

Model 5100 Gas Analyzer for the Measurement of Carbon Dioxide in Process Gas

Based on Tunable Diode Laser Absorption Spectroscopy (TDLAS)



Model 5100 uses a sealed carbon dioxide reference cell for continuous on-line analyzer verification and offers high specificity, sensitivity and extremely fast response speeds.

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 and analog

|| **NEMA 4 Enclosure Houses the Electronic Components**

Designed for outdoor installation

|| **Real-Time Performance Monitoring**

Laser line-lock verification using internal reference cell

|| **Fully-Integrated Sample Handling**

Standard feature

|| **Hazardous Area Certifications**

NEC/CEC: Class I, Div 2; Class II, Div 2, Groups F & G; Class III, Div 2
NEC Div 1 and ATEX certifications are also available

Model 5100 Gas Analyzer

Specifications

Laser Specification: Class 1m

Limits are Application Specific

Typical Operating Range: 0-10% carbon dioxide (for lower ranges contact AMETEK sales)

Percentage or ppm level ranges are available

Accuracy: Typically $\pm 2\%$ of FS range

Repeatability: Typically $\pm 2\%$ of FS range

Environment:

Ambient Temperature:

-20°C to +50°C (-4°F to 122°F).

Electrical Classification:

NEC/CEC: Class I, Div 2; Class II, Div 2, Groups F & G; Class III, Div 2 (standard model)

NEC Div 1 and ATEX certifications are also available

Relative Humidity:

0% to 90%, non-condensing

Sample Flow Rate:

1 to 10 SLPM recommended (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 flowrate.

Outputs:

4-line x 20-character alphanumeric VF display

Fast Ethernet (IEEE802.3)

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

(1) single 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 (216-264), 47-63 Hz

Power Requirements:

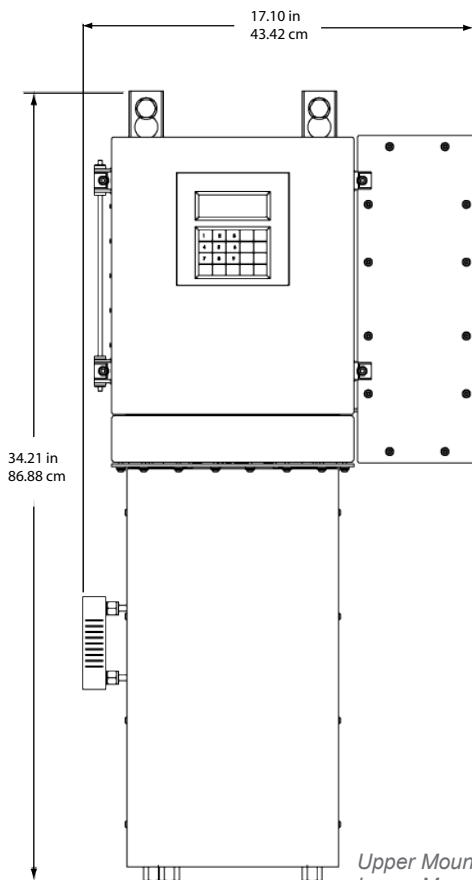
< 25W; with optional heater 105W

Physical Dimensions (HxWxD):

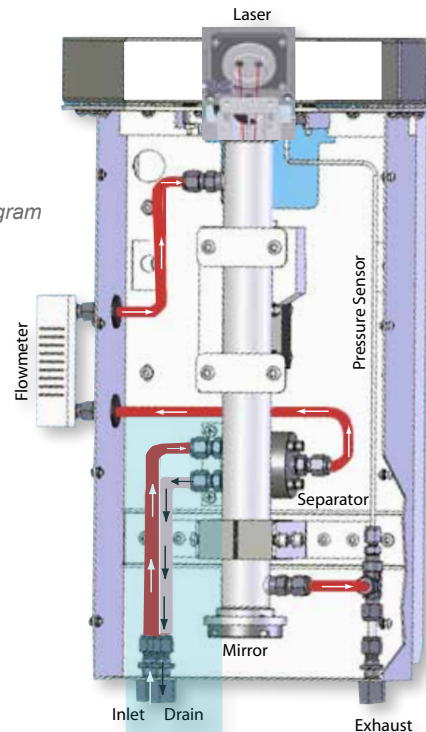
86.88 cm x 43.42 cm x 21.17 cm (34.2 in. x 17.1 in. x 8.34 in.)

Weight: 25 Kg (55 lb)

Enclosure: IP-65, NEMA 4



5100 Flow Diagram



Upper Mounting Hardware: (2) 1/2" x 1.00 L (M6 x 25 mm L) hex bolts
Lower Mounting Hardware: (2) 1/2" x 2.50 L (M6 x 60 mm L) hex bolts (Optional)

AMETEK[®]
PROCESS INSTRUMENTS

150 Freeport Road, Pittsburgh, PA 15238
Ph. +1-412-828-9040, Fax +1-412-826-0399
www.ametekpi.com



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

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