



# 3MNDH mV Output CiTiceL<sup>®</sup>

## Performance Characteristics

<b>Sensor Type Used</b>	3NDH
<b>Expected Operating Life</b>	Two years in air
<b>Output Signal Standard</b>	1mV/ppm ( $\pm 5\%$ )
<b>High Output</b>	10mV/ppm ( $\pm 5\%$ )
<b>Maximum Range</b>	0-200ppm
<b>Resolution</b>	0.1ppm
<b>Maximum Zero Output</b>	0 $\pm$ 1mV
<b>Maximum Zero Shift (+20°C to +40°C)</b>	0.2ppm equivalent -20°C to +50°C
<b>Temperature Range</b>	
<b>Pressure Range</b>	Atmospheric $\pm 10\%$
<b>Pressure Coefficient</b>	No data
<b>T<sub>90</sub> Response Time</b>	$\leq 35$ seconds
<b>Relative Humidity Range</b>	15 to 90% non-condensing
<b>Long Term Output Drift</b>	<2% of full signal/month
<b>Repeatability</b>	2% of signal
<b>Output Linearity</b>	Linear

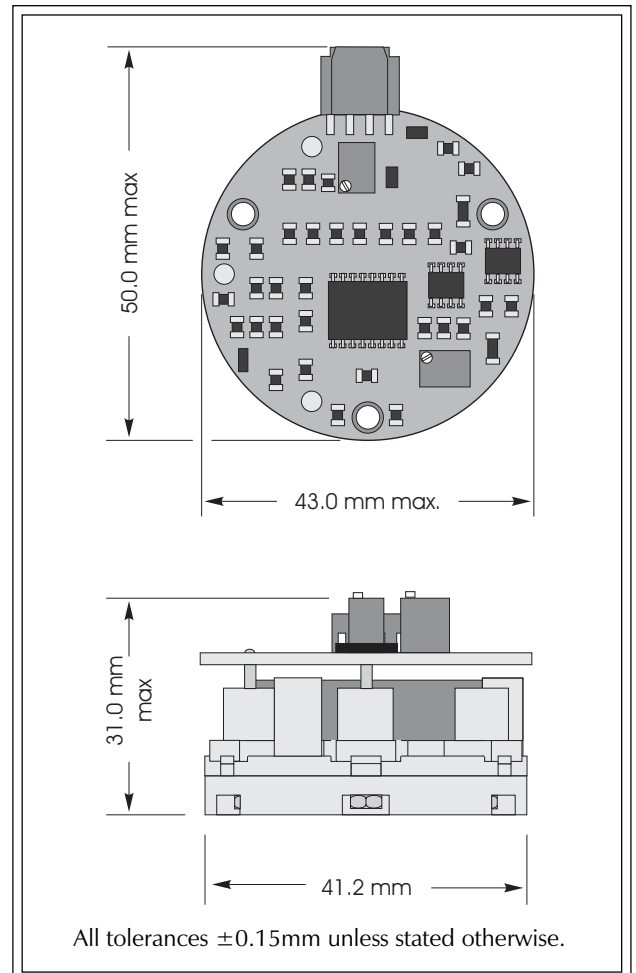
N.B. All performance data is based on conditions at 20°C, 50%RH, and 1013mBar

## Physical Characteristics

<b>Weight</b>	38g (with connector)
<b>Position Sensitivity</b>	None
<b>Storage Life</b>	Six months in CTL container
<b>Recommended Storage Temperature</b>	0-20°C
<b>Warranty Period</b>	12 months from date of despatch

## Electrical Properties

<b>Power Supply Required</b>	7 to 18V d.c. single ended or $\pm 3.5$ to $\pm 9$ V d.c. dual
<b>Power Consumption</b>	250 $\mu$ A @ 9V d.c.
<b>Calibration</b>	Via built-in span and zero potentiometers

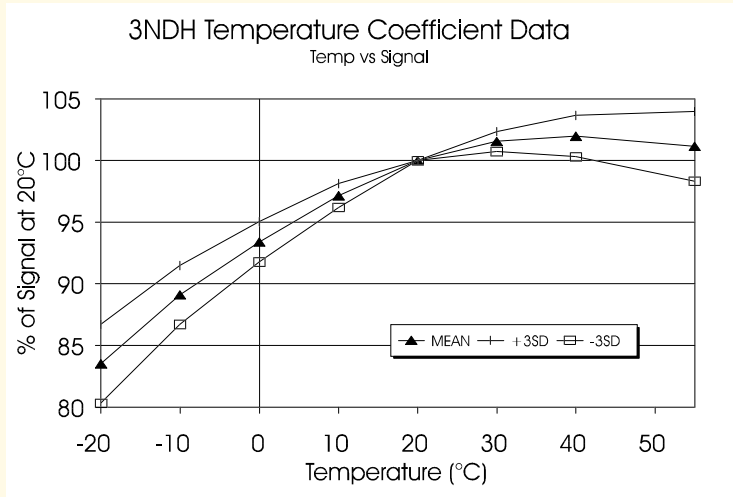




## Temperature Dependence

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
<b>Carbon monoxide:</b>	300ppm	0ppm	<b>Hydrogen:</b>	100ppm	0ppm
<b>Hydrogen sulphide:</b>	15ppm	-1.5 ≤ x ≤ 0ppm	<b>Hydrogen cyanide:</b>	10ppm	0ppm
<b>Sulphur dioxide:</b>	5ppm	-0.05 ≤ x ≤ 0ppm	<b>Hydrogen chloride:</b>	5ppm	0ppm
<b>Nitric oxide:</b>	35ppm	0ppm	<b>Ethylene:</b>	100ppm	0ppm
<b>Chlorine:</b>	1ppm	≈1ppm	**For details of other possible cross-interfering gases contact City Technology.**		

## Ordering Information

**Standard mV NO<sub>2</sub> CiTiceL ..... MGH60-014**  
**High Output mV NO<sub>2</sub> CiTiceL..... MGH60-024**

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