

Intrinsically Safe Oxygen Analyser



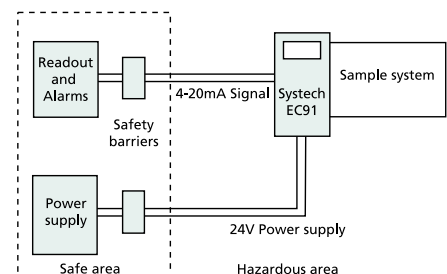
Features

- Maintenance-free sampling cell
- Air calibration facility
- 3-year warranty
- Certified for Zone 0

Applications

- Inert atmosphere gas blanketing
- Gas purity
- Glove boxes
- Metallurgy
- Oxygen deficiency monitoring
- Gas line monitoring

Installation



The EC91 Process Oxygen Transmitter 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 can be easily calibrated, using ambient air or standard calibration samples.

The enclosure is manufactured from moulded glass fibre reinforced polyester, a material with high impact resistance. It will not be harmed by oils, common acids and alkalis, making it suitable for harsh environments. It is protected to IP65.

The EC91 transmits a 4-20mA signal which corresponds to the range of the analyser. Up to six ranges can be specified. A safe area digital indicator and alarm is available as an option.

Custom designed sample systems are available on request. Sample gas may be piped directly to the instrument or remote cell assembly (also certified intrinsically safe). Sample pumps and aspirators are also available.

All the electronic circuits are intrinsically safe and have been certified to BS EN50020 (1977) and approved for ATEX EEx ia IIC T4.

The sample pressure should be above 0.1 Bar. If not, a pump or aspirator should be fitted. Connection through the analyser is via a 1/8" tube fitting and a flow regulator should be used on the inlet. If required, dust filters or coalescing filters are available. A sample panel can also be supplied by SysTech.

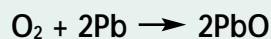
Electrical installation must be made via SHUNT DIODE barriers mounted in the safe area. A control room indicator and alarms can also be specified as an option.

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.



Systech reserve the right to change specifications without notice

Technical Specification

Ranges	6 selectable from 0-10, 0-100, 0-1000 (ppm) 0-1%, 0-10%, 0-30% 0-20, 0-200, 0-2000 (ppm) 0-2%, 0-20%, 0-30%
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	0.1 to 1 Barg, up to 17 Barg with optional sample system
Sample flow rate	30 ml/min to 5 ltr/min
Sample temperature	-5 to 40°C
Ambient temperature	-5 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	24Vdc via approved Zener barrier mounted in the safe area
Power consumption	10W
Display type	Digital LCD meter
Analogue outputs	Current: 4-20mA (0-20mA) isolated Maximum loop resistance 400 Ohms
CABINETY AND MOUNTING	
Enclosure	Reinforced polyester
Installation	Wall mounted
Dimensions	200W x 200H x 175D (mm)
Weight	3kg
Ingress protection	IP65
Certification ATEX	EC91 approved by BASEEFA (UK) to EN50 020 (1977) + Amendments 1 and 2 Approved for EEx ia IIC T4. Certificate number Ex90C2084
OPTIONS	
Local display	Digital or analogue
Sample pump	For pressure below 0.1 Barg
Remote probes	1" NPT or BSP
Remote probe holder	
Control room display	
Aspirators	
Sample systems	
Alarm outputs	

HISPACONTROL S.L.

Paseo Delicias 65 bis
28045 Madrid

Tel. 915.308.552
Fax. 914.673.170
Email. hc@hispacontrol.com
Web. www.hispacontrol.com

Represented by: