

Portable Oxygen Analyser

**Trace and Percentage (ATEX approved)
Suitable for Hazardous Environments**



The EC92DIS portable oxygen analyser will detect levels of oxygen as low as 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 below 1 part 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

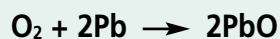
Applications

- 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 capillary. 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.



EC92DIS Purge/Cell Seal Valve

Technical Specification

Ranges	0-30% plus 3 selectable from 0-20, 0-200, 0-2000 (ppm) 0-2%, 0-20%
Resolution	0.05% of scale
Accuracy	>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
Response time	90% of reading within 20 seconds
Calibration range	Ambient (20.9%) or certified gas
Measuring cell type	Electrochemical fuel cell
OPERATING CONDITIONS	
Sample inlet pressure	1.0 to 10 Barg
Sample flow rate	Internally regulated to 150ml/min
Sample temperature	0 to 40°C
Ambient temperature	0 to 40°C, RH 0-99% non-condensing
Sample connections	1/8" OD compression fitting
Unsuitable gases	Corrosives, acid gases and solvents
POWER REQUIREMENTS	
Power supply	2 × PP3 dry batteries, fitted internally
Battery life	24 hours, normal life
Display type	Digital LCD meter
CABINTRY AND MOUNTING	
Enclosure	Sheet metal/cast aluminium
Installation	Free standing for desk, shelf or panel mounting
Dimensions	257W × 102H × 262D (mm)
Panel cutout	240W × 99D (mm), if required
Weight	3kg
Ingress protection	IP40
Certification	EC92DIS approved to ATEX Approved for EEx ia IIC T4. Certificate number Baseefa 04ATEX0258X
OPTIONS	
Carrying case	
Remote probe	

SPECIAL CONDITIONS FOR SAFE USE: The apparatus enclosure is made from an aluminium alloy which must be protected against causing an ignition due to impact or friction.



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