

Oxygen Analyzer Model 630

Instructions

Introduction

The OX630 utilizes a unique galvanic sensor to measure percentage concentration in air. The galvanic sensor is rugged and totally sealed from the environment. The sensor is temperature compensated to maintain accuracy for air calibration. There is no zero adjustment required. There is no membrane replacement or maintenance of the sensor during its expected life of 3-5 years.

The sensor does not exhibit hysteresis when sampling nor does it lose sensitivity or calibration with age. The sensor can withstand 25 psi and optional cable lengths are available up to 100 feet.

The OX630 is easily calibrated and the internal temperature compensation network corrects for the ambient temperature of the air. The meter comes with a carrying case and a sensor with a five-foot cable.

NOTE!

The electrode has a cathode made of gold. The electrode will not be damaged when exposed to chemicals such as H₂S, Cl₂, SO₂. Additionally, Co₂ will not neutralize the electrolyte.

WARNING! WARNING!

WARNING!

The OX630 is rugged but the meter is not waterproof, **DO NOT DROP IN WATER. DO NOT** scratch, puncture or permit sharp objects to touch the cell face. Sensor failure due to mishandling will void the sensor's warranty.

Specifications

METER:

Range: Concentration, 0-100.0%

Accuracy/Precision: +/-1.0% concentration

Resolution: 0.1%

Hysteresis: Non-existent

Temperature Compensation: Automatic from 0-40°C

Response Time: 95% of final reading in 30 seconds

Zero: True zero in absence of oxygen

Pressure: 25 psi maximum

CONTROLS:

Switch: OFF/%

Calibrate: Screwdriver adjustable to 20.9% concentration in air

MISCELLANEOUS:

Display: 0.5" LCD

Power: 9-Volt Battery

Battery Indicator: "BAT" lights when low

Size: Meter - 6.00 x 3.70 x 1.55"

Sensor - 2.35 diameter x 1.00 inch length

Warranty: Meter - two years; Sensor - one year

Instructions

Preparation - The sensor is always operating and does not require a warm-up period. Insert the sensor's cable plug firmly into the phone jack at the bottom of the analyzer. Turn the switch to 0-100%. Digits will appear on the display. If the battery is low, "BAT" will appear and the battery must be replaced.

Calibration - With the function switch on 0-100%, expose the sensing cell to fresh air and with a screwdriver, adjust the control on the side of the OX630 making the analyzer read 20.9%. Now expose the sensor to your sample and take your reading.

Measuring Your Sample - With the function switch on 0-100%, the analyzer will indicate the percent concentration of oxygen in the atmosphere with respect to air at any temperature within the operating range. You can increase the accuracy of your reading by calibrating the meter to a known standard close to the area in which you expect your readings to be. For example, if you want to measure an atmosphere around 70% oxygen, calibrate the meter with a known gas concentration in the range of 60 to 80%.

Maintenance

The sensor is permanently sealed. **UNDER NO CIRCUMSTANCES should the electrode be opened.** If you try to open the electrode, you will permanently damage it and void the warranty.

If the sensor gets wet, it must be completely dried before testing another sample. All water and moisture must be removed from the membrane by placing the electrode in an oven at 40° C (104° F) for a 24-hour period.

Cell Replacement - At some point in time the sensor will fail and require replacement. Failure is indicated by instability and/or inability to calibrate. Replacement sensors are available from your distributor or the manufacturer.

Battery Replacement - The display will show "BATT" when the battery needs replacing.

In the event you need factory service, send the instrument to:

Engineered Systems & Designs, Inc.
3 South Tatnall Street
Wilmington, DE 19801 USA
Phone: 302- 456-0446, Fax: 302- 456-0441
email: esd@esdinc.com

Include with the instrument your name, telephone number, and a description of the problem or required service. Please provide a street address for return shipment, no P.O. boxes please. Repairs will be returned by UPS COD.

To do a full calibration, perform Steps A–H .

- A. Remove the battery from the battery compartment and disconnect it from the battery snap.**
- B. Remove the four screws from the bottom of the meter, and remove the meter bottom. Connect the battery to the battery snap.**
- C. Attach sensor (electrode) and place sensor in 100% nitrogen.**
- D. Find the potentiometer on the circuit board, labeled "ZERO". It is located in the upper left hand corner (see diagram below). Turn the function switch to the 0-100% position and zero the meter by adjusting the potentiometer to make the display read 00.0.**
- E. Place the sensor in a gas with known O₂ concentration or use the ambient atmosphere for 20.9% O₂.**
- F. Find the rectangular "Gain" potentiometer located on the top side of the**

