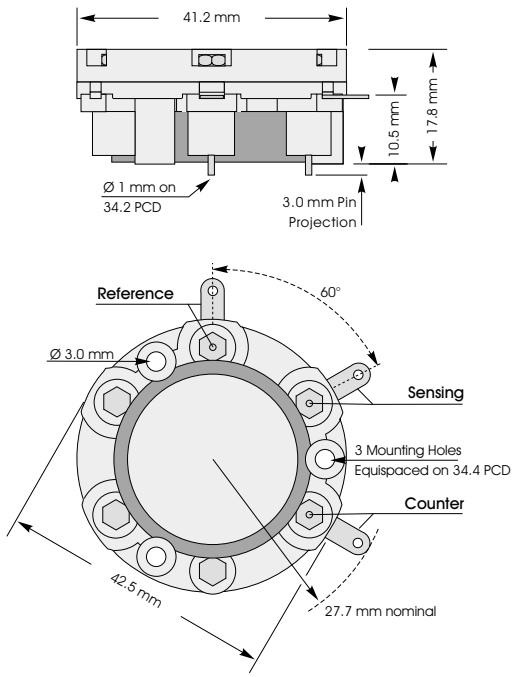
Nitrogen dioxide CiTiceL® Specification

3NDH CiTiceL®

Performance Characteristics

Nominal Range	0-20ppm
Maximum Overload	300ppm
Expected Operating Life	Two years in air
Output Signal	1.40 ± 0.30 μA/ppm
Resolution	0.1ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
T_{90} Response Time	<40 seconds
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Range (pure air)	-0.1 to 0.1ppm equivalent
Maximum Zero Shift (+20°C to +40°C)	0.2ppm equivalent
Long Term Output Drift	<2% signal loss/month
Recommended Load Resistor	33Ω
Bias Voltage	Not required
Repeatability	2% of signal
Output Linearity	Linear



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

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

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

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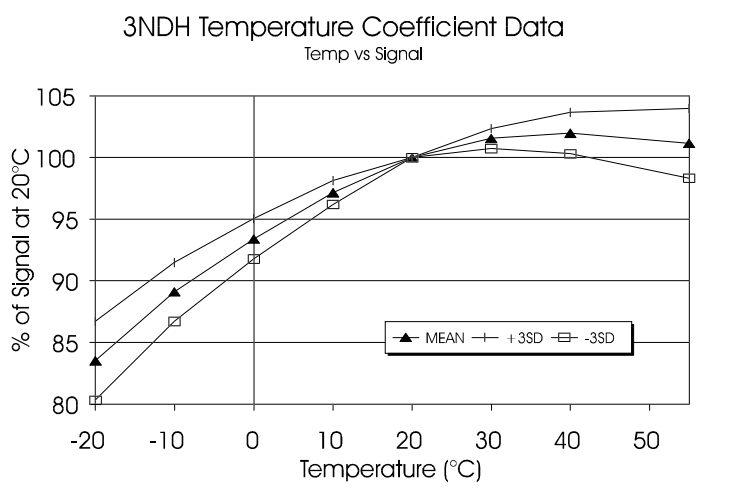
Temperature Dependence

The output of a CiTiceL can vary with temperature. The graph here shows the variation in output with temperature for 3NDH CiTiceLs based on a sample of about 16 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.

From a statistical viewpoint, for a sample of this size, the range in values observed for all 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 3NDH CiTiceLs will fall in the band +3SD to -3SD.



Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 3NDH 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.	3NDH	Gas	Conc.	3NDH
Carbon monoxide:	300ppm	0ppm	**Hydrogen:**	100ppm	0ppm
Hydrogen sulphide:	15ppm	-1.5≤ x ≤0ppm	**Hydrogen cyanide:**	10ppm	0ppm
Sulphur dioxide:	5ppm	-0.05≤ x ≤0ppm	**Hydrogen chloride:**	5ppm	0ppm
Nitric oxide:	35ppm	0ppm	**Ethylene:**	100ppm	0ppm
Chlorine:	1ppm	≈1ppm	**For details of other possible cross-interfering gases contact City Technology.**		

Ordering Information

The 3NDH Nitrogen Dioxide 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.

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