



Aurora RM

Reliable moisture measurement

Panametrics Aurora RM rack-mount analyzer uses tunable diode laser absorption spectroscopy (TDLAS) to accurately measure moisture in a variety of background gases. The Aurora RM analyzer is suitable for installation in safe areas and operates over a wide range of environmental conditions. Aurora RM's fast response immediately alerts the user when moisture concentrations are out of compliance; once corrected, gas can be quickly cleared for process normalization.

The Aurora RM 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 RM analyzers are always ready for immediate moisture measurement. With power and gas lines easily connected, the Aurora RM moisture analyzer provides a wide range of reliable measurements with the accuracy and fast response you need for immediate alerts to process upsets or out-of-compliance moisture concentrations.

Technical Specifications

Range

Range	0 to 5000 ppm _v For CO ₂ applications: 0 to 1000 ppm _v
Lower Detection Point	2 ppm For CO ₂ applications: 50 ppm (–48°C)
Dew/Frost Point	–97°F to 27.3°F (–71°C 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)

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.

Accuracy

Moisture reading (parts per million by volume)	±1% of reading or ±2 ppm _v , whichever is greater; for > 1000 ppm _v ±5% of reading For CO ₂ applications: ±3% of reading or ±5 ppmv For H ₂ recycle applications: ±1% of reading or ±2 ppm _v (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.)
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Repeatability	±0.2 ppmv or ±0.1%, whichever is greater; For CO ₂ applications: ±1.0 ppm _v or ±0.5%, whichever is greater
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Calibration Certification	NIST or equivalent NMI traceable certification
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Calibration Options	Nitrogen and 3 customizable calibration curves
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Pressure

Operating Sample Cell Pressure	69 to 172 Kpa (10 to 25 psia)
Process Pressure	102 psig (0.69MPa) Higher pressure available with application of additional sampling system components.

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 flowrate through sample cell, available upon request

I/O

Display	Backlit transfective LC display. 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
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 (RJ-45) port: Modbus TCP/IP protocol
User interface	Tactile keypad with status/fault indicator LEDs
Laser	Class 1 product. Conforms to IEC 60825-1. Edition 2.0 Safety of Laser Products

Enclosure

Ingress Protection	IP 20
Net weight	19 kg (41 lbs)
Dimensions (H x L x W)	7" H (177 mm) X 19" W (483 mm) X 22" D (559 mm)

Temperature

Operating	–20 to 50°C (–4 to 122°F)
Storage	–20 to 70°C (–4 to 158°F)

Certification

USA/Canada	General Purpose (No hazardous area certification)
EU and Elsewhere	General Purpose; Complies with 2014/30/EU EMC and 2014/35/EU LVD harmonizing directives