

Model 5100/5100HD Gas Analyzers

Based on Tunable Diode Laser Absorption Spectroscopy (TDLAS)



Model 5100



Model 5100 HD

Model 5100 and 5100HD use sealed reference cells for continuous on-line analyzer verification and offers high specificity, sensitivity and extremely fast response speeds. The Model 5100HD has a horizontally oriented cell and may be configured to include multiple lasers and cells in an oven which can be run at temperatures up to 100° C/212° F.

Features and Benefits

- || **Noncontact Measurement**
Noncontact measurement offers low maintenance
- || **All Digital Signal Processing**
32-bit microcontroller capable of sophisticated signal processing
- || **Web-Based Interface**
To interrogate the analyzer remotely, all you need is the IP address of the analyzer
- || **Connectivity**
Modbus, Ethernet, dry contacts and analog
- || **Real-Time Performance Monitoring**
Laser line-lock verification using internal reference cell
- || **NEMA Enclosure houses the electronic components**
Designed for outdoor installation, Model 5100 NEMA 4, Model 5100 HD NEMA 4x
- || **Fully-Integrated Sample Handling**
Standard feature
- || **Resistant to Contamination**
No interference from gas phase amines, glycol, methanol, and mercaptans
- || **Hazardous Area Options for Model 5100/5100HD**
NEC/CEC: Class I, Div 2, Groups A,B,C,D; Class II, Div 2, Groups F & G; Class III, ATEX Zone 2, ATEX Zone 1, IEC Ex

Model 5100/5100HD Gas Analyzers

Specifications

Laser Specification: Class IIIb

Typical Measured Gases:

Typical Operating Range for H₂O measurement:

0.25 - 119 lb/MMscf / 3 - 1900 mg/m₃ (4 to 2500 ppmv) and from 2 - 100 ppm for H₂O in Natural Gas ppm and % ranges are also available. Available ranges are applications dependent. More than one gas may be measured on the Model 5100HD.

Accuracy: Typically ±1% of range

Repeatability: Typically ±1 % of range

Linearity: Better than 1%

Environment:

Ambient Temperature: -20°C to +50°C (-4°F to 122°F).

Electrical Classification Options:

NEC/CEC: Class I, Div 2, Groups A,B,C,D; Class II, Div 2, Groups F & G; Class III
ATEX Zone 2, ATEX Zone 1 and IEC Ex

Relative Humidity: 0% to 90%, non-condensing

Sample Flow Rate: 1 to 10 SLPM recommended (2 - 20 SCFH)

Sample Cell Pressure:

Typically 70 to 170 kPa absolute (10-25 psia). Analyte dependent, please consult AMETEK.

Speed of Response:

< 1 second photometric response. Total system response is dependent on sample flowrate.

Outputs:

4-line x 20-character alphanumeric VF display.

Fast Ethernet (IEEE802.3)

RS-485 serial port, isolated (supports Modicon Modbus RTU)

(1) isolated 4-20 mA loop-powered analog output

(4) dry relay contacts. Contact rating 30 VAC, 60 VDC, 100 VA resistive

Electrical Requirements:

120 VAC (108-132V); 47-63 Hz, or 240 VAC (216-264V), 47-63 Hz 24 VDC Options (no heater)

Power Requirements:

Model 5100: < 25W; with optional heater 105W
Model 5100HD: 450W with optional heater

Physical:

Model 5100 (HxWxD):
86.88 cm x 43.42 cm x 21.17 cm (34.2" x 17.1" x 8.34")

Model 5100 HD (HxWxD):
64.23 cm x 83.03 cm x 29.53 cm (25.29" x 32.69" x 11.63")

Weight:

Model 5100-25 Kg (55 lb)
Model 5100HD-58.97 Kg (130 lb)



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F-0364 Rev 1 (0611)

One of a family of innovative process analyzer solutions from AMETEK Process Instruments.
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