



## Yellow Box

### Portable Oxygen Analyser



The Ntron Yellow Box is a compact, robust, transportable oxygen analyser providing a versatile solution for high purity oxygen measurement applications.

The zirconia sensor offers fast response time and a long service life with virtually no drift. The analyser comprises of up to 3 discreet oxygen sensors for ppm & % oxygen up to 96%.

### Applications

- » Gas generation (oxygen / nitrogen)
- » Pharmaceutical industries
- » Industrial gas applications
- » Medical gas applications
- » Additive manufacturing

### Features

- » Long life solid state zirconia sensor
- » Measurement range: 0 to 1000ppm, 0 to 25%, 0 to 96% O<sub>2</sub>
- » Rechargeable battery pack (Optional)
- » Integral flow meter for positive pressure sample flow indication
- » LCD + 4 button HMI
- » Lightweight, rugged and portable
- » 2 and 3 sensor option available
- » Analogue output per sensor.



### Proven sensor technology

With solid state zirconia oxide sensor technology the Yellow Box offers reliability, accuracy and flexibility. With a broad measurement capability allowing the user to measure from selected ranges from 1ppm to 96% oxygen.

### Zirconia sensor

The Ntron zirconia oxygen sensor is a non-depleting zirconia solid electrolyte sensor. A small capillary on the sensor controls the diffusion of oxygen into the sensor. When heated to over 400°C oxygen is electronically reduced causing current flow through the zirconia electrolyte. Zirconium-oxide allows the movement of oxygen ions through the substrate from a high to a low concentration. The measurement of oxygen is determined by the current flowing through the electrodes. The zirconia sensor has an unlimited shelf life without the loss of calibration and has an expected life in excess of 5 years. The zirconia sensor is not position sensitive and has low cross sensitivity to other gases and does not dry out.

### Low maintenance and cost of ownership

Due to the highly stable nature of the sensor, a calibration interval of once per year is required, allowing for significant cost savings. The construction of our zirconia oxygen sensor means that only 100 mL/min of sample gas is required, providing application flexibility and further potential cost savings.

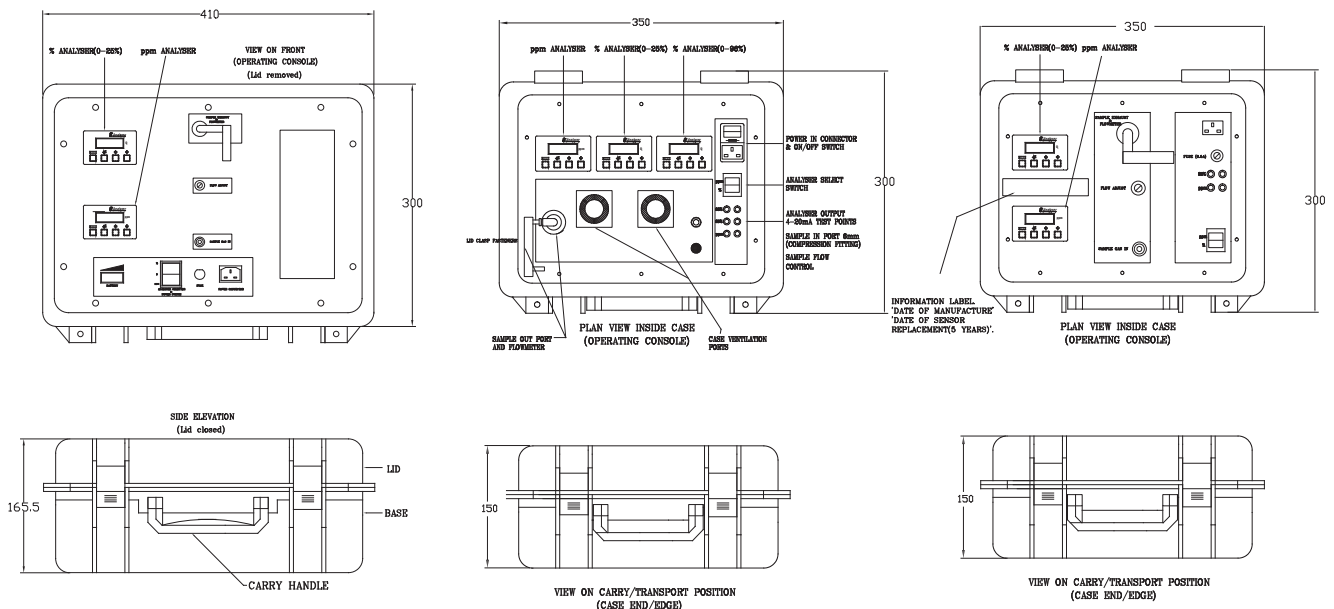
### Fast response time

Zirconia oxygen sensors respond very quickly to oxygen concentrations in both directions with a T90 of less than 10 seconds within a set range.

### A robust and portable gas measurement solution

The Yellow Box is made from light, durable, high impact co-polymer polypropylene which allows for ease of transportation and operation on a daily basis.

## Technical Drawings



## Related Products



**SENZTX**  
Oxygen  
Transmitter



**SF82**  
Dew Point  
Transmitter



**Minox i**  
ATEX Rated  
O<sub>2</sub> Transmitter



**Gasenz**  
Ambient O<sub>2</sub>  
Monitor



**Microx**  
Oxygen  
Analyser



**Microx-OL**  
Online Oxygen  
Analyser



**GazTrak**  
Portable oxygen &  
moisture measurement

Performance	
Transmitter Model	Yellow Box
Measurement technology	Zirconia (ZR)
Measurement range	0 to 1,000ppm / 0 to 25% / 0 to 96%
Output resolution ( for %)	0.01%
Output resolution (for ppm)	1ppm
Accuracy	+/-2% of reading (or 2ppm O2) @ calibrated temperature and pressure
Response time (T90)	<10 seconds @ 20°C. Warm up time: 15mins from switch on.
LDL (Sensitivity)	0.01% (when measuring %) / 1ppm (when measuring ppm)
Temperature range	-20°C to +50°C
Pressure range	Regulated to 5 psi(G)
Linearity	2% of reading
Life expectation	>30,000 hours in 20.9% oxygen (ambient air)
Humidity	0-95% RH non-condensing
Shelf life	No shelf life
Electrical Input / Output	
Power supply	Internal rechargeable battery and charger (Optional) Charge via 3-pin IEC Mains connector @ 85-240 VAC 50-60Hz
Power consumption	Max Load 160mA
Signal output	4-20mA
Digital communications	RS232 bi-directional Modbus protocol.
Connection Ports	<b>Sample In:</b> 6mm / 1/4" 'Bulkhead' tube compression fittings <b>Sample Exhaust Out:</b> Via Flowmeter port.
Display format	% O <sub>2</sub> / ppm O <sub>2</sub>
User interface	LCD wiith 4 button multifunction keypad
Mechanical Specifications	
Dimensions	See technical drawings
Weight	4.5kg / 4.5kg / 8.5kg
Case materials	High impact copolymer polypropylene
Sample gas	Standard 0.5 SLPM
Internal regulation	Sample pressure & flow set at 5PSIG / 0.3BARG; 0.55SCFH / 250 ml/m
Sample connection	6mm / 1/4" compression fitting
Ingress protection	IP67 when case closed for transportation
Certification	
Complies with EMC Directive 2004 / 108 / EC. UL/ETL Certification Number: UL-61010-1	



# Yellow Box

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## Ordering information

Product Specification		Main Description (Parts contained within every Yellow Box)
Features:	Case: Output: Display: Power Supply:	High Impact Carry Case 4 -20mA Analog Output A Display per O2 sensor 240 VAC
Model	Order Code	Extended Description (Parts Unique to the selected model of Yellow Box)
Yellow Box Model 100	01-732	Dual Zirconia O2 sensors, Battery Back Up, Range: 0-1000ppm & 0-25%
Yellow Box Model 200	03-571	Dual Zirconia O2 sensors, Range: 0-1000ppm & 0-25%
Yellow Box Model 300	04-203	Triple Zircona O2 sensors, Range: 0-1000ppm, 0-25% & 0-96%