

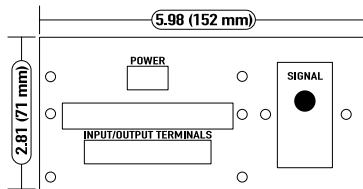
# MODEL 3100

Compact Oxygen Analyzer

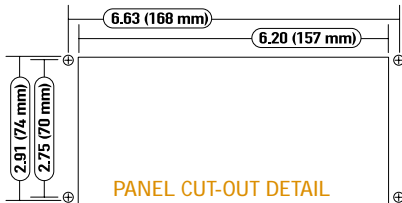
Zirconia Sensor/Percent-PPM Range



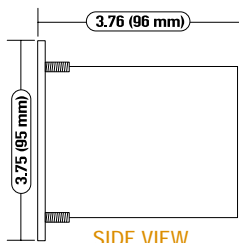
## Oxygen analysis doesn't have to be complicated or expensive



BACK PANEL DETAIL



PANEL CUT-OUT DETAIL



SIDE VIEW

Dimensions in Inches (mm)

Sensor	Rapid Response Zirconia Sensor/Remote Mount
Measurement Range	0-10ppm/0-100ppm/0-1,000ppm/0-10,000ppm/ 0-100% auto range or fixed range
Display	0.75" (19.05mm) LED digital display, Color coded LED's for system status, Alarms 1&2= RED, system fault= YELLOW, OK and online= GREEN
Response Time	< 10 seconds to ppm from air
Intrinsic Error (accuracy)	At constant temperature: $\pm 2\%$ range Over operating temperature: $\pm 5\%$ range when calibrated @ target concentration @ STP: $\pm 1\%$ range
Operating Temperature	5-45° C
Signal Interface	RS-232 service port, 4-20mA negative ground, 0-10VDC range ID and choice of 0-1VDC, 0-5VDC or 0-10VDC analog oxygen signal
Alarm Outputs	Two alarms with adjustable form C relay outputs. Configurable for fail-safe or fail-alarm mode, ascending or descending trip. One system fault relay. One alarm/relay for sensor heater OK.
Sample Port	1/4 inch compression type fittings on remote sensor module
Electrical Connections	Removable terminal blocks on back of analyzer
Power, Analyzer	5 watts at 115/230VAC 50/60Hz, single phase or 12-30VDC (battery backup capability)
Environmental Ratings, Analyzer	Faceplate: NEMA type 4, IP66 Housing: NEMA type 1, IP20
Warranty	Electronics and sensor: One year
Weight	Analyzer: Less than 2lbs. (0.9kg)

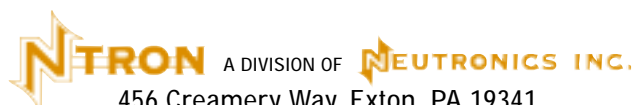


The model 3100... an affordable solution in industrial applications throughout the world.

- **COMPACT, MODULAR ANALYZER**  
EASY TO INSTALL WITH SMALL FOOTPRINT
- **SUPER FAST RESPONSE**  
AIR TO PPM O<sub>2</sub> IN LESS THAN 10 SECONDS
- **WIDE MEASUREMENT RANGE**  
MEASURE 100% TO PPM O<sub>2</sub> WITH ONE INSTRUMENT
- **LONG LIFE ZIRCONIA SENSOR**  
FIVE TO TEN YEARS EXPECTED OPERATIONAL LIFE  
UNLIMITED SHELF LIFE
- **LOW MAINTENANCE SENSOR**  
WILL NOT DRY OUT OR FREEZE
- **LOW COST**  
PRICED RIGHT FOR THE OEM AND END USER

ML103 Rev. A  
0700

See back for remote sensor module



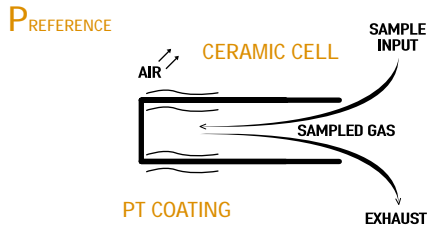
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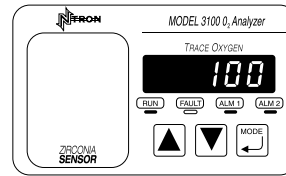
## How does a Zirconia Sensor Work?



At the heart of the *remote sensor unit* is a solid state Zirconia Cell. The cell is constructed of a ceramic tube with a platinum coating on the inside and outside. At 725° C, oxygen is electrochemically reduced at the cathode. The voltage produced is proportional to the net difference in the partial pressures of oxygen in the reference gas Vs the sampled gas. The unique design results in a sensor which has extremely fast response in addition to the capability of a wide measurement range: 100% to ppm concentration O<sub>2</sub>.

## Installation

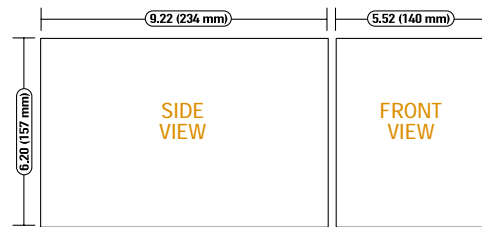
ANALYZER MOUNTED IN CUSTOMER PANEL



REMOTE SENSOR UNIT

SENSOR MOUNTED REMOTE AT SAMPLE POINT

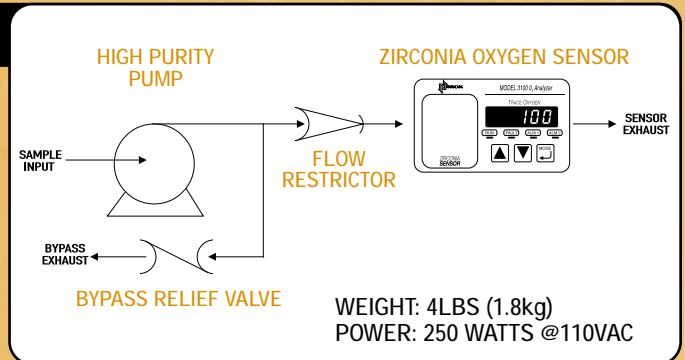
## Mechanical



## 1. PUMP DRIVE:

- High purity pump with SS head, Teflon diaphragm, Viton seals, 110/220VAC 60/60Hz.
- For vacuum to atmospheric applications.
- Bypass flow assures *rapid response*.

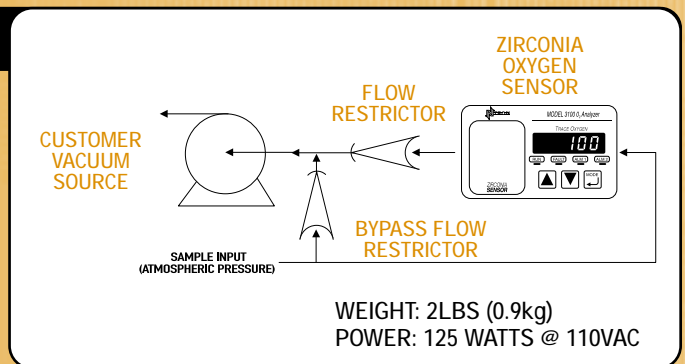
Sample Pressure	-5 Inches Hg. Vacuum	Atmospheric Pressure	+5 Inches Hg.
Sample Flow	~1SLPM	~2LPM	~5LPM



## 2. VACUUM DRIVE:

- On-board restrictors regulate pressure and flow to the sensor.
- For atmospheric pressure applications.
- For use with customer-supplied vacuum source.

Customer Vacuum	-5 Inches Hg. Vacuum	-10 Inches Hg. Vacuum	-15 Inches Hg. Vacuum
Sample Flow	~1.20SLPM	~1.45LPM	~1.60LPM



## 3. POSITIVE PRESSURE DRIVE:

- On-board restrictors regulate pressure and flow to the sensor.
- For positive pressure applications.
- Super-fast response.

Sample Pressure	+5 PSIG	+10 PSIG	+15 PSIG
Sample Flow	~1SLPM	~2LPM	~5LPM

