Hydrogen CiTiceL® Specification

T3HYT - Low

Low Range CiTiceL 4-20mA Transmitter

Performance Characteristics

Sensor Type Used	3HYT
Expected Operating Life	Two years in air
Resolution	2ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	0.009 ± 0.003% signal/mBar
T_{90} Response Time	≤30 seconds
Relative Humidity Range	15 to 90% non-condensing
Maximum Zero Shift (+20°C to +40°C)	-35ppm equivalent
Long Term Output Drift	<2% signal loss/month
Repeatability	2% of signal
Output Linearity	Linear

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

Ranges Available

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

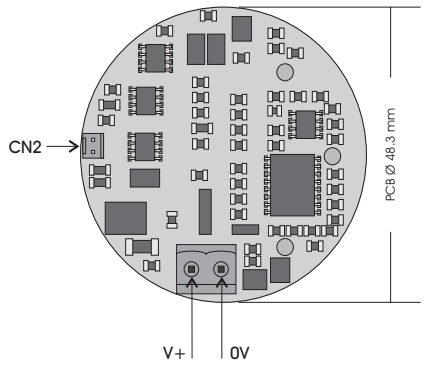
Range	Order Code
0-200ppm	TE1G-1A
0-300ppm	TE1H-1A
0-500ppm	TE1I-1A
0-1000ppm	TE1J-1A
0-2000ppm	TE1K-1A

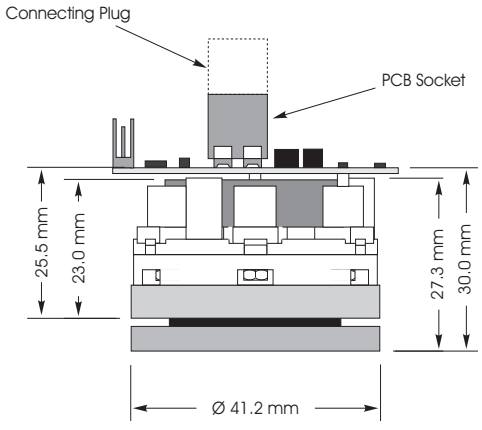
Electrical Properties

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

Physical Characteristics

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





All tolerances ±0.15mm unless otherwise stated.

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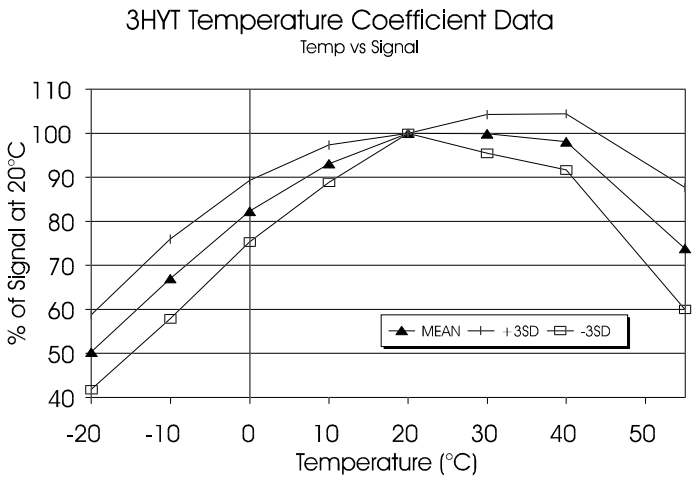
Temperature Dependence

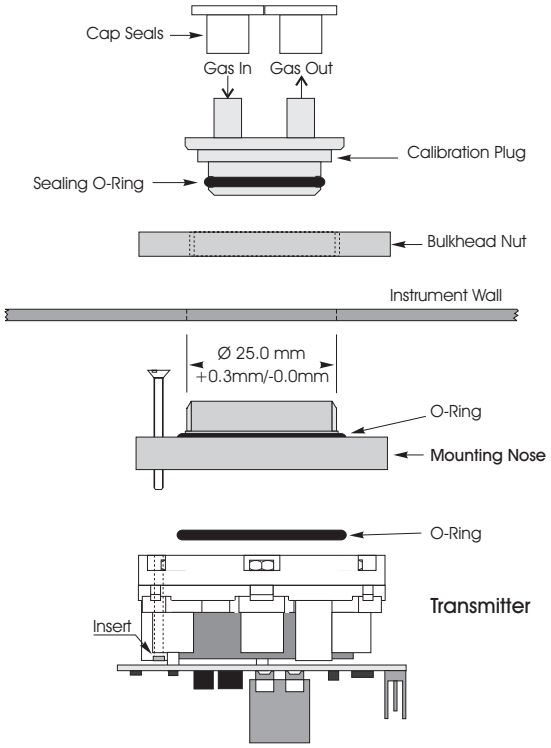
The output of a CiTiceL can vary with temperature. The graph here shows the variation in output with temperature for 3HYT CiTiceLs based on a sample of about 16 sensors. The results are shown in the graph as a mean for the batch, and expressed as a percentage of the signal at 20°C.

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

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