

Model 5100 CO₂ Gas Analyzer

Tunable Diode Laser Absorption Spectroscopy (TDLAS) Technology
Carbon Dioxide Analysis



The 5100 CO₂ comes standard with an integrated reference cell. Fiber-optic cables couple the energy from the laser to both the sample cell and this internal reference.

Features and Benefits

- ▶ **All Digital Signal Processing**
32-bit microcontroller capable of sophisticated signal processing
- ▶ **Web-Based Interface**
Modbus, Ethernet, and analog connectivity
- ▶ **NEMA 4X Enclosure Houses the Electronic Components**
Designed for outdoor installation; no exposed components
- ▶ **Real-Time Performance Monitoring**
Laser line-lock verification using internal reference cell
- ▶ **Fully-Integrated Sample Conditioning**
Standard feature
- ▶ **Hazardous Area Certifications**
ATEX Zone 2 and Zone 1

Model 5100 CO₂

Specifications

Laser Specification: Class 1m
Limits are Application Specific

Typical Operating Range¹:
Percent ranges down to 0-100
ppmv carbon dioxide

Limit of Detection: Carbon Dioxide: 1 ppm

Accuracy¹:
Carbon Dioxide: 2% of range

Repeatability¹:
Carbon Dioxide: 2% of range

Environment:

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

Electrical Classification:
ATEX Zone 2 and Zone 1

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

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

Sample Cell Pressure:
2 psig (16.7 psia) max.

Speed of Response:
<1 second photometric response.
Total system response is dependent
on sample flowrate.

Electrical Requirements:
120 VAC (108-132V); 47-63 Hz, or
240 VAC (216-264), 47-63 Hz

Power Requirements: < 25W

Outputs:
4-line x 20-character alphanumeric
VF display

Fast Ethernet (IEEE802.3)

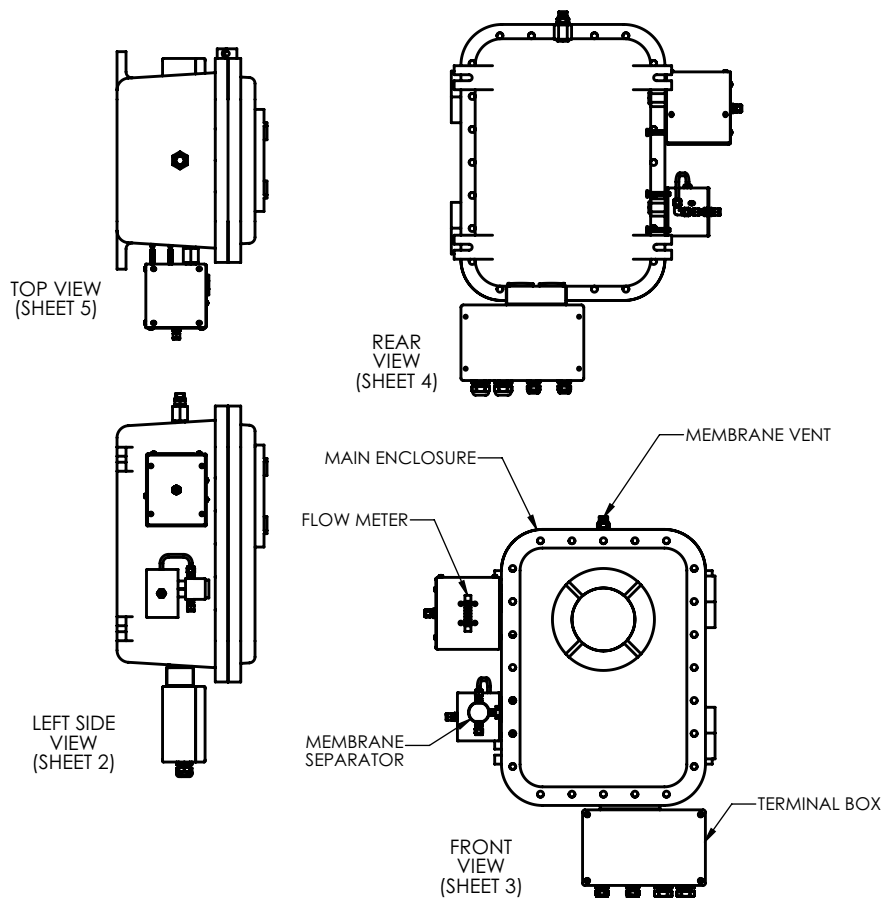
RS-485 serial port, isolated (supports
Modicon Modbus RTU)

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

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

Enclosure:
IP65 and NEMA 4X

1. Analysis range, accuracy and repeatability will vary
with application. Please contact AMETEK for your
specific needs.



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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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