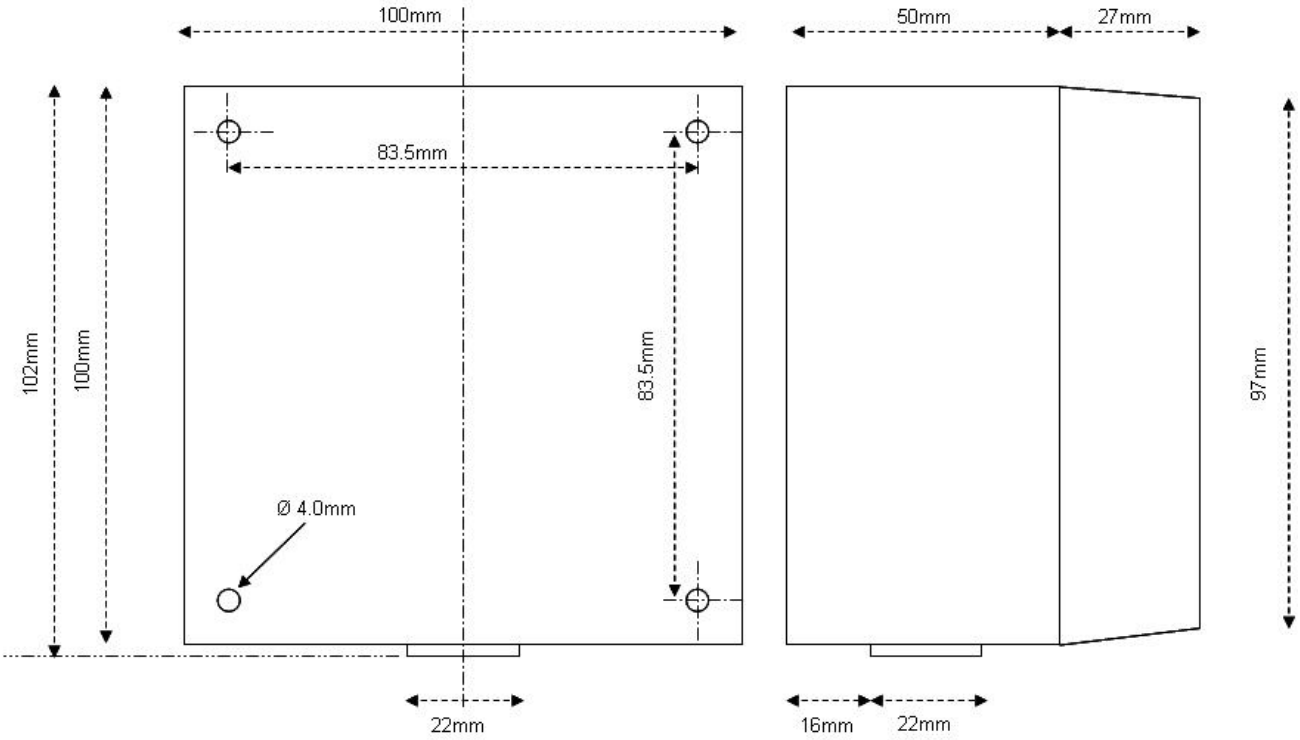
- Two-wire combined 20…28Vdc power supply and 4…20mA signal output.
- The power supply is not polarity sensitive.



VR - for achieving a DC voltage signal, as alternative to the standard 4…20mA signal, connect a fixed resistance across the 'customer' input:

250Ω – 1…5Vdc
500Ω – 2…10Vdc
1kΩ – 4…20Vdc

Dimensions



Technical Data

Detection principle:	Electro-chemical
Operation:	continuous
Gas entry:	by diffusion
Measuring range:	0…300ppm CO in air
Reproducibility:	≤ 3.0ppm
Response time t90:	< 60 sec
Cross sensitivity:	≤ 2% on 300ppm CO according VDI 2053
Linearity:	≤ 2% on 300ppm CO according VDI 2053
Temperature range:	-10°C…+40°C
Humidity range:	15…95% rH
Power supply:	20…28Vdc
Signal:	4…20mA, max. load 300Ω
Zero adjustment:	Automatic
Sensitivity adjustment:	Via potentiometer
R.F.I.:	According EN50081-1 resp. EN50082-2B
	Z716
Storage temperature:	0…20°C
Sensor casing material:	Noryl 110
Housing material:	ABS
Housing protection:	IP65