

## Key Features & Benefits:

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

## Technical Specifications

### MEASUREMENT

<b>Sensor Type Used</b>	3ST/F
<b>Filter</b>	To remove H <sub>2</sub> S
<b>Output</b>	4-20 mA d.c.
<b>Response Time (T<sub>90</sub>)</b>	<20 Seconds at 20°C
<b>Resolution</b>	0.5 ppm
<b>Zero Shift (-20°C to +40°C)</b>	<1 ppm equivalent
<b>Repeatability</b>	1% of signal
<b>Linearity</b>	Linear

### ELECTRICAL

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

### MECHANICAL

<b>Mounting</b>	Via mounting nose supplied
<b>Weight</b>	58 g including mounting accessory
<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>Pressure Coefficient</b>	0.01% signal/mBar
<b>Operating Humidity Range</b>	15 - 90% RH non-condensing

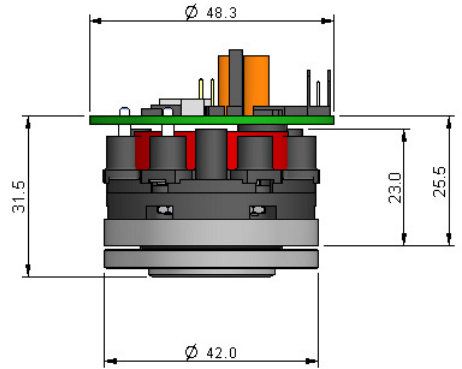
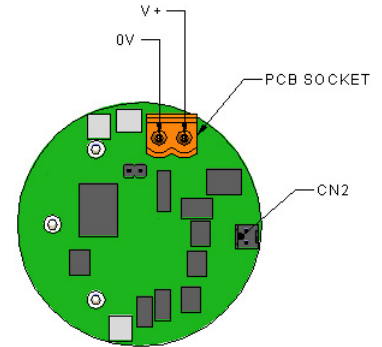
### LIFETIME

<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

## 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

3ST/F 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	TD2B-1A
0-20 ppm	TD2C-1A
0-30 ppm	TD2D-1A
0-50 ppm	TD2E-1A
0-100 ppm	TD2F-1A
0-200 ppm	TD2G-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)	3ST/F (ppm SO <sub>2</sub> )
Carbon Monoxide, CO	300	<5
Hydrogen Sulfide, H <sub>2</sub> S	15	0
Nitric Oxide, NO	35	0
Nitrogen Dioxide, NO <sub>2</sub>	5	≈ -5
Chlorine, Cl <sub>2</sub>	1	< -0.5
Hydrogen, H <sub>2</sub>	100	0
Hydrogen Cyanide, HCN	10	<5
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