

Hydrogen CiTiceL<sup>®</sup> Specification**T3HYT - Low**

®

## Low Range CiTiceL 4-20mA Transmitter

**Performance Characteristics**

<b>Sensor Type Used</b>	3HYT
<b>Expected Operating Life</b>	Two years in air
<b>Resolution</b>	2ppm
<b>Temperature Range</b>	-20°C to +50°C
<b>Pressure Range</b>	Atmospheric $\pm$ 10%
<b>Pressure Coefficient</b>	0.009 $\pm$ 0.003% signal/mBar
<b>T<sub>90</sub> Response Time</b>	$\leq$ 30 seconds
<b>Relative Humidity Range</b>	15 to 90% non-condensing
<b>Maximum Zero Shift (+20°C to +40°C)</b>	-35ppm equivalent
<b>Long Term Output Drift</b>	<2% signal loss/month
<b>Repeatability</b>	2% 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>	4M $\Omega$

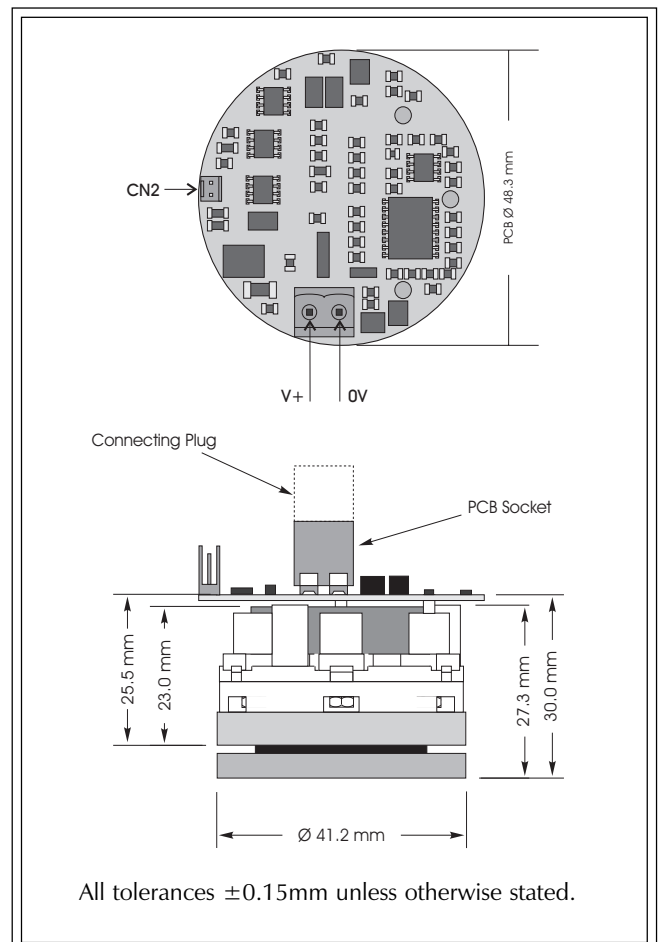
**Physical Characteristics**

<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 depatch

**Ranges Available**

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

Range	Order Code
0-200ppm	TE1G-1A
0-300ppm	TE1H-1A
0-500ppm	TE1I-1A
0-1000ppm	TE1J-1A
0-2000ppm	TE1K-1A



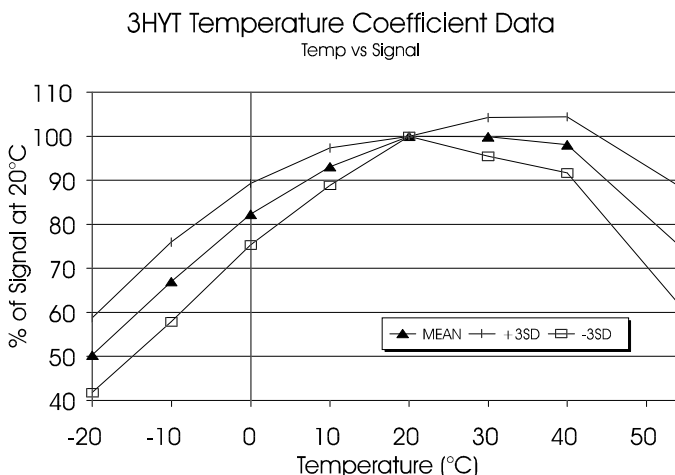
Doc. Ref.: T3HYTlow.p65  
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## Temperature Dependence

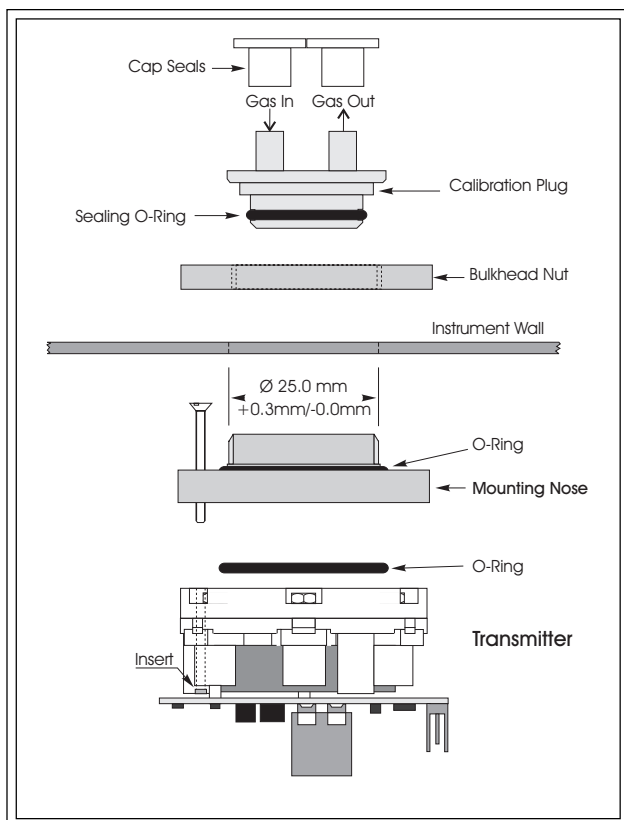
The output of a CiTiceL can vary with temperature. The graph here shows the variation in output with temperature for 3HYT CiTiceLs based on a sample of about 16 sensors. The results are shown in the graph as a mean for the batch, and expressed as a percentage of the signal at 20°C.

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 3HYT 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. 3HYT 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.	3HYT
<b>Carbon monoxide:</b>	300ppm	# 3ppm
<b>Hydrogen sulphide:</b>	15ppm	<3ppm
<b>Sulphur dioxide:</b>	5ppm	0ppm
<b>Nitric oxide:</b>	35ppm	≈10ppm
<b>Nitrogen dioxide:</b>	5ppm	0ppm
<b>Chlorine:</b>	1ppm	0ppm
<b>Hydrogen cyanide:</b>	10ppm	≈3ppm
<b>Hydrogen chloride:</b>	5ppm	0ppm
<b>Ethylene:</b>	100ppm	≈80ppm

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

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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.