

**Key Features & Benefits:**

- Robust 3-Series packaging
- Industry standard 4-20 mA output

**Technical Specifications**

**MEASUREMENT**

Sensor Type Used	3NDH
Filter	None
Output	4-20 mA d.c.
Response Time (T <sub>90</sub> )	<35 Seconds at 20°C
Resolution	0.1 ppm
Zero Shift (-20°C to +40°C)	< 0.2 ppm equivalent
Repeatability	2% of signal
Linearity	Linear

**ELECTRICAL**

Power Supply Required	10 - 35 VDC single-ended
Output Impedance	4 MΩ
Calibration	Via built-in span and zero potentiometers

**MECHANICAL**

Mounting	Via mounting nose supplied
Weight	58 g including mounting accessory
Position Sensitivity	None

**ENVIRONMENTAL**

Operating Temperature Range	-20°C to +50°C
Recommended Storage Temp	0°C to 20°C
Temperature Compensation	None
Operating Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
Operating Humidity Range	15 - 90% RH non-condensing

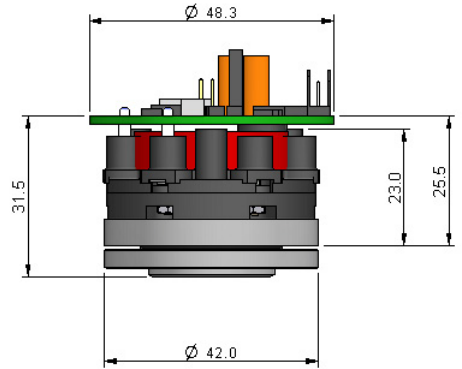
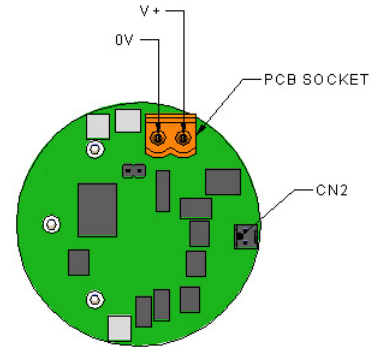
**LIFETIME**

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

**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 4-20mA transmitters, please refer to OP-12.

**Product Dimensions**



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

**RANGES AVAILABLE**

3NDH CiTiceL 4-20 mA Transmitters are available with the following precalibrated ranges, and can be recalibrated to intermediate ranges.

Range	Order Code
0-5 ppm	TG3A-1A
0-10 ppm	TG3B-1A
0-20 ppm	TG3C-1A
0-30 ppm	TG3D-1A
0-50 ppm	TG3E-1A
0-100 ppm	TG3F-1A
0-200 ppm	TG3G-1A
0-300 ppm	TG3H-1A

## 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.

Gas	Concentration Used (ppm)	3NDH (ppm NO <sub>2</sub> )
Carbon Monoxide, CO	300	0
Hydrogen Sulfide, H <sub>2</sub> S	15	-1.5 < x < 0
Sulfur Dioxide, SO <sub>2</sub>	5	-0.05 < x < 0
Nitric Oxide, NO	35	0
Chlorine, Cl <sub>2</sub>	1	≈ 1
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

The cross-sensitivity values quoted are based on tests conducted on a small number of sensors. They are intended to indicate sensor response to gases other than the target gas. Sensors may behave differently with changes in ambient conditions and any batch may show significant variation from the values quoted.

### **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

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