

PRODUCT DATA SHEET

5100/5100 HD Gas Analyzers

Fast, accurate results with proven, laser-based measurement

Based on Tunable Diode Laser Absorption Spectroscopy (TDLAS), the 5100 and 5100HD analyze components of interest in a variety of gas streams. The proven 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 contacts 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.

AMETEK TDLAS analyzers are available in a variety of configurations, designed to meet your specific measurement and installation location requirements.

Non-contact measurement

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

Line lock

The wavelength of interest is constantly verified using an integrated reference.

Designed for use in difficult environments

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

Heater available

Perform hot/wet analysis, eliminating the need to remove water and the use of compensation calculations.

Multiple components

Measure up to three components in one AMETEK 5100HD analyzer.



KEY BENEFITS

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

APPLICATIONS

- Moisture in natural gas
- Hydrogen sulfide (H₂S) in fuel gases and flares
- Ethylene production
- Combustion monitoring
- Oxygen (O₂) in production processes

KEY MARKETS

- Natural gas
- Chemicals
- Petrochemicals
- Refining

PERFORMANCE SPECIFICATIONS

Typical measured gases	Water, H ₂ S, carbon monoxide, carbon dioxide, O ₂ , ammonia, methane, acetylene, ethylene, and others Note: more than one gas may be measured on the 5100HD
Ranges and performance	Percent level down to parts per million (ppm) level ranges
Accuracy	Typically, better than ±2% of reading
Ambient temperature	-20 to 50°C (-4 to 122°F)
Relative humidity	0 to 90%, non-condensing
Sample flow rate	1 to 10 slpm (2-20 SCFH)
Sample cell pressure	70 to 170 kPa absolute (10-25 psia)
Speed of response	<1 second photometric response. Total system response is dependent on sample flow rate
Outputs	Keypad and display Fast Ethernet (IEEE802.3) RS485 serial port, isolated (supports Modicon Modbus RTU) Up to two single isolated 4-20 mA loop powered analog outputs Four dry relay contacts Contact rating 30 VAC, 60 VDC, 100 VA resistive
Electrical requirements	120/240 VAC (108-132/216-264V); 47-63 Hz, or 24 VDC (consult AMETEK)
Power requirements	5100: 105W; < 25W without cell heater 5100HD: 450W; 105W without heater
Physical dimensions (W x H x D)	5100: 434.2 x 868.8 x 211.7 mm (17.1 x 34.2 x 8.34 in.) 5100HD: 830 x 674 x 305 mm (32.7 x 26.5 x 12 in.) (can vary based on configuration)
Weight	5100: 25 kg (55 lb) 5100HD: 60 kg (132 lb) (can vary based on configuration)
Enclosure	IP-65, Type 4, 4X
Electrical classification	Approvals and certifications: Certified to meet multiple ATEX, IECEx, CSA, NEC and Inmetro standards for hazardous areas Consult AMETEK for more details

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