



# T3H Transmitter

## Performance Characteristics

<b>Sensor Type Used</b>	3H
<b>Expected Operating Life</b>	Two years in air
<b>Resolution</b>	0.25ppm
<b>Temperature Range</b>	-40°C to +50°C
<b>Pressure Range</b>	Atmospheric ± 10%
<b>Pressure Coefficient</b>	0.008±0.002%signal/mBar
<b>T<sub>90</sub> Response Time</b>	≤35 seconds
<b>Relative Humidity Range</b>	15 to 90% non-condensing
<b>Maximum Zero Shift (+20°C to +40°C)</b>	2ppm equivalent
<b>Long Term Output Drift</b>	<2% signal loss/month
<b>Repeatability</b>	1% of signal
<b>Output Linearity</b>	Linear

N.B. All performance data is based on conditions at 20°C, 50%RH, and 1013mBar

## Electrical Properties

<b>Output</b>	4-20mA d.c.
<b>Power Supply Required</b>	10 to 35V d.c. single-ended
<b>Calibration</b>	Via built-in span and zero potentiometers
<b>Output Impedance</b>	4MΩ

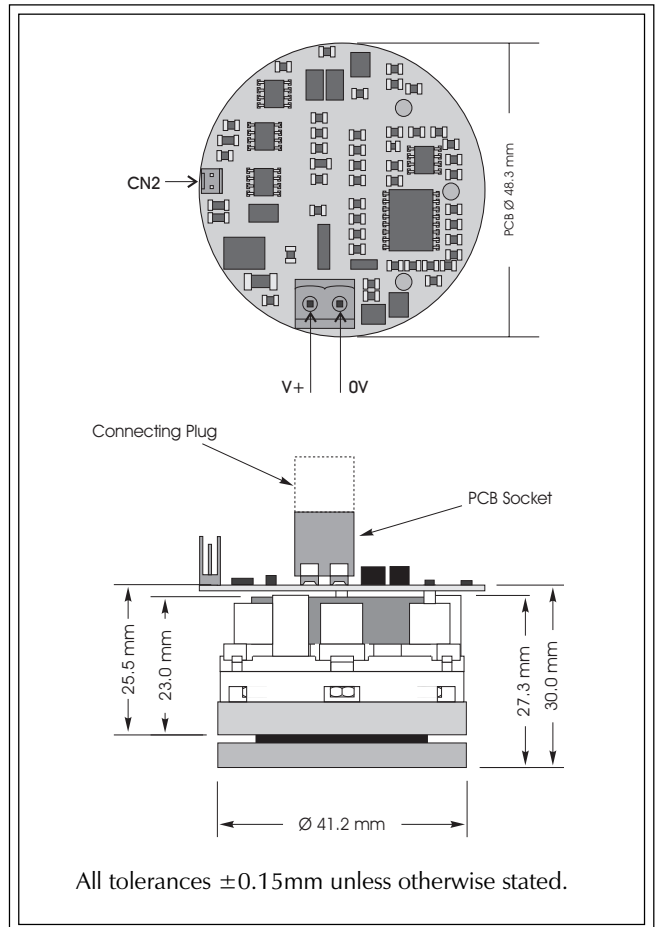
## Physical Characteristics

<b>Weight</b>	58g (incl. mounting accessory)
<b>Position Sensitivity</b>	None
<b>Storage Life</b>	Six months in CTL container
<b>Recommended Storage Temperature</b>	0-20°C
<b>Warranty Period</b>	12 months from date of despatch

## Ranges Available

3H CiTiceL 4-20mA Transmitters are available with the following precalibrated ranges, and can be recalibrated to an intermediate range:

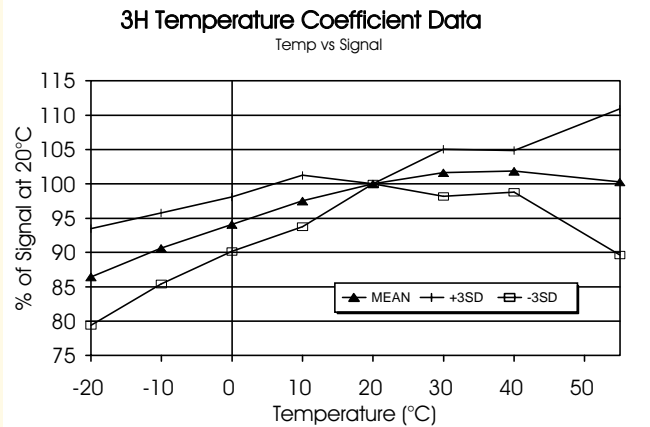
Range	Order Code
0-5ppm .....	TC4A-1A
0-10ppm .....	TC4B-1A
0-20ppm .....	TC4C-1A
0-30ppm .....	TC4D-1A
0-50ppm .....	TC4E-1A
0-100ppm .....	TC4F-1A
0-200ppm .....	TC4G-1A
0-300ppm .....	TC4H-1A



## Temperature Dependence

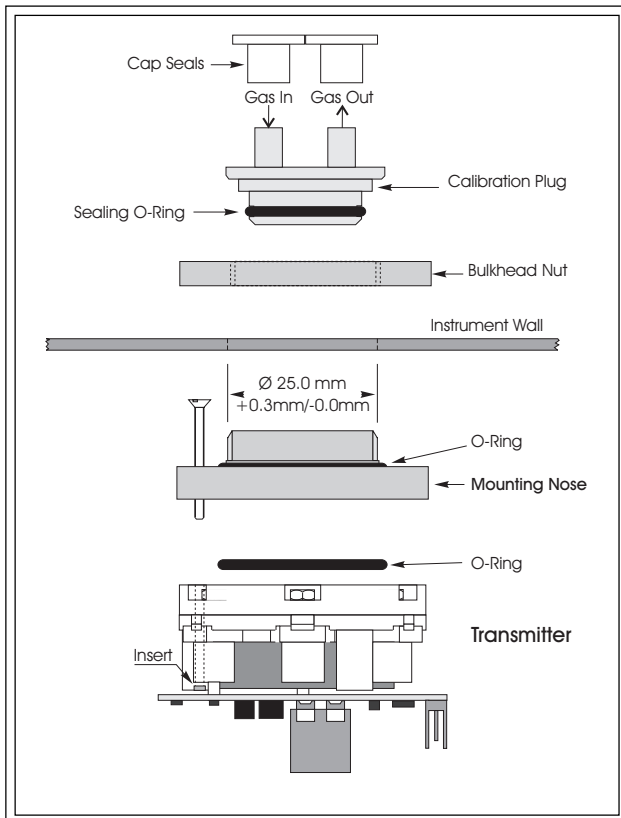
The output of a CiTiceL can vary with temperature. The graph here shows the variation in output with temperature for 3H CiTiceLs based on a sample of about 16 sensors. The results are shown in the graph as a mean for the batch, and expressed as a percentage of the signal at 20°C.

From a statistical viewpoint, for a sample of this size, the range in values observed for all sensors of this type will fall within a range three times the standard deviation above or below the mean. Assuming therefore this sample is typical, then the temperature behaviour of all 3H CiTiceLs will fall in the band +3SD to -3SD.



## Mounting

A diffusion mounting assembly, the "nose" adaptor, is supplied with CiTiceL transmitters for convenient mounting in a wide range of weatherproof housings. The nose adaptor requires a 25mm diameter hole in the outside wall of the housing to allow installation. The assembly is shown below.



The Mounting Nose also features a plug for easy zeroing and exposure to gas during calibration. A bonded membrane and mesh is included to prevent the ingress of dirt and dust particles to the CiTiceL.

## Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 3H CiTiceLs have been tested with a number of commonly cross-interfering gases and the results expressed below as the typical response to be expected from a sensor when exposed to a given test gas concentration (relevant to safety, e.g. TLV levels).

Gas	Conc.	3H
Carbon monoxide:	300ppm	≤6ppm
Sulphur dioxide:	5ppm	<1ppm
Nitric oxide:	35ppm	<0ppm
Nitrogen dioxide:	5ppm	≈-1ppm
Chlorine:	1ppm	≈-0.1ppm
Hydrogen:	10,000ppm	<15ppm
Hydrogen cyanide:	10ppm	0ppm
Hydrogen chloride:	5ppm	0ppm
Ethylene:	100ppm	0ppm

\*\*For details of other possible cross-interfering gases contact City Technology.\*\*