QUANTEK INSTRUMENTS
Oxygen and Carbon Dioxide Analyzers

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Model ZR1000 O2 Analyzer (0-1000ppm)

Overview

The Quantek Model ZR1000 is a trace oxygen analyzer used for the measurement of trace oxygen in all types of inert environments. The ultra-fast zirconia sensor will respond from 1000 to 10 ppm in about 23 seconds, as opposed to other instruments which may take minutes to reach 10ppm.

This unit is powered by an AC to 12Vdc power supply/adapter, or an optional Ni-MH rechargeable battery pack, with 8-10 hours of operation before recharging is required.

Sensor Design

The sensor in the Model ZR1000 is a robust, heated zirconia element with typical lifetime of 5 years, with an excellent response to trace O2 levels down to single numbers, in all types of inert gas environments. The inlet and outlet are isolated from ambient air by double check valves on both sides, protecting the sensor from high O2 levels when not in use.

Unlike electrochemical ppm oxygen sensors, the ZR1000 sensor will not degrade when the instrument is powered off, and exposed to room air. This eliminates the need to flush the instrument with a gas such as nitrogen, and keep the instrument completely sealed from the environment.

Electrochemical ppm sensors can have a lifespan as short as 3 months, which requires constantly purchasing and installing new sensors. Even worse, if the replacement sensor is not stored properly, you may end up with a sensor that has already degraded. Our zirconia sensor eliminates these problems.

Specifications

- Range: 0 to 1000 ppm Oxygen
- Resolution: 1 ppm Oxygen
- Response Time: 7 seconds from 1000 to 100 ppm; 15 seconds from 100 to 10 ppm.
- Accuracy: 5 ppm
- Minimum Detection Limit: 1 ppm
- Drift: Less than 1% per month
- Sensor: Proprietary zirconia cell, expected lifetime 4-5 years

- Sample Pump: Optional; Internal, with adjustable timer
- Sample Connection: quarter inch tubing to Swagelok fitting.
- Calibration: Calibrates with standard gas; adjusters on back of analyzer
- Calibration Frequency: Two years after initial shipment, recommended once a year thereafter
- Power Supply: 100 to 240 VAC, internationally compatibile
- Backup Power: 10 cell NiMH pack (optional)
- Input Voltage: 100-240V, 50-60Hz
- Battery Life: 10-14 hours before recharging
- Size: 9.8in x 4in x 10in. (249 x 102 x 254 mm)
- Weight: 8 lb. (3.6kg)
- Warranty: One Year
- Standards: RoHS, CE
- Included Documentation: NIST Traceable calibration certificate
- Origin of Goods: USA

Applications

- Gas Blending
- Biotech
- Detection of ppm oxygen in welding gases
- Process monitoring of ppm oxygen
- Glove boxes
- Trace oxygen measurements of all kinds
- Gas mixers
- Detection of ppm oxygen in nitrogen generators
- Air separation
- Reflow ovens
- Measurement of trace oxygen in insulated glass (IG) filling
- Nitrogen purged enclosures
- Inert gas systems
- 3D printing oxygen monitoring

What's Included

- **Internationally compatible (100-240V) power supply / charger**
- **A – double orange connector (1/16 ID tubing)** – useful if you choose to inject sample gas into the inlet of the analyzer using the supplied 60 cc syringe.
- **B – Two particulate filters** – These leur-fit filters can be attached to the inlet fitting of the analyzer to provide extra protection from particulates.
- **C – T style connector** – This fitting is useful as a flow limiter – by passing your sample gas through this fitting, and leaving one of the T stems open, you can reduce the flow reaching the analyzer.
- **D – Inlet fitting (accepts 1/4in ID tubing)** – This is a replacement spare for the inlet fitting in the event that your original fitting is damaged or the threads stripped.
- **E – Adjusting screwdriver for potentiometers** – This screwdriver fits the potentiometers on the back of the analyzer.
- **F – Rubber Washers** – These are replacement rubber washers. One is already installed behind the inlet fitting to provide a leaktight seal.

- **G – 60 cc syringe for sample injection** - Useful for syringe injection. Note, however that this method may require at least 120 cc of gas to get a proper reading.
- **H – 1/16 ID tubing** – This tubing can be attached to one of the orange hubbed needles, and affixed to the inlet fitting.
- **I – Internal inline moisture trap filter (PTFE .45 micron)** – This filter is a replacement for the inside particulate and moisture filter in the analyzer. Should you accidentally allow moisture into your gas flow, then find the readings not to change as expected, then you may need to replace this filter inside the analyzer by removing the top cover. This is a four layer filter which will completely block gas flow upon saturation.

Optional Items

- Optional internal sampling pump
- Optional 0-5V (or 4-20mA) analog output
- Optional cycling pump
- Optional contact closure for remote pump operation
- Optional complete data logging package - includes software, connection cables, and data logger (with LCD). Stores up to 1.7m measurements.