EC900 Process Oxygen Analyzers

EC910
Bench/Panel Mount
7.48H x 9.33W x 16.14D (inches)
17.41 lbs

EC920
IP66/NEMA 4X
Wall Mount / Weatherproof
18.11H x 14.96W x 6.3D (inches)
34.17 lbs

EC930
Rack Mount 4U - 19 inch
Houses 1 or 2 Analyzers
7H x 19.05W x 16.14D (inches)
21.38 lbs (single unit)

Technical Specifications

Sensor Type	Trace	Race	Percent
Ranges	0.1ppm - 1%	0.1ppm - 30%	0.3% - 100%
Accuracy: >10ppm	±2% of reading at 68°F ±5% of reading over temperature range	±2% of reading at 68°F ±5% of reading over temperature range	±0.2% of calibrated value at 68°F ±1% of calibrated value over temperature range
<10ppm	±2% of reading + 0.4ppm at 68°F ±5% of reading + 0.6ppm over temperature range	±2% over temperature + 0.4ppm at 68°F ±5% over temperature + 0.6ppm over temperature range	
Response Time	90% within 30sec	Air to 20ppm within 2min	90% within 30sec
Measuring Cell Type	Electrochemical, percentage, trace and RACE™ Cell (US & UK) patents		

Operating Conditions	
Sample Inlet Pressure	0.25 - 2 Barg, 3-30psi
Sample Flow Rate	Approximately 140 cc/min
Sample Temperature	23 to 122°F (-5 to 50°C)
Ambient Temperature	23 to 122°F (-5 to 50°C), RH 0-99% non-condensing
Sample Connections	1/8" OD compression fittings, as standard
Communications	USB and RS485
Unsuitable Gases	Acid gases, corrosives and solvents in significant concentration

Power Requirements	
Power Supply	90-260 VAC, 50/60 Hz, 40 VA
Display Type	4-digit high-visibility LED

Options	
High/Low Alarms	2 Volt-free changeover contacts. Rated 240V 3A
Analogue Outputs	Analog output channels: scaleable 0-10V, 4-20mA or 0-20mA all isolated. Option for one channel or three.
Autocalibrate	Provision for remote cal start and autocal in progress
Sample Stream Options	Bypass flowmeter, sample pump, flow alarm, stainless steel sample system in place of brass/copper. Sample conditioning advice available.
Nitrosave	O_2 measurement and control system EC9500.
Ex Proof	Consult factory for various configurations.

Systech Illinois have over 30 years experience providing analysis solutions for a wide range of industries. From our manufacturing plants in the U.S and UK we produce gas analyzers for industrial process industries, headspace analyzers for monitoring gas flushing of food products and our range of permeation analyzers.

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EC900 Process Oxygen Analyzers

SYSTECH illinois

The EC900 offers unsurpassed accuracy, reliability and flexibility under the most demanding on-line operating conditions

Features & Benefits

- Specific to oxygen
- Ambient air or traceable gas calibration
- Microprocessor controlled functions
- Long life, maintenance-free, disposable oxygen sensors
- Fast response. Ultra fast response version also available
- Large, autoranging LED display
- Unaffected by vibration or position
- Sturdy, reliable construction with three sensor options
- Insensitive to sample flow rate - percentage through ppm
- Nitrosave flushing gas control option
- This instrument has a 36 month warranty which covers any faulty workmanship and normal component failure relating to electronic circuit cards

Unmatched in High Performance On-Line Oxygen Analysis

Applications

Chemical / Petrochemical
Chemical Production
High Purity Gas Production
Hydrocarbon Refining
Natural Gas Transmission

Curing
Electron Beam
Ultraviolet

Electronics
Reflow / Wave Soldering
Solder Powder Production
Semiconductor Furnaces
Gas Quality

Metals
Heat Treating / Annealing
Steel Production
Alloys and Powdered Metals

Pharmaceutical
Inert Packaging
Vessel Blanketing
Fermentation

Process
Ceramics
Combustion Analysis
Contact Lens Manufacturing
Food Packaging
Glass Fibre Optics
Inert Gas Welding
Lamp Manufacturing

General
Controlled Environments
R & D
Glove Boxes
Oxygen Deficiency

Unmatched Performance

Systech Illinois has long been recognised worldwide as a leader in oxygen analysis.

Utilizing a variety of specially engineered electrochemical fuel cells, the EC900 Oxygen Analyzers are designed to monitor oxygen within most industrial gases and atmospheres. These highly advanced instruments incorporate user-friendly software and the highest quality sensors to provide accurate, reliable results.

Whatever your measuring range, the EC900 series has an analyzer to suit your needs.

Cabinetry & Mounting

Three different configurations to match your needs.
- NEMA 4X / IP66 waterproof and weatherproof
- 19 in. rack mount
- Panel or bench mount

Operator Interface /Diagnostics

- User-friendly menu
- Read-only mode available
- Diagnostic capabilities
- Fault alarms

Optional Nitrosave Feature

- Control of Nitrogen or flushing gas
- Reduced gas consumption
- Improved productivity
- Reduced product wastage
- Better quality control
- Integrated electronics with analyzer
- Control hardware available

Outputs & Alarm Options

For charting, process control, or remote monitoring.
- USB and RS485, standard
- Analog outputs (one or three channels), optional
- High / low alarms, optional
- Fault alarm, standard

Sensor Selection

No need to compromise! Now you can match sensor to application for the best possible reliability and performance. All sensors are manufactured to rigid tolerances and exacting production specifications.

EC920

EC930

EC910

Sampling Systems

- Bypass flowmeter
- Pressure regulator
- Sample pump
- Flow alarm

Principle of Operation

The EC900 Oxygen Analyzers use a variety of electrochemical fuel cells for the detection of oxygen. When oxygen diffuses to the cathode of the cell, a current output is produced directly proportional to the concentration of oxygen in the sample gas.

Specialising in trace oxygen measurements, Systech Illinois' sensors are used in applications from ppb up to 100% oxygen. In addition, sensors can be used on gas streams such as hydrogen, combustibles, hydrocarbons and inert gases.

All Systech Illinois' sensors are easily calibrated to ambient air. For ISO purposes and in specific applications, traceable calibration gases can be used to meet the most demanding quality assurance programmes.

Trace (part per million) Sensor

The trace sensor is designed for measuring 0.1ppm – 1% oxygen in most industrial gas streams. Can be calibrated to air. This sensor when used in a normal operating range typically lasts 3 – 5 years.

Sensor RACE™

The RACE™ Sensor is a breakthrough in electrochemical technology. Our patented design* prevents the sensor from being saturated by high levels of oxygen. With TURBOPURGE™ levels as low as 20ppm can be reached from ambient air within 2 minutes. This sensor is unaffected by hydrocarbons or volatile atmospheres making it the ideal choice in applications such as wavesolder and reflow ovens.

The RACE™ Sensor is maintenance-free, requires only occasional calibration and has no caustic electrolyte to monitor or replace. The RACE™ Sensor carries a 3 year limited warranty.

Percent Sensor

The Systech Illinois percent sensor is capable of accurate measurements from 0 – 100% oxygen. Unlike most electrochemical sensors, this sensor is not affected by acid gases such as carbon dioxide.

* USA Patent no. 5929318. UK Patent no. 2324870.