Oxygen CiTiceL® Specification

5FO CiTiceL®

Performance Characteristics

Nominal Range	0-25% Oxygen
Max Overload	30% Oxygen
Expected Operating Life	Two years in Air
Output Signal	0.41 ± 0.05mA in Air
T_{95} Response Time	<20 seconds
Temperature Range	-20°C to +45°C
Temperature Coefficient	0.2% signal/°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	<0.02% signal/mBar
Operating Humidity	0 to 99% RH non-condensing
Long Term Output Drift	<5% signal loss/year
Maximum Load Resistor	100Ω
Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C

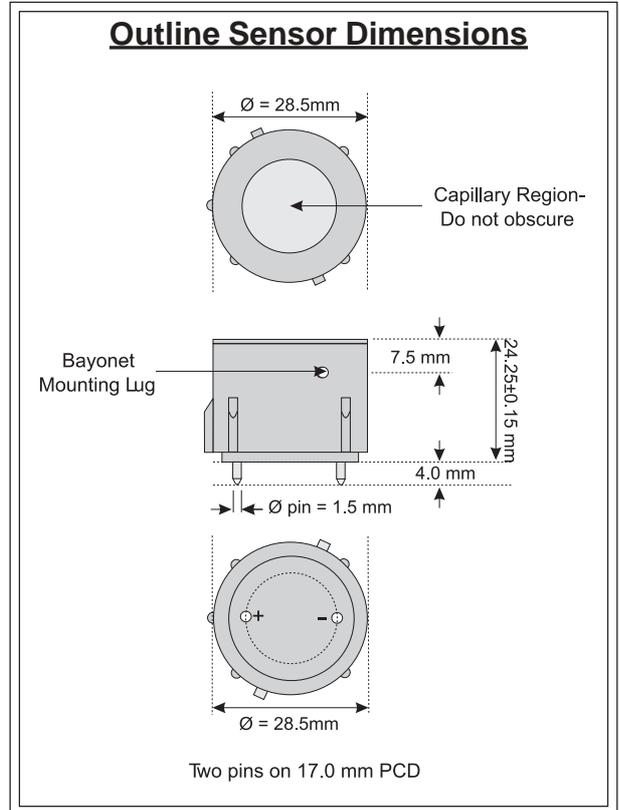N.B.   All performance data is based on conditions at 20°C, 50%RH, and 1013mBar

Physical Characteristics

Weight	44 g
Position Sensitivity	None
Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C
Warranty Period	12 months from date of despatch

Outline Sensor Dimensions

Ø = 28.5mm

Capillary Region- Do not obscure

Bayonet Mounting Lug

7.5 mm

24.25±0.15 mm

4.0 mm

Ø pin = 1.5 mm

Ø = 28.5mm

Two pins on 17.0 mm PCD

With Bayonet Fitting

31.8 mm sq.

Ø3.2 mm (typ)

TOP VIEW

25.8 centres

Ø1.5 mm (typ)

4 mm

29.0 mm max.

16 mm

SIDE VIEW

4 mm

City Technology Ltd, City Technology Centre, Walton Rd, Portsmouth PO6 1SZ, UK
Tel:+44 23 9232 5511, Fax:+44 23 9238 6611, sensors@citytech.co.uk, www.citytech.com
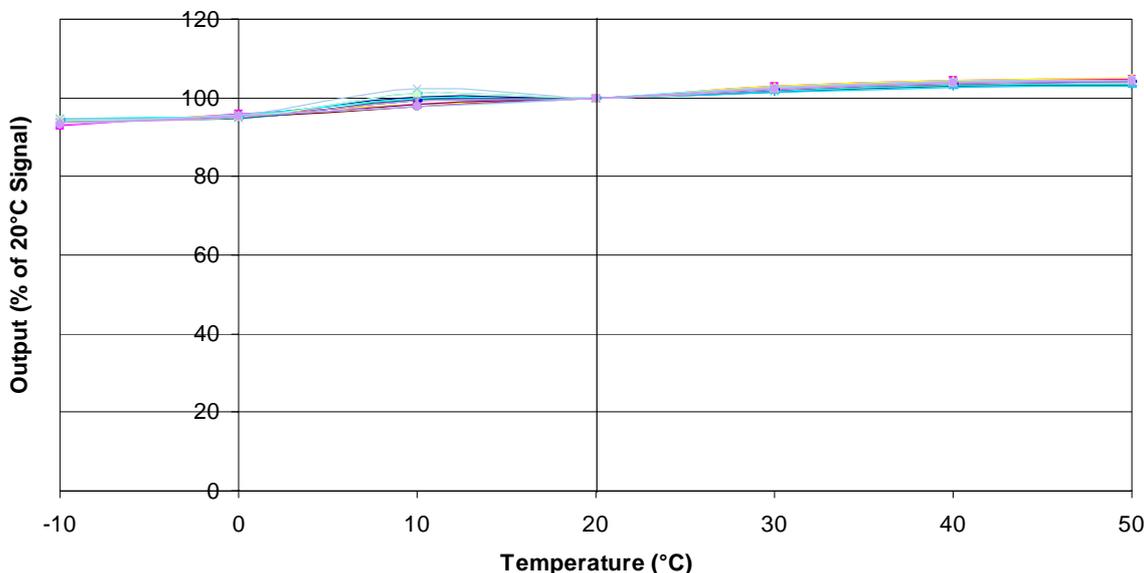
Oxygen CiTiceL® Specification
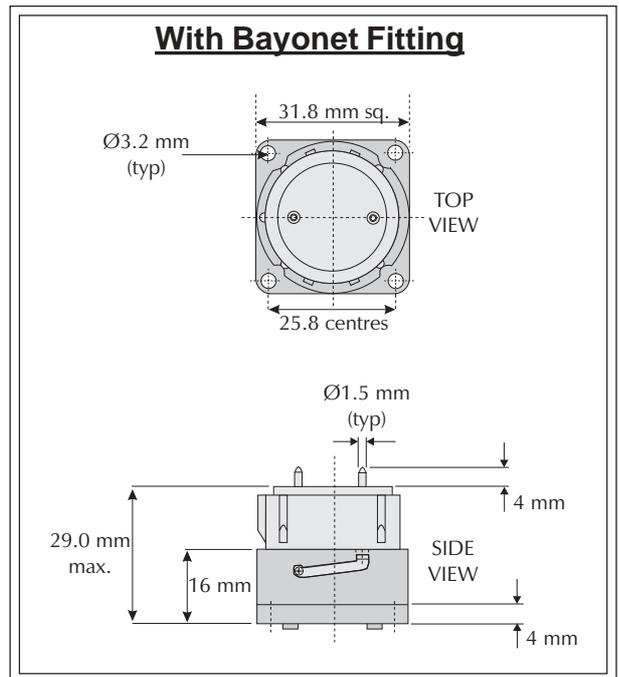
5FO CiTiceL
**Typical Temperature Coefficient Data**

Linearity

The output signal of an Oxygen CiTiceL follows the relationship:

$$S = K \log_e 1/(1-C)$$

where:

S = Output signal;
C = Fractional oxygen concentration;
K = a constant for the sensor.

For most applications the deviation from a linear response will be insignificant, and no compensation needed. For example, the graph below shows the output of a sensor calibrated in air (20.9% O_2). In this case the maximum error in the 0-25% range is ≈0.5% at around 10% O_2.

Output Signal vs Concentration
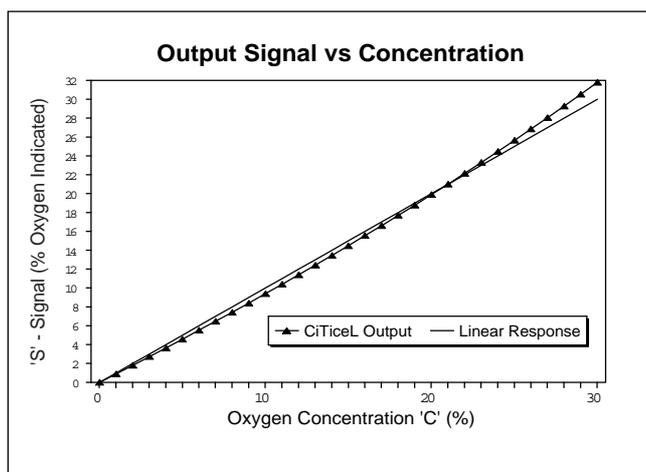
Cross-sensitivity Data

Gas	Concentration	Balance	%O_2 equivalent
Hydrocarbons	100%	n/a	0
Methane	100%	n/a	0
Hydrogen	100%	n/a	< -2%
Carbon monoxide	20%	Nitrogen	<-0.5%

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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.

City Technology Ltd, City Technology Centre, Walton Rd, Portsmouth PO6 1SZ, UK
Tel:+44 23 9232 5511, Fax:+44 23 9238 6611, sensors@citytech.co.uk, www.citytech.com