

GEN1 Domestic Carbon Monoxide Sensor

- Miniature two electrode electrochemical cell
- High quality, long life, stable, easy mounting and cost effective solution for detection of highly poisonous carbon monoxide
- Applications include domestic and industrial carbon monoxide detection, car parks, and fire detectors
- UL Recognized Component

Physical

Weight	8 grams
Housing Material	ABS

Environmental

Temperature Range	-20°C to +52°C
Pressure Range	1 Atmosphere -20% to +10%
Humidity Range	Continuous: 15% to 90% Intermittent: 0% to 99%
Operational Life	Greater than 10 years
Recommended Storage Conditions	+10°C to +30°C, (shorted)

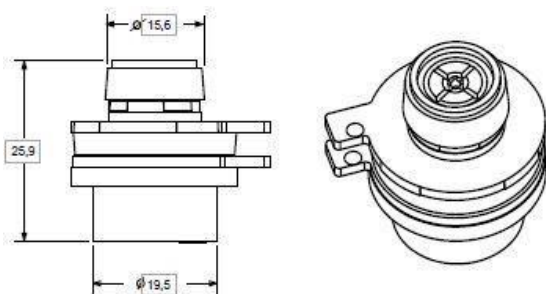
Product Image



Electrical

Bias Voltage	Not required
Offset Voltage	<10mV (Absolute Maximum) <1mV (Recommended)
Recommended Load Resistor	820R (Absolute Maximum)

Dimensions (mm)



Output Parameters

Output Signal	11±4 nA/ppm
Measurement Range	0-500ppm
Maximum Overload	5000ppm
Response Time (T90)	<50 seconds
Baseline Offset (clean air)	-2ppm to +2ppm
Zero Shift(-20°C to +52°C)	<+5ppm
Linearity	Typically ±5% or better
Repeatability	<±10%
Long Term Output Drift	<10% pa
Orientation	Any

Cross Sensitivity Information

Gas	Concentration /ppm	Exposure Time / mins	Equivalent Reading / ppm
Carbon Monoxide	100	5	100
Ethanol	2000	20	0
Ethanol	200	120	0
HMDS	10	40	0
Nitric Oxide	50	5	0
Hydrogen	100	10	<30
Carbon Dioxide	5000	5	0
Sulphur Dioxide	50	5	0

Cross sensitivity data is generated from a limited number of cells and the data above represents expected values for all cells. However a degree of variation may exist for specific sensors. All measurements taken at 25°C at a humidity of between 30% and 50%RH and at atmospheric pressure unless otherwise stated. All measurements made on cells less than 6 months after manufacture.

Signal Conditioning

The 'Gen1' is a 2-terminal amperometric electrochemical sensor, delivering a current that is proportional to CO concentration. The bias voltage across its terminals should be kept as low as possible to maintain optimum stability and accuracy.

A transimpedance amplifier is an effective means of monitoring this current while maintaining a very low bias across the sensor. The op-amp should have low input bias currents (<5nA) and a low input offset ($\pm 1\text{mV}$ maximum recommended).

