



# 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

<b>Range</b>	0 to 5000 ppm <sub>v</sub> For CO <sub>2</sub> applications: 0 to 1000 ppm <sub>v</sub>
<b>Lower Detection Point</b>	2 ppm For CO <sub>2</sub> applications: 20 ppm (-55.3°C)
<b>Dew/Frost Point</b>	-97°F to 27.3°F (-71°C to -2.6°C) frost point @ STP of 25°C, 14.696 psia
<b>Process Dew/Frost Point</b>	Process or equivalent dew point/frost point by calculation with process pressure signal (4-20 mA) or constant
<b>Absolute Humidity</b>	0.095 to 237 lbs/MMSFC (1.52 to 3,803 mg/m <sup>3</sup> )

### Response Time

<b>Response Time</b>	Optical system <2 seconds
<b>System Response</b>	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

<b>Moisture reading (parts per million by volume)</b>	±1% of reading or ±2 ppm <sub>v</sub> , whichever is greater; for > 1000 ppm <sub>v</sub> ±5% of reading  For CO <sub>2</sub> applications: ±3% of reading or ±5 ppmv  For H <sub>2</sub> recycle applications: ±1% of reading or ±2 ppm <sub>v</sub> (for up to ±5% H <sub>2</sub> and ±1% C <sub>2</sub> H <sub>6</sub> 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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<b>Repeatability</b>	±0.2 ppmv or ±0.1%, whichever is greater; For CO <sub>2</sub> applications: ±1.0 ppm <sub>v</sub> or ±0.5%, whichever is greater
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<b>Calibration Certification</b>	NIST or equivalent NMI traceable certification
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<b>Calibration Options</b>	Nitrogen and 3 customizable calibration curves
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### Pressure

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

### Flow Rate

<b>Sample Cell Flow Rate</b>	10 to 60 SLH (0.4 to 2 SCFH); 30 SLH (1 SCFH) nominal
<b>By-pass Fast Loop</b>	5 to 10X of flowrate through sample cell, available upon request

## I/O

<b>Display</b>	Backlit transfective LC display. Three programable simultaneous parameters. Alphanumeric status and diagnostic display. LEDs for power, laser temperature stability, keypad lockout
<b>Power</b>	Analyzer: 100-240 VAC, 50-60 Hz
<b>Analog outputs</b>	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.
<b>Analog Input</b>	Loop powered 4-20 mA input for remote pressure transmitter. Aurora supplies 24 VDC.
<b>Digital interfaces</b>	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
<b>User interface</b>	Tactile keypad with status/fault indicator LEDs
<b>Laser</b>	Class 1 product. Conforms to IEC 60825-1. Edition 2.0 Safety of Laser Products

## Enclosure

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

## Temperature

<b>Operating</b>	-20 to 50°C (-4 to 122°F)
<b>Storage</b>	-20 to 70°C (-4 to 158°F)

## Certification

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