Elemental Instruments™
A DIVISION OF OHIO LUMEX

Ei500 H2S Analyzer
Electrochemical

*Tabletop enclosure shown. See reverse side for additional options.

Using the electrochemical measurement principle, the Ei500 H2S Analyzer measures hydrogen sulfide by passing a sample over a capillary diffusion barrier, which controls the rate of entry into a sensing electrode. The sample is then either oxidized or reduced, generating a current proportional to the concentration of hydrogen sulfide.

Key Features

▸ 7" (or 10" optional) color touchscreen display

▸ High sensitivity

▸ Fast response

▸ Automatic calibration

▸ Adaptive signal filtration allows for low noise while maintaining fast response time

▸ Remote access capabilities

▸ Modbus TCP/IP communication and analog outputs (0-10V or 4-20mA)

▸ Front panel USB for firmware upgrades, data download, or peripheral devices

▸ Innovative InteliSense™ software platform across all Ei analyzers for consistent, simple, and user-friendly interface, operability, and data display

InteliSense™ Software

▸ Modern, user-friendly interface
▸ Simple set-up and operation
▸ Selectable units (ppm, mg/m^3, or %)
▸ Customizable graphical data display
▸ Instrument Alarms
▸ Data logging
▸ Error logging
▸ Zero and span logging
▸ "Dark Mode" option

Applications

▸ Continuous Emissions Monitoring (CEMS)
▸ Process Monitoring
▸ Air Quality and Industrial Hygiene
▸ Gas Purity
▸ Others

Options

▸ 10" Display
▸ Enclosure Options:
  ▷ 19" Rack-Mount Enclosure
  ▷ Tabletop Enclosure
  ▷ Wall-Mount Enclosure
  ▷ Portable Enclosure
▸ Add-On Gas Measurements:
  ▷ O_2, H_2O, CO, CO_2, SO_2, NO_x, CH_4, others

Technical Specifications			
Analysis Method	Electrochemical		
Detector Type	Electrochemical		
Measurement Range	**Gas** H_2S	**Minimum** 0-20 ppm	**Maximum** 0-1,000 ppm
Sample Cell	Teflon		
Response Time	90% of full scale within 30 seconds (may vary depending on measurement range)		
Noise	≤ 1% of full scale range		
Resolution	≤ 0.1% of full scale		
Accuracy	≤ 5% of full scale		
Zero and Span Adjustment	Manual or automatic		
Sample Flow Rate	0.5 LPM to 4.0 LPM		
Purge Gas	None required		
Outputs Available	MODBUS via TCP/IP, 0-10 V / 4-20 mA		
Sample Temperature	Up to 60° C (non-condensing)		
Ambient Temperature	-5 to 40° C		
Ambient Humidity	Less than 90% RH (non-condensing)		
Fittings	¼" compression		
Power Requirements	100 to 240 VAC, 50/60 Hz, 100 VA		
Dimensions	7" H x 19" W x 20" D (may vary depending on configuration)		
Weight	22 lbs. (may vary depending on configuration)		

Ei800 Process Gas Chromatograph
Analyze a variety of gases

A modern process gas chromatograph, developed to simplify and improve process measurement. It's for on-line measurement and process control in oil and gas, refinery, coal, petrochemical, chemical, air separation and other industries.

Method of Measurement

Uses principle of gas chromatography where a sample is injected into the instrument and transported by a carrier gas into a separation tube known as the "column." Helium, argon or nitrogen is used as the so-called carrier gas. The various components are separated inside the column to measure gas concentrations while correcting for interferences

Key Features

▸ Multiple simultaneous gas measurements
▸ Integrated power supply unit
▸ High measurement accuracy and fast analysis

▸ Low power and gas consumption
▸ Easy maintenance / low service cost

Applications

▸ Process Control
▸ Natural Gas
▸ Sulfur
▸ Hydrocarbons
▸ Biogas
▸ Nitrogen
▸ Oxygen
▸ Others

Options

▸ Explosion proof enclosure

📞 1 440 264 2500 office
1 888 876 2611 toll free

🌐 www.ohiolumex.com
mail@ohiolumex.com

📍 30350 Bruce Industrial Pkwy.
Cleveland, OH 44139 USA

Specifications

Technical Specifications	
Number of Analytical Channels	Up to 4 (1 channel consists of 1 detector, 1 sampling valve with backflush option and column system)
Number of Analyzed Streams	Up to 6 analyzed streams (including calibration mixture)
Oven Type and Temperature	Airless, isothermal, from 60 to 150°C
Analyzed Media	Gas, liquified gas or liquid
Chromatographic Columns	Capillary, micropacked, packed
Type of Detector	TCD
Carrier Gas	He, Ar, N2, H2 (for TCD) or air (for ECD and CCD)
Carrier Gas Consumption	5 - 30 cm³/min (depending on application)
Analysis Time	Up to 3 min
Operation mode	Automatic, controlled by internal PC with integrated software
Display	12" LCD with touch screen
Communication Interfaces Standard	RS 232/485 (ModbusRTU) – 2 ports Ethernet (ModbusTCP) – 1 ports
Communication Interfaces Optional	RS 232/485 – extra 1 pc., 4-20 mA – up to16 pcs. Discrete outputs, optical Ethernet
Power Supply	110-220 V, 50/60 Hz
Power Consumption	Up to 180 W (warm-up); up to 80 W (steady mode)
Gas Inlets	Connection – 1/8 inch
Weight, kg	25
Dimensions (L×W×H), mm	400×482×266

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Ei2100 Monitoring System
Biogas and RNG

The Ei2100 Biogas Monitoring System provides cost-effective online monitoring of compliance with Renewable Natural Gas (RNG) interconnection specifications, and feedback to Anaerobic Digestor & Upgrading Process Control Systems.

Designed with flexibility in mind, the system is modular and capable of utilizing an assortment of proven measurement principles and sampling techniques to ensure optimal system configuration. The integrated InteliSense™ control and data acquisition software complete the turnkey solution and provide a simple and intuitive user interface.

Applications

‣ Wastewater Treatment Plants
‣ Food Waste Digesters (co-digestion)
‣ Dairy Farms

‣ Hog and Pig Farms
‣ Landfills
‣ Others

24/7 Monitoring

‣ Base Measurements:
  ▷ Methane (CH_4)
  ▷ Hydrogen Sulfide (H_2S)
  ▷ Carbon Dioxide (CO_2)
  ▷ Oxygen (O_2)

‣ Additional Measurements:
  ▷ Siloxanes
  ▷ Hydrogen (H_2)
  ▷ Nitrogen (N_2)
  ▷ Moisture (H_2O)
  ▷ Microbiologically Influenced Corrosion (MIC)

*Wall Mount

*Free Standing
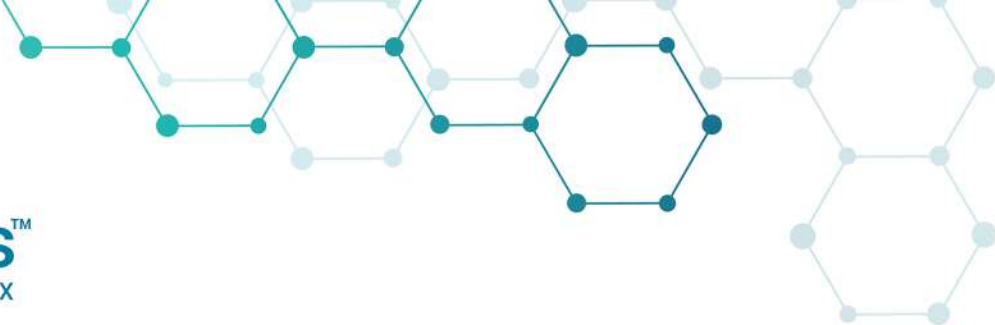
High Performance and Cost Effective Solution

Multiple technologies selected for optimal measurement of each gas and concentration range, including:

- ▶ Nondispersive Infrared (NDIR)
- ▶ Ultraviolet (UV)
- ▶ Optical (LED)
- ▶ Gas Chromatograph (GC)
- ▶ Gas Chromatograph Ion Mobility Spectrometer (GC-IMS)
- ▶ Electrochemical Gas Sensor

Designed for superior performance, and to be user-friendly and unattended:

- ▶ Fast response and extremely accurate (less than 2% FS)
- ▶ Easy to operate
    - ▷ No analytical specialist needed
    - ▷ Automatic calibration (Zero and Span)
    - ▷ Automatic correction for interferences
- ▶ Multiple communication options
    - ▷ Analog (4 to 20 mA) and Digital (MODBUS)
    - ▷ LAN or Remote access

Rugged IP65 (NEMA 4X Equivalent) Type Enclosures:

- ▶ Exterior exposure
    - ▷ Temperature controlled
    - ▷ Small footprint
    - ▷ No building required
- ▶ Enclosure Options:
    - ▷ Free Standing
    - ▷ Wall Mount
        - ▶ Limited to Base Measurements
- ▶ Suitable for hazardous rated locations
- ▶ Integrated UPS

Sampling System Includes:

- ▶ Probe
- ▶ Pressure reduction module
- ▶ Heated sample line
- ▶ Ships as fully assembled complete system
- ▶ Installation and training

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