

Key Features & Benefits:

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

Technical Specifications

MEASUREMENT

Sensor Type Used	3HL
Filter	None
Output	4-20 mA d.c.
Response Time (T₉₀)	<120 Seconds at 20°C
Resolution	0.5 ppm
Zero Shift (-20°C to +40°C)	< 1.5 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

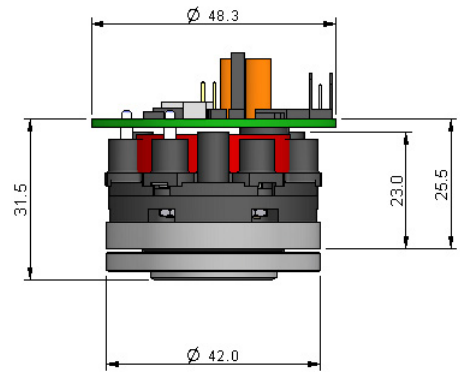
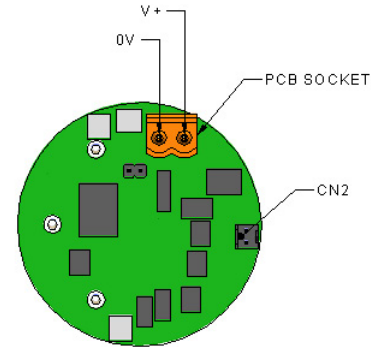
LIFETIME

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

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

Range	Order Code
0-10 ppm	TL1B-1A
0-20 ppm	TL1C-1A
0-50 ppm	TL1E-1A
0-100 ppm	TL1F-1A
0-200 ppm	TL1G-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)	3HL (ppm HCl)
Carbon Monoxide, CO	300	<3
Hydrogen Sulfide, H ₂ S	15	9 < x < 30
Sulfur Dioxide, SO ₂	5	2.5 < x < 4
Nitric Oxide, NO	5	0
Nitrogen Dioxide, NO ₂	100	<1
Chlorine, Cl ₂	1	0
Hydrogen, H ₂	100	<0.5
Hydrogen Cyanide, HCN	10	0
Ethylene, C ₂ H ₄	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