



T3F/F CiTiceL

High Range CiTiceL 4-20mA Transmitter

Performance Characteristics

Sensor Type Used	3F/F
Inboard Filter	To remove acid gases
Expected Operating Life	Three years in air
Resolution	1ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	0.007 ± 0.003% signal/mBar
T₉₀ Response Time	<30 seconds
Relative Humidity Range	15 to 90% non-condensing
Maximum Zero Shift (+20°C to +40°C)	20ppm equivalent
Long Term Output Drift	<2% signal loss/month
Repeatability	1% of signal
Output Linearity	Linear

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

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

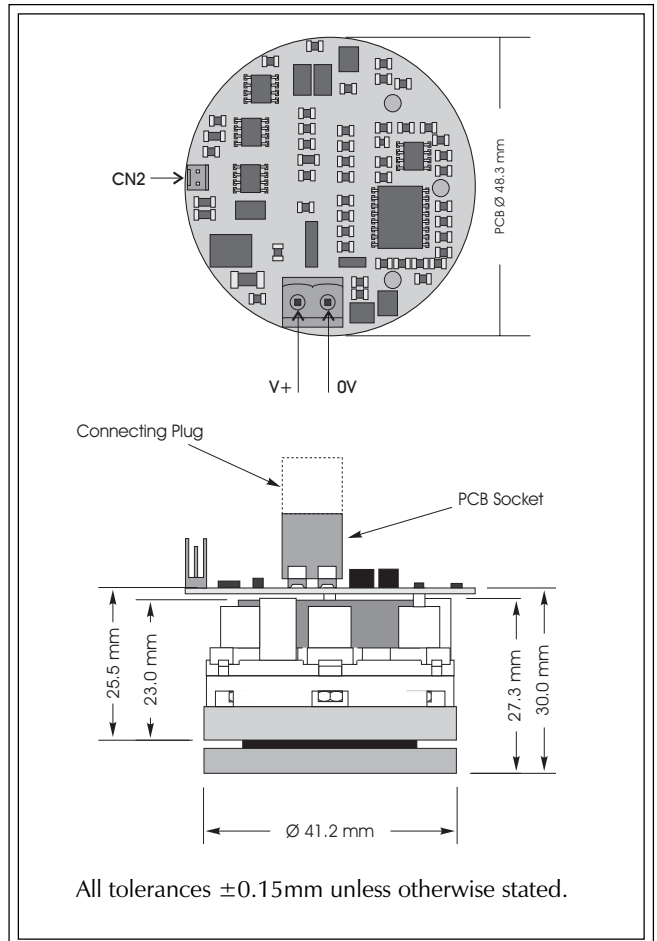
Physical Characteristics

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 despatch

Ranges Available

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

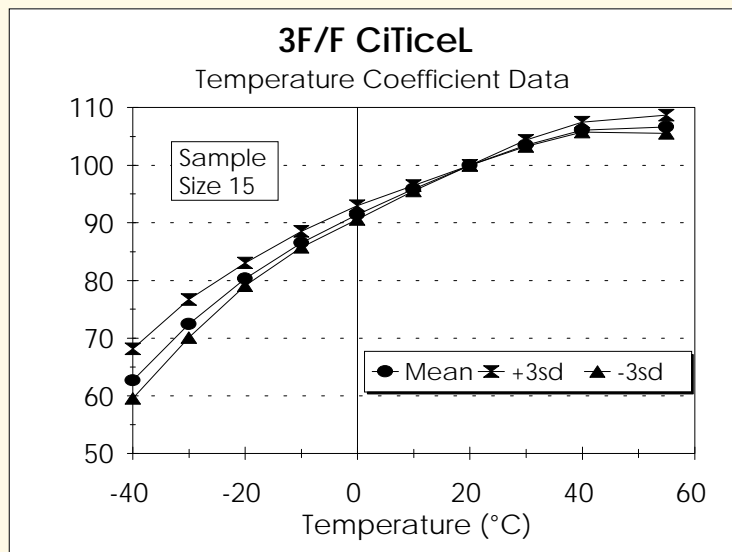
Range	Order Code
0-500ppm	TBAI-1A
0-1000ppm	TBAJ-1A
0-2000ppm	TBAK-1A
0-3000ppm	TBAL-1A
0-4000ppm	TBAM-1A
0-10 000ppm	TBAN-1A
0-20 000ppm	TBAO-1A



Temperature Dependence

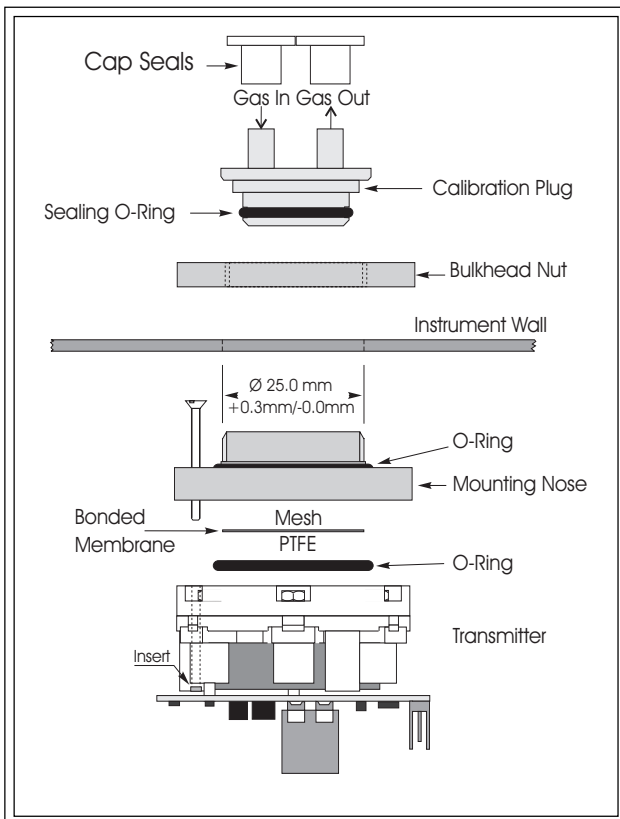
The output of a CiTiceL can vary with temperature. The graph here shows the variation in output with temperature for 3F/F CiTiceLs based on a sample of about 16 sensors. The results are shown in the graph as a mean for the batch, and expressed as a percentage of the signal at 20°C.

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 3F/F 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. The figures below show the typical response of a 3F/F sensor to a number of common cross-interfering gases. The data is expressed as a percentage of the primary sensitivity (i.e. carbon monoxide = 100%).

Gas	Response
Hydrogen sulphide:	0
Sulphur dioxide:	0
Nitric oxide:	0
Nitrogen dioxide:	0
Hydrogen:	<60 ¹
Hydrogen chloride:	0
Ethylene:	<10

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

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