



Carbon monoxide CiTiceL[®] Specification

3E & 3E/F CiTiceLs

Performance Characteristics

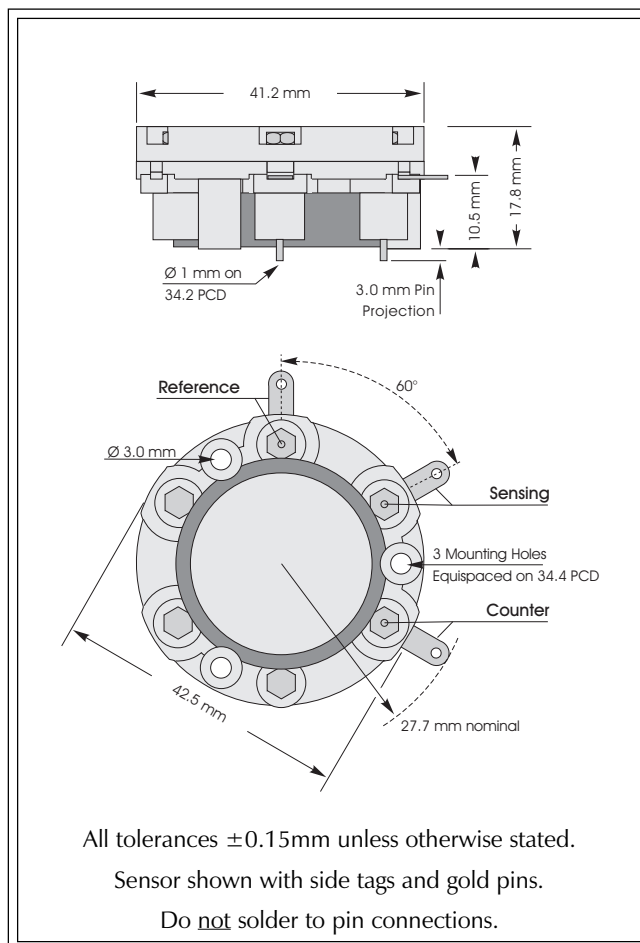
Nominal Range	0-1000ppm
Maximum Overload	2000ppm
Expected Operating Life	Three years in air
Output Signal	0.10 ± 0.02 μA/ppm
Inboard Filter (3E/F only)	To remove SO _x /NO _x & H ₂ S
Resolution	0.5ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	0.020 ± 0.008 %signal/mBar
T₉₀ Response Time	3E: ≤25 seconds 3E/F: ≤30 seconds
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Range (pure air)	-1 to +3ppm equivalent
Maximum Zero Shift (+20°C to +40°C)	9ppm equivalent
Long Term Output Drift	<5% signal loss/year
Recommended Load Resistor	10Ω
Bias Voltage	Not required
Repeatability	1% of signal
Output Linearity	Linear

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

Physical Characteristics

Weight	22g
Position Sensitivity	None
Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C
Warranty Period	12 months from date of despatch

Doc. Ref.: 3E.p65
Issue 4.3 Aug 12, 1999



Ordering Information

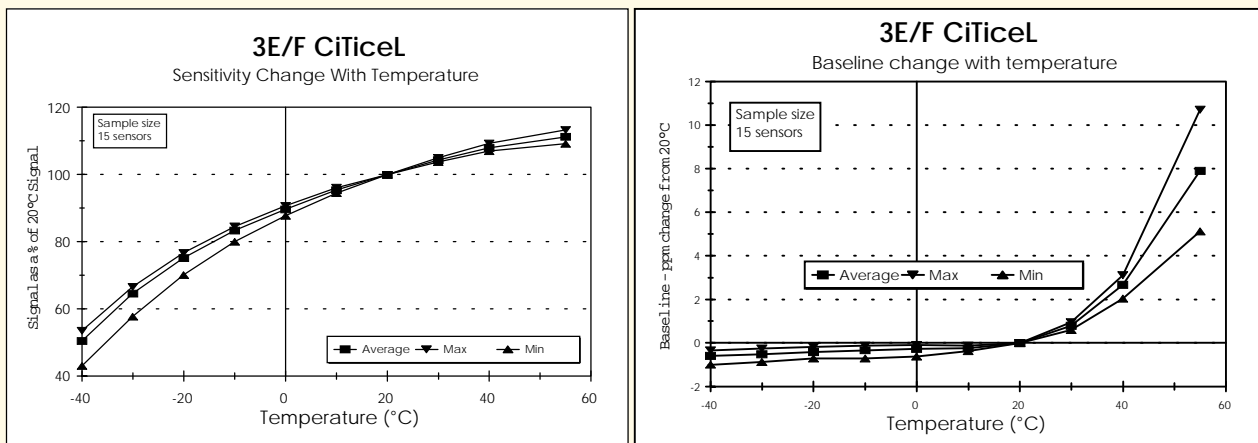
The 3E and 3E/F Carbon Monoxide CiTiceLs are available with side tags, gold-plated PCB pins, or both PCB pins and side tags. To ensure the appropriate option is supplied care must be taken to provide the correct code when ordering.

Type 3E	
With side tag and PCB pin connections	3E
With side tag connection	3E(S)
With gold-plated PCB pin connection	3E(G)
Type 3E/F	
With side tag and PCB pin connections	3E/F
With side tag connection	3E/F(S)
With gold-plated PCB pin connection	3E/F(G)



Temperature Data

The temperature behaviour of 3E and 3E/F CiTiceLs can be considered to be virtually identical. The graphs below show the baseline and sensitivity changes with temperature for the 3E/F based on a sample size of about 15 sensors



Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 3E and 3E/F CiTiceLs have been tested with a number of commonly cross-interfering gases and the results are given below. The table shows 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.	3E	Gas	Conc.	3E/F
Hydrogen sulphide:	15ppm	≈50ppm	Hydrogen sulphide:	15ppm	≈1ppm
Sulphur dioxide:	5ppm	≈3ppm	Sulphur dioxide:	5ppm	0ppm
Nitric oxide:	35ppm	≈10ppm	Nitric oxide:	35ppm	<3.5ppm
Nitrogen dioxide:	5ppm	≈-3ppm	Nitrogen dioxide:	5ppm	0ppm
Chlorine:	1ppm	0ppm	Chlorine:	1ppm	0ppm
Hydrogen:	100ppm	<60ppm	Hydrogen:	100ppm	<60ppm
Hydrogen cyanide:	10ppm	≈5ppm	Hydrogen cyanide:	10ppm	0ppm
Hydrogen chloride:	5ppm	0ppm	Hydrogen chloride:	5ppm	0ppm
Ethylene:	100ppm	≈90ppm	Ethylene:	100ppm	≤75ppm

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

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement City Technology Limited reserves the right to make product changes without notice. No liability is accepted for any consequential losses, injury or damage resulting from the use of this document or from any omissions or errors herein. The data is given for guidance only. It does not constitute a specification or an offer for sale. The products are always subject to a programme of improvement and testing which may result in some changes in the characteristics quoted. As the products may be used by the client in circumstances beyond the knowledge and control of City Technology Limited, we cannot give any warranty as to the relevance of these particulars to an application. It is the clients' responsibility to carry out the necessary tests to determine the usefulness of the products and to ensure their safety of operation in a particular application.