



Aurora

Reliable moisture measurement

Panametrics Aurora analyzer uses tunable diode laser absorption spectroscopy (TDLAS) to rapidly and accurately measure moisture in a variety of background gases. The analyzer is suitable for installation in hazardous areas and operates over a wide range of environmental conditions. Aurora's fast response immediately alerts when moisture concentrations are out of compliance or natural gas dehydration process is upset; once corrected, gas can be quickly cleared for re-entry to pipeline or process.

The Aurora analyzers have an intuitive interface that makes them easy to learn, configure and operate. With a local service team to support them, you have the confidence of knowing that Aurora analyzers are always ready for immediate moisture measurements. With power and gas lines easily connected, the Aurora moisture analyzer provides a wide range of reliable measurement with accuracy and fast response you need for immediate alerts to process upsets or out-of-compliance moisture concentrations.



| Range | |
|--|---|
| Range | 0 to 5000 ppm For CO ₂ applications: 0 to 1000 ppm |
| Lower Detection Point | 2 ppm For CO ₂ applications: 20 ppm (-55.3°C) |
| Dew/Frost Point | -97° to 27.3°F (-71° to -2.6°C) frost point @ STP of 25°C, 14.696 psia |
| Process Dew/Frost Point | Process or equivalent dew point/ frost point by calculation with process pressure signal (4–20 mA) or constant |
| Absolute Humidity | 0.095 to 237 lbs/MMSFC (1.52 to 3,803 mg/m ³) |
| Accuracy | |
| Moisture reading (parts per million by volume) | ±1% of reading or ±2 ppm, whichever is greater; for > 1000 ppm, ±5% of reading For CO ₂ applications: ±3% of reading or ±5 ppmv For H ₂ recycle applications: ±1% of reading or ±2 ppmv (for up to ±5% H ₂ and ±1% C ₂ H ₆ variation from nominal calibration composition) (Background conditions for individual instrument calibrated accuracy provided in Certificate of Conformance. Accuracy of other parameters derived from ppmv.) |
| Repeatability | ±0.2 ppmv or ±0.1%, whichever is greater For CO ₂ applications: ±1.0 ppmv or ±0.5%, whichever is greater |
| Calibration Certification | NIST or equivalent NMI traceable certification |
| Calibration Options | Nitrogen, standard natural gas and 3 customizable calibration curves |
| Response Time | |
| Response Time | Optical system <2 seconds |
| System Response | The system response is dependent on the length of sample tubing, sample system components, flow rate and pressure, as well as the change in moisture concentration. |
| Pressure | |
| Operating Sample Cell Pressure | 10 to 25 psia (69 to 172 kPa) |
| Maximum Pressure | 200 psi (1380 kPa) |
| Process Pressure | 400 psig (2.76 MPa) [2500 psig (17.23 MPa) with heated pressure regulator option] <i>Higher pressure available with application of additional sampling system components.</i> |

| Flow Rate | |
|--|--|
| Sample Cell Flow Rate | 10 to 60 SLH (0.4 to 2 SCFH); 30 SLH (1 SCFH) nominal |
| By-pass Fast Loop | 5 to 10X of flow rate through sample cell |
| I/O | |
| Display | Backlit LCD. Three programmable simultaneous parameters. Alphanumeric status and diagnostic display. LEDs for power, laser temperature stability, keypad lockout |
| Power | Analyzer: 100–240 VAC, 50–60 Hz, 24VDC |
| Analog Outputs | Three 0/4–20 mA DC (source) with 500 ohm load. User programmable for any parameter and scalable. Complies with NAMUR protocol for analog signals. |
| Analog Input | Loop powered 4–20 mA input for remote pressure transmitter. Aurora supplies 24 VDC. |
| Digital Interfaces | Two programmable digital communications ports: RS232, RS485 with multidrop capability and assignable address, MODBUS RTU protocol. One Ethernet port: Modbus TCP/IP protocol |
| User Interface | Programmable “through-the-glass” via magnetic stylus |
| Laser | Class 1 product. Conforms to IEC 60825-1. Edition 2.0 Safety of Laser Products |
| Enclosure | |
| Ingress Protection | IP-66 |
| Net Weight | 45 kg (100 lb) |
| Dimensions (H x L x W) | 841.2 mm x 461 mm x 332.3 mm (33.12 in. x 18.31 in. x 13.08 in.) |
| Temperature | |
| Operating | -20 to 65°C (-4 to 149°F) |
| Storage | -20 to 70°C (-4 to 158°F) |
| Optional Heater/ Thermostat Set Point | 20°C/68°F ±5°C/9°F for US/Canada, 10°C/50°F ±5°C/9°F EU and elsewhere |
| Hazardous Area Certification | |
| USA/Canada | Explosion-proof for Class I, Division 1, Groups B, C, D |
| EU and Elsewhere | ATEX and IECEx: Ex de IIB+H2 T6 -20°C to +65°C Flameproof with increased safety compartment |