AMETEK®
PROCESS INSTRUMENTS

MEASURES: O_2

PRODUCT DATA SHEET

5100HD Gas Analyzers for Measuring O_2 in Process Gas

Based on tunable diode laser absorption spectroscopy (TDLAS), the 5100HD analyzes oxygen in a variety of gas streams.

The laser-based measurement system is free of interferences from other sample stream components, providing fast and accurate results. Maintenance requirements are minimal, as the gas stream being analyzed never makes contact with the key measurement components – the laser light source and detector.

For samples requiring conditioning or heat to maintain the sample stream in a measurable gas phase, the 5100HD can include pressure and flow regulators, a 150°C (302°F) heater and/or a pump or educator.

Non-contact measurement

The sample never contacts the key optical components, reducing maintenance requirements.

Line lock

The reference cell is used to line-lock the laser on a desired wavelength. Any minor shift in the observed spectrum is used as feedback to adjust the laser, ensuring the proper operating wavelength. Thus, there is a real-time confirmation that the laser is locked on the desired absorption line.

Designed for use in difficult environments

Can be installed in many environments, including those defined as hazardous.

KEY BENEFITS

- Real-time performance monitoring
- Low maintenance cost and requirements
- Reduced downtime
- IP 65/Type 4X enclosure
- Fully-integrated sample handling

APPLICATIONS

- Process safety
- Headspace analysis

KEY MARKETS

- Chemicals
- Oil & gas
- Petrochemicals
- Refining

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PERFORMANCE SPECIFICATIONS

Typical operating range	0-5% and 0-25%
Accuracy	±2000 ppm (v/v) or ±2% of reading, whichever is greater
Ambient temperature	-20 to +50°C (-4 to 122°F).
Relative humidity	0 to 90%, noncondensing
Sample flow rate	1-2 LPM (2.1-4.2 SCFH) – application dependent
Sample cell pressure	70 to 170 kPa absolute (10-25 psia) For higher pressures, consult AMETEK
Speed of response	< 1 second photometric response. Total system response is dependent on sample flowrate
Outputs	Display and keypad. Fast ethernet (IEEE802.3) RS485 serial port, isolated (supports Modicon Modbus RTU) (1) isolated 4-20 mA loop-powered analog output (4) dry relay contacts. Contact rating 30 VAC, 60 VDC, 100 VA resistive
Electrical requirements	120/240 VAC (108-132V/216-264V), 47-63Hz or 24VDC (22-26VDC)
Power requirements	25-45W without heater, 425-445W with heater – typical
Physical dimensions (W x H x D)	880mm x 674mm x 302mm (34.6 x 26.5 x 11.9in) – typical for NEC/CEC Class I Division 2 and ATEX/IECEx Zone 2 configurations
Weight	60 kgs (132lbs) – typical for NEC/CEC Class I Division 2 and ATEX/IECEx Zone 2 configurations
Enclosure	IP-65, TYPE 4X
Approvals and certifications	Certified to meet multiple ATEX, IECEx, CSA and NEC standards for hazardous areas Consult AMETEK for more details

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One of a family of innovative process analyzer solutions from AMETEK Process Instruments. Specifications subject to change without notice.