

PRODUCT DATA SHEET

5100 Series Gas analyzer

Highly reliable TDLAS gas analysis for critical industrial applications

The feature-rich 5100 offers high-sensitivity, analyte-specific, fast-response measurements with a high level of reliability.

Model 5100 devices offer high specificity for single gas analytes with dew points up to 40°C, while 5100HD analyzers can be configured to monitor multiple components in one stream, or a single component in two streams simultaneously, at dew points up to 150°C.

Minimal maintenance required

The non-contact Tunable Diode Laser sensing technology means that both the laser source and the detector are kept separate from the process, resulting in few maintenance requirements. Analytical bench failures with the 5100 series are typically 10 years apart, not months or even weeks like other analyzers.

Assured reliability

To ensure the diode laser operates at the right wavelength, a reference cell is used to prevent any shift in the measurement peak. Users can be confident that measurements will avoid the errors caused by a wavelength shift of even a fraction of a nanometer, without the need for regular calibration checks.

Increased efficiency

By using all-digital signal processing, the 5100 delivers more precise control of the laser output. This provides the most robust, accurate results, even in conditions with high background interference, ensuring the measurements to make your process more efficient.



KEY BENEFITS

- High spectral resolution and accuracy
- Non-contact measurement for low maintenance
- Laser line-lock verification for stability
- All-digital signal processing for increased accuracy
- Web-based interface for ease of use

APPLICATIONS

- Measure H₂O, H₂S, CO₂, or CH₄ in Natural Gas pipelines and processing

KEY MARKETS

- Natural Gas
- Refinery
- Petrochemical
- Chemical

PERFORMANCE SPECIFICATIONS (Moisture applications)

Technology	Tunable Diode Laser Absorption Spectroscopy.
Laser specifications	Class 1m.
Typical operating range	0.25-60lb/MMscg, 4-1900 mg/m ³ (5-2500ppmv). Other ranges available.
Accuracy	2% of reading or ±4ppmv, whichever is greater (range dependent).
Environment	Ambient temperature: -20 to 50°C (-4 to 122°F).
Sample flow rate	1-2 SLPM recommended (2.1-4.2 SCFH).
Sample cell pressure	NEC/CEC Division 2: 70-170kPa absolute (10-25psia). ATEX Zone 1:70-115kPa absolute (10.2-16.7psia).
Speed of response	<2 second photometric response. Total system response is dependent on sample flow rate.
Outputs	4-line x 20-character alphanumeric VF display. Fast Ethernet (IEEE802.3). RS-485 serial port, isolated (supports Modicon Modbus RTU). (1) isolated 4-20mA loop-powered analog output. (4) dry relay contacts. Contact rating 30 VAC, 60V DC, 100VA resistive.
Electrical requirements	120V AC (108-132V), 47-63Hz or 240V AC (216-264V), 47-63Hz. 24V DC (consult AMETEK).
Power requirements	105W; <25W without heater.
Dimensions (W x H x D)	43.42 x 86.88 x 21.17 cm. (17.1 x 34.2 x 8.34 in).
Weight	25kg (55lb).
Enclosure	IP65, NEMA 4X.
Certifications	NEC/CEC: Class I, Class II, Class III, Div 2, Groups A, B, C, D, F & G, NEMA 4X, IP65. ATEX: Zone 1 IIB + H2, T3, CE, NEMA 4X.

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