

Carbon Monoxide CiTiceL[®] Specification52CF CiTiceL[®]

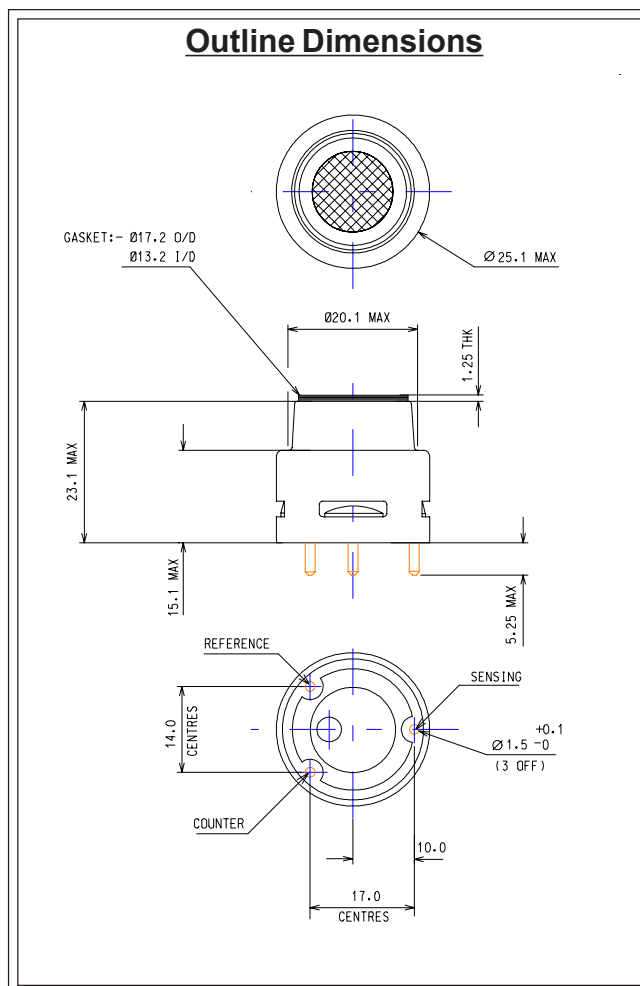
3-electrode carbon monoxide sensor with internal SOx/NOx filter

Performance Characteristics

Nominal Range	0-1000ppm
Maximum Overload	10 000ppm (Recovery may be slow)*
Expected Operating Life	Three years in air
Output Signal	20 ± 5 nA/ppm
Resolution	1ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	0.020 ± 0.008 %signal/mBar
T₉₀ Response Time	<40 seconds
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Range	-5ppm to +10ppm equiv.
Maximum Zero Shift (+20°C to +40°C)	20ppm equivalent
Long Term Output Drift	<10% signal loss/year
Recommended Load Resistor	10Ω
Bias Voltage	Not required
Repeatability	<2% of signal
Output Linearity	Linear
Filter Life	>150,000ppm hrs

N.B. All performance data is based on conditions at 20°C, 50%RH, and 1013mBar

* Note: ~3 minutes to recover to <200ppm in fresh air after 10 minutes at 10 000ppm CO.

Outline Dimensions**Physical Characteristics**

Weight	11g
Position Sensitivity	None
Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C
Warranty Period	12 months from date of despatch

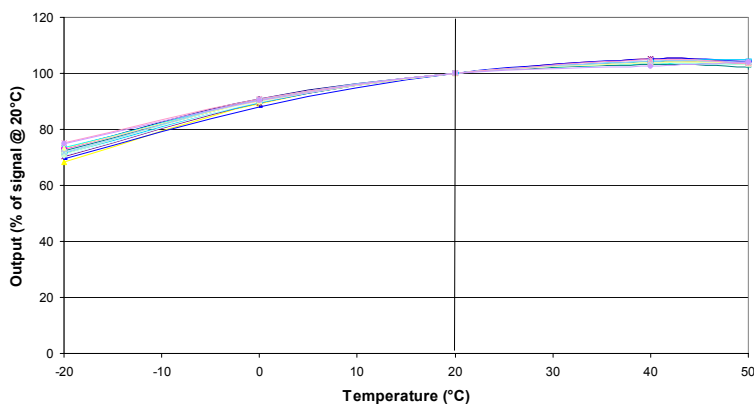
Correct Operation of 52CF

In order for correct operation of the 52CF sensor it is important to allow a small supply of oxygen to the counter and reference electrodes. The sensors are designed to allow this by means of access through the side of the sensor. For this reason it is vital that the target gas is not vented back into the instrument. This may result in incorrect sensor readings.

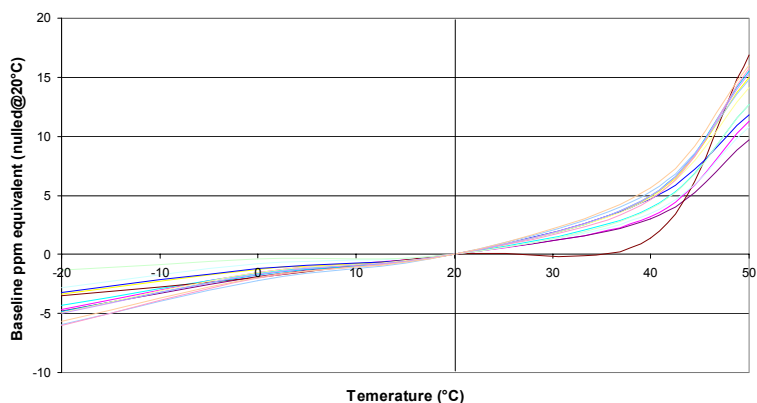
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52CF Carbon Monoxide CiTiceL - Output vs Temperature



52CF Carbon Monoxide CiTiceL - Baseline vs Temperature



Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. The table below shows the typical response of 52CF sensors to a common cross-interfering gas. The figures are expressed as a percentage of the primary sensitivity (i.e. carbon monoxide = 100%).

Gas	Response	Gas	Response
Hydrogen	<60%	Nitric oxide	<1.5%
Nitrogen dioxide	<1%	Sulphur dioxide	<1%

Calibration

For maximum accuracy, CiTiceLs should be calibrated using a gas mixture in the range where most measurements are to be made. When this is not possible, a mixture towards the top end of the CiTiceL range should be chosen. Calibration gases exceeding the range of the CiTiceL must not be used as this may not provide an accurate calibration.

Maximum Gas Concentration 1000ppm CO

Minimum Flow Rate 150mls/min

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Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time.