

## 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. 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.

### Non-contact measurement

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

### 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.

### 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 (H<sub>2</sub>S) in fuel gases and flares
- Ethylene production
- Combustion monitoring
- Oxygen (O<sub>2</sub>) in production processes

## KEY MARKETS

- Natural gas
- Chemicals
- Petrochemicals
- Refining

## PERFORMANCE SPECIFICATIONS

<b>Typical measured gases</b>	Water, H <sub>2</sub> S, carbon monoxide, carbon dioxide, O <sub>2</sub> , ammonia, methane, acetylene, ethylene, and others Note: more than one gas may be measured on the 5100HD
<b>Ranges and performance</b>	Percent level down to parts per million (ppm) level ranges
<b>Accuracy</b>	Typically, better than ±2% of reading
<b>Ambient temperature</b>	-20 to 50°C (-4 to 122°F)
<b>Relative humidity</b>	0 to 90%, non-condensing
<b>Sample flow rate</b>	1-2 LPM (2.1-4.2 SCFH) – application dependent
<b>Sample cell pressure</b>	70 to 170 kPa absolute (10-25 psia)
<b>Speed of response</b>	<1 second photometric response. Total system response is dependent on sample flow rate
<b>Outputs</b>	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
<b>Electrical requirements</b>	120/240 VAC (108-132V/216-264V), 47-63Hz or 24VDC (22-26VDC)
<b>Power requirements</b>	5100: 105W; < 25W without cell heater 5100HD: 25-45W without heater, 425-445W with heater – typical
<b>Physical dimensions (W x H x D)</b>	5100: 434 x 917 x 211 mm (17.1 x 36.1 x 8.3in) – typical for NEC/CEC Class I Division 2 configurations 5100HD: 880 x 674 x 302mm (34.6 x 26.5 x 11.9in) – typical for NEC/CEC Class I Division 2 and ATEX/IECEx Zone 2 configurations
<b>Weight</b>	5100: 25 kgs (55lbs) – typical for NEC/CEC Class I Division 2 configurations 5100HD: 60 kgs (132lbs) – typical for NEC/CEC Class I Division 2 and ATEX/IECEx Zone 2 configurations
<b>Enclosure</b>	IP-65, Type 4, 4X
<b>Approvals and certifications</b>	Certified to meet multiple ATEX, IECEx, CSA, NEC and Inmetro standards for hazardous areas Consult AMETEK for more details

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