# 4COSH CiTiceL®

**(Four electrode dual gas sensor)**

## Performance Characteristics

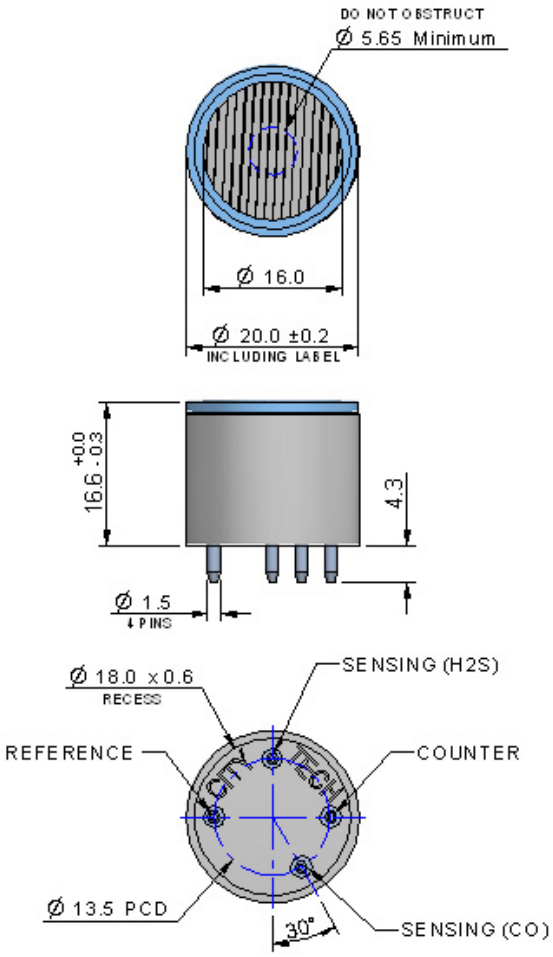
| | |
|---|---|
| **Nominal Range** | For CO: 0-500 ppm<br>For $H_2S$: 0-200 ppm |
| **Maximum Overload** | For CO: 1500 ppm<br>For $H_2S$: 500 ppm |
| **Expected Operating Life** | Three years in air |
| **Output Signal** | For CO: 80 ± 30 nA / ppm<br>For $H_2S$: 775 ± 275 nA / ppm |
| **Resolution** | For CO: ±1.0 ppm<br>For $H_2S$: ±0.5 ppm |
| **Temperature Range** | -20°C to +50°C |
| **Pressure Range** | Atmospheric ± 10% |
| **$T_{90}$ Response Time** | For CO: ≤35 seconds<br>For $H_2S$: ≤35 seconds |
| **Relative Humidity Range** | 15 to 90% non-condensing |
| **Typical Baseline Range (ppm equiv.)** | For CO: -2 to +3 ppm<br>For $H_2S$: -0.4 to +0.4 ppm |
| **Long Term Output Drift** | <5% signal loss/year |
| **Recommended Load Resistor** | 10 Ω |
| **Bias Voltage** | Not required |
| **Repeatability** | For CO: ≤3% of signal<br>For $H_2S$: ≤2% of signal |
| **Output Linearity** | Linear |

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

## Physical Characteristics

| | |
|---|---|
| **Weight** | 5g approx. |
| **Position Sensitivity** | None |
| **Storage Life** | Six months in CTL container |
| **Recommended Storage Temperature** | 0-20°C |
| **Warranty Period** | 12 months from date of despatch |

## Product Dimensions




All dimensions in mm
All tolerances ±0.15 mm unless otherwise stated.

Dimensions are for indication purposes only. For further details, contact City Technology Ltd.

**IMPORTANT NOTE**: Connection should be made via PCB sockets only. Soldering to the pins will seriously damage your sensor.



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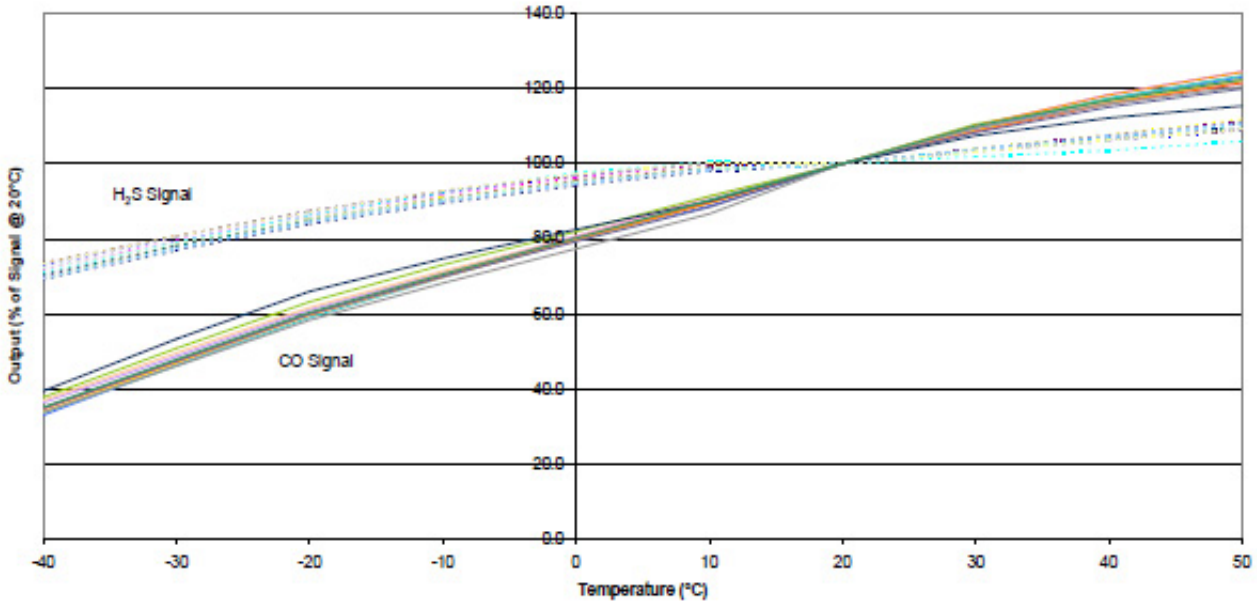
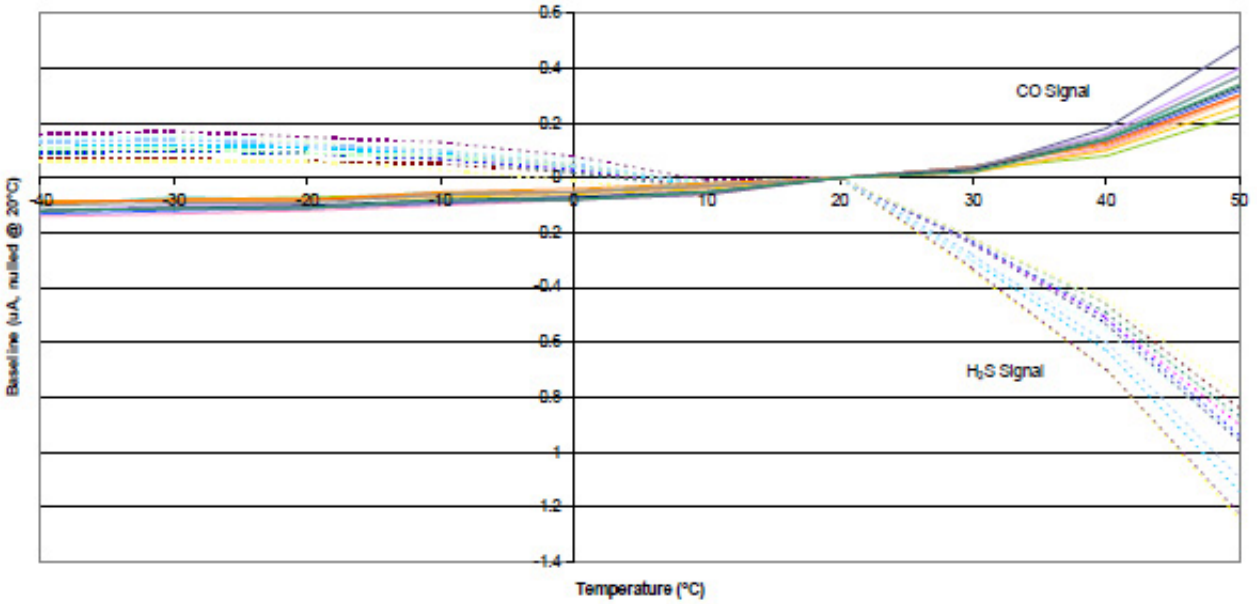
4COSH Hydrogen Sulphide/Carbon Monoxide CiTiceL
Output vs Temperature




4COSH Hydrogen Sulphide/Carbon Monoxide CiTiceL
Baseline vs Temperature



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## Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 4COSH CiTiceLs have been tested with a number of commonly cross-interfering gases and the results are given below. The table shows the typical response to be expected from a sensor when exposed to a given test gas concentration (relevant to safety, e.g. TLV levels):

| Test gas | Test gas conc. (ppm) | ppm on $H_2S$ channel | ppm on CO channel |
|---|---|---|---|
| Carbon Monoxide, CO | 300 | <6 | 300 |
| Hydrogen Sulfide, $H_2S$ | 15 | 16 | 0 to 6 |
| Hydrogen | 100 | 0.03 | ~ 20 |
| Nitric Oxide, NO | 35 | <1 | <0.1 |
| Nitrogen Dioxide, $NO_2$ | 5 | ~ -1 | <0.1 |
| Chlorine, $Cl_2$ | 1 | 0 | 0 |
| Sulfur Dioxide, $SO_2$ | 5 | <1 | 0 |

**SAFETY NOTE**
This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may jeopardize the safety of people and property.





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