



Portable Oxygen Analyser

Trace and Percentage
Suitable for Hazardous Environments



The EC92DIS portable oxygen analyser will detect levels of oxygen as low as 0.1ppm, up to high percent levels and can be used on most industrial gases and atmospheres. There is no need for routine maintenance of the fuel cell, and the instrument may be easily calibrated, using ambient air or standard calibration samples.

The innovative design of the fast purge/cell seal system means readings of single digit parts per million oxygen can be obtained within a few minutes. Apart from a single switch, no adjustments or controls are necessary, making the unit ideal for use by non-technical personnel.

Operation of the EC92DIS is made easy by the internal sample system. Taking gas measurements is simply a matter of connecting the gas line, purging for a short time and switching a valve position. When not in use the cell is sealed.

The digital display is easily visible in sunlight or low level light; can display readings as low as 0.01 parts per million and indicate low battery power.

A calibration adjustment on the front panel can be set to give a reading of 20.9% when the analyser is working on clean air. Using this method ensures that the instrument will be absolutely accurate on any selected part of its operational range. If calibration of trace levels is required, certified calibration gas may be used.

Features

- Maintenance-free sampling cell
- Air calibration facility
- Selectable ranges % and ppm
- Powered by 2 x PP3 batteries
- Certified to EEx ia IIC T4

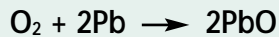
Applications

- Offshore
- Gas purity checking
- Inert atmospheres and cylinder gas analysis in hazardous areas
- Hydrogen plants
- Chemical plants
- Pharmaceutical plants
- Oil refineries
- Petrochemical
- Centrifuges

Principle of Operation

The self-powered sensor has no moving parts and is integral to the sample chamber. This solves the problem of output changes due to a flow rate change, making the instrument extremely sensitive and quick to respond to changes in oxygen concentration.

The sensor consists of an anode, electrolyte, and air cathode, together with a diffusion limiting membrane. The rate of diffusion is dependent upon the volume concentration of oxygen in the atmosphere or gas stream. At the cathode, oxygen is reduced to hydroxyl ions, which in turn oxidises the metal anode. The following overall reaction takes place:



The sensor has a guaranteed operational life of six months. When monitoring low oxygen concentrations, or if the instrument is not in use, the expected lifetime is considerably longer. The sensor module is inexpensive and easy to replace.

Technical Specification

<i>Ranges</i>	0-30% plus 3 selectable from 0-20, 0-200, 0-2000 (ppm) 0-2%, 0-20%
<i>Resolution</i>	0.05% of scale
<i>Accuracy</i>	>10ppm ±2% of reading at 20°C ±5% of reading over temperature range <10ppm ±2% of reading + 0.4ppm at 20°C ±5% of reading + 0.4ppm + 0.15ppm/°C over temperature range
<i>Response time</i>	90% of reading within 20 seconds
<i>Calibration range</i>	Ambient (20.9%) or certified gas
<i>Measuring cell type</i>	Electrochemical fuel cell
OPERATING CONDITIONS	
<i>Sample inlet pressure</i>	1.0 to 10 Barg
<i>Sample flow rate</i>	Internally regulated to 150ml/min
<i>Sample temperature</i>	0 to 40°C
<i>Ambient temperature</i>	0 to 40°C, RH 0-99% non-condensing
<i>Sample connections</i>	1/8" OD compression fitting
<i>Unsuitable gases</i>	Corrosives, acid gases and solvents
POWER REQUIREMENTS	
<i>Power supply</i>	2 × PP3 dry batteries, fitted internally
<i>Battery life</i>	36 hours, normal life
<i>Battery low indication</i>	Automatic warning
<i>Display type</i>	Digital LCD meter
CABINTRY AND MOUNTING	
<i>Enclosure</i>	Sheet metal/cast aluminium
<i>Installation</i>	Free standing for desk, shelf or panel mounting
<i>Dimensions</i>	257W × 102H × 262D (mm)
<i>Panel cutout</i>	240W × 99D (mm), if required
<i>Weight</i>	3kg
<i>Ingress protection</i>	IP40
<i>Certification</i>	EC92DIS approved by BASEEFA (UK) to EN50 020 (1977) + Amendments 1 and 2 Approved for EEx ia IIC T4. Certificate number Ex90C2083
OPTIONS	
<i>Carrying case</i>	
<i>Remote probe</i>	



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