Model 5100 Gas Analyzer for Measuring Moisture in Natural Gas & Non-Absorbing Backgrounds

Based on Tunable Diode Laser Absorption Spectroscopy (TDLAS)

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**
  Connect through a remote PC using standard web browser

- **Connectivity**
  Modbus, Ethernet and analog

- **Real-Time Performance Monitoring**
  Laser line-lock verification using internal reference cell

- **TYPE 4X Enclosure houses the electronic components**
  Designed for outdoor installation

- **Fully-Integrated Sample Handling**
  Standard feature

- **Resistant to Contamination**
  No interference from gas phase amines, glycol, methanol, H₂S and mercaptans

- **Hazardous Area Certifications**
  NEC/CEC : Class I, II, III, Div 2
  Group A-D, F,G ; Div 1 and ATEX Zone 1 are also available

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

Laser Specification: Class 1m

Typical Ranges & Performance:
(Moisture in Natural Gas or Hydrocarbon Gas Stream):
Minimum Range: 0 to 100 ppmv
(Other ppm and % ranges are also available)
Accuracy: Typically ±2 ppmv

Typical Ranges & Performance:
(Moisture in Non-Absorbing Background):
Minimum Range: 0 to 100 ppmv
Accuracy: Typically ±1 ppmv

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

Electrical Classification:
NEC/CEC: Class I, II, III, Div 2 Group A-D, F,G; Div 1 and ATEX Zone 1 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) 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
24 VDC (Consult AMETEK)

Power Requirements:
105W; < 25W without cell heater

Physical: HxWxD:
86.88 cm x 43.42 cm x 21.17 cm
(34.2” x 17.1” x 8.34”)

Weight: 25 Kg (55 lb)

Enclosure: IP-65, TYPE 4, 4X

Safety Classification: AMETEK Process Instruments TDLAS products utilize laser devices with safety classifications of Class 1 and Class 3b.

Consult factory for specifications on other measuring ranges