

**Key Features & Benefits:**

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

**Technical Specifications**

**MEASUREMENT**

<b>Sensor Type Used</b>	3F/F
<b>Filter</b>	To remove acid gases
<b>Output</b>	4-20 mA d.c.
<b>Response Time (T<sub>90</sub>)</b>	<30 Seconds at 20°C
<b>Resolution</b>	1 ppm
<b>Zero Shift (-20°C to +40°C)</b>	<20 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>	0.007 ± 0.003% signal/mBar
<b>Operating Humidity Range</b>	15 - 90% RH non-condensing

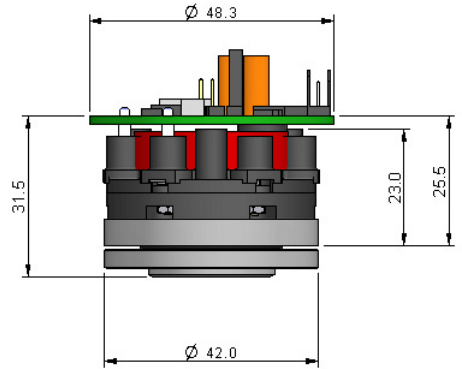
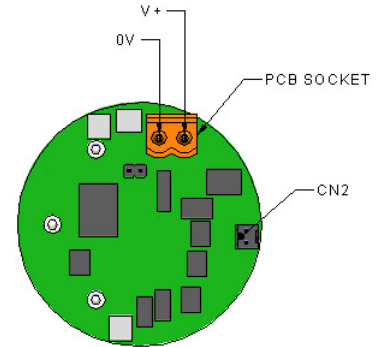
**LIFETIME**

<b>Long Term Sensitivity Drift</b>	<2% signal loss/month
<b>Expected Operating Life</b>	Three 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**

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

Range	Order Code
0-500 ppm	TBAI-1A
0-1000 ppm	TBAJ-1A
0-2000 ppm	TBAK-1A
0-3000 ppm	TBAL-1A
0-4000 ppm	TBAM-1A
0-10000 ppm	TBAN-1A
0-20000 ppm	TBAO-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. The figures are expressed as a percentage of the primary sensitivity (i.e. CO = 100%).

Gas	3FF (%)
Carbon Monoxide, CO	100
Hydrogen Sulfide, H <sub>2</sub> S	0
Sulfur Dioxide, SO <sub>2</sub>	0
Nitric Oxide, NO	0
Nitrogen Dioxide, NO <sub>2</sub>	0
Hydrogen, H <sub>2</sub>	<60 <sup>1</sup>
Hydrogen Chloride, HCl	0
Ethylene, C <sub>2</sub> H <sub>4</sub>	<10

Note 1 : For applications where a hydrogen compensated output is required, the A3E/D CiTiceL should be used

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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