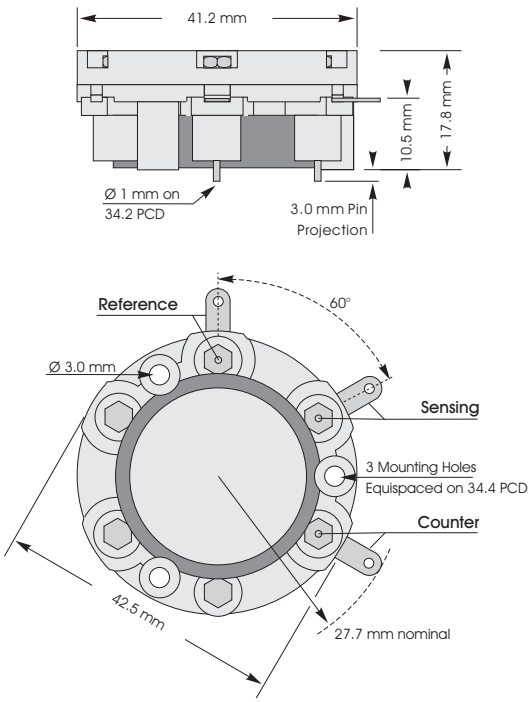
3HL CiTiceL®

Performance Characteristics

Nominal Range	0-50ppm
Maximum Overload	100ppm
Expected Operating Life	Two years in air
Output Signal	0.75 ± 0.25 µA/ppm
Resolution	0.5ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
T_{90} Response Time	≤120 seconds (typically 100)
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Range (pure air)	0 to +1ppm equivalent
Maximum Zero Shift (+20°C to +40°C)	1.5ppm equivalent
Long Term Output Drift	<2% signal loss/month
Recommended Load Resistor	33Ω
Bias Voltage	+300mV
Repeatability	2% of signal
Output Linearity	Linear

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



All tolerances ±0.15mm unless otherwise stated.
Sensor shown with side tags and gold pins.
Do not solder to pin connections

Physical Characteristics

Weight	22g
Position Sensitivity	None
Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C
Warranty Period	12 months from date of despatch

Ordering Information

The 3HL Hydrogen Chloride CiTiceL is available with side tags, gold-plated PCB pins, or both PCB pins and side tags. To ensure the appropriate option is supplied care must be taken to provide the correct code when ordering.

With side tag and PCB pin connections - **3HL**
With side tag connection - **3HL(S)**
With gold-plated PCB pin connection - **3HL(G)**

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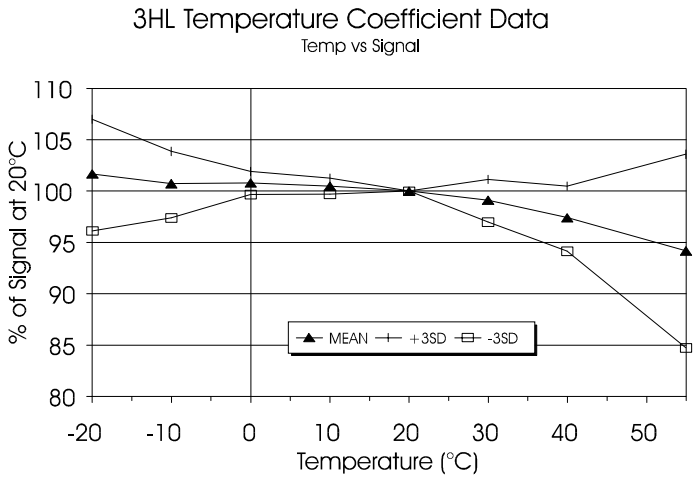
Temperature Dependence

The output of a CiTiceL can vary with temperature. The graph here shows the variation in output with temperature for 3HL CiTiceLs based on a sample of about 10 sensors. The results are shown in the graph as a mean for the batch, and expressed as a percentage of the signal at 20°C.

In general, the range in values observed for sensors of this type will fall within a range three times the standard deviation above or below the mean. Assuming therefore this sample is typical, then the temperature behaviour of all 3HL CiTiceLs will fall in the band +3SD to -3SD.



Note: A program of data acquisition is under way on larger numbers of sensors to achieve a more statistically based relationship. In the meantime this graph should only be used for guidance.

Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 3HL 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).

Gas	Conc.	3HL	Gas	Conc.	3HL
Carbon monoxide:	300ppm	<3ppm	**Chlorine:**	1ppm	0ppm
Hydrogen sulphide:	15ppm	9ppm<x$<30ppm	**Hydrogen:**	100ppm	<0.5ppm
Sulphur dioxide:	5ppm	2.5ppm<x$<4ppm	**Hydrogen cyanide:**	10ppm	0ppm
Nitric oxide:	35ppm	0ppm	**Ethylene:**	100ppm	0ppm
Nitrogen dioxide:	5ppm	<1ppm			

For details of other possible cross-interfering gases contact City Technology.

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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.

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