

## Key Features & Benefits:

- Robust 3-Series packaging
- Factory calibrated mV output

## Technical Specifications

### MEASUREMENT

<b>Sensor Type Used</b>	3CLH
<b>Maximum Range</b>	100 ppm NO <sub>2</sub>
<b>Sensitivity</b>	
Standard	1 mV/ppm ± 5%
High	10 mV/ppm ± 5%
<b>Filter</b>	None
<b>Baseline Offset (Clean Air)</b>	±1 mV
<b>Response Time (T<sub>90</sub>)</b>	<60 Seconds at 20°C
<b>Resolution</b>	0.1 ppm
<b>Zero Shift (-20°C to +40°C)</b>	< -0.5 ppm equivalent
<b>Repeatability</b>	2% of signal
<b>Linearity</b>	Linear

### ELECTRICAL

<b>Power Supply Required</b>	7 to 18 VDC single-ended or ±3.5 to ±9 VDC dual
<b>Power Consumption</b>	250 µA @ 9 VDC
<b>Calibration</b>	Via built-in span and zero potentiometers (Refer to OP14)

### MECHANICAL

<b>Weight</b>	38 g (with connector)
<b>Body Material</b>	Polycarbonate
<b>Position Sensitivity</b>	None

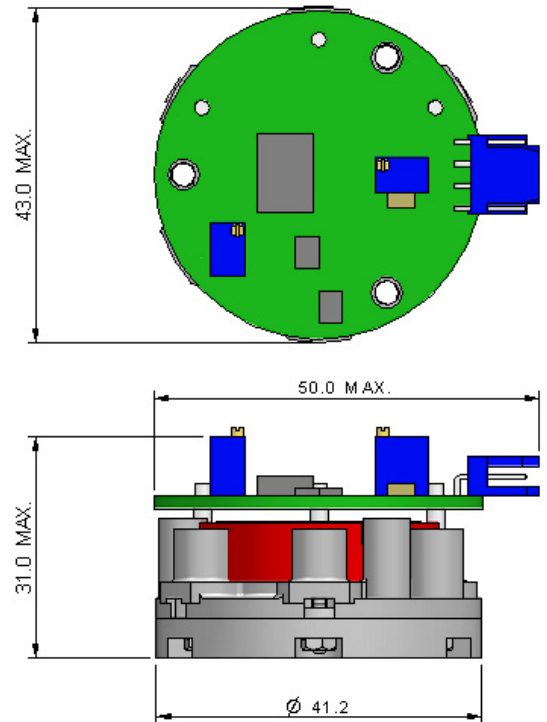
### ENVIRONMENTAL

<b>Operating Temperature Range</b>	-20°C to +50°C
<b>Recommended Storage Temp</b>	0°C to 20°C
<b>Temperature Compensation</b>	None
<b>Operating Pressure Range</b>	Atmospheric ± 10%
<b>Operating Humidity Range</b>	15 to 90% RH non-condensing

### LIFETIME

<b>Long Term Sensitivity Drift</b>	<2% signal loss/month
<b>Expected Operating Life</b>	Two years in air
<b>Storage Life</b>	6 months in CTL container
<b>Standard Warranty</b>	12 months from date of despatch

## Product Dimensions



All dimensions in mm

All tolerances ±0.15 mm unless otherwise stated

### IMPORTANT NOTE:

All performance data is based on conditions at 20°C, 50% RH and 1013 mBar. For further information on the operation and calibration of City Technology mV output sensors, please refer to OP14.

### RANGES AVAILABLE

3MCLH is available with the following precalibrated sensitivities.

Sensitivity	Order Code
1 mV/ppm	MHH60-014
10 mV/ppm	MHH60-024

## Poisoning

CiTiceLs are designed for operation in a wide range of environments and harsh conditions. However, it is important that exposure to high concentrations of solvent vapours is avoided, both during storage, fitting into instruments and operation.

When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted. Do not glue directly on or near the CiTiceL as the solvent may cause crazing of the plastic.

## Cross Sensitivity Table

Whilst CiTiceLs are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react. The figures are expressed as a percentage of the primary sensitivity (i.e.  $Cl_2 = 100\%$ ).

Gas	Concentration Used (ppm)	3MCLH (%)
Carbon Monoxide, CO	300	0
Hydrogen Sulfide, H <sub>2</sub> S	15	~ -10
Sulfur Dioxide, SO <sub>2</sub>	5	0
Nitric Oxide, NO	35	0
Nitrogen Dioxide, NO <sub>2</sub>	5	~ 100
Hydrogen, H <sub>2</sub>	100	0
Hydrogen Cyanide, HCN	10	0
Hydrogen Chloride, HCl	5	0
Ethylene, C <sub>2</sub> H <sub>4</sub>	100	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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Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time