TransPort Aurora
Reliable, Portable Moisture Measurement

BHGE's Aurora series of moisture analyzers uses tunable diode laser absorption spectroscopy (TDLAS) to rapidly and accurately measure moisture in a variety of background gases. The Aurora TransPort, the latest addition to the series, is a battery operated, moveable analyzer that can be taken into the field to directly measure moisture content of natural gas and other process gases. The unit is assembled into a rugged and transportable case with a telescoping handle and wheels.

BHGE's patented temperature and pressure compensated TDLAS provides repeatable, accurate and drift-free moisture measurement with fast response.

The TransPort is ideal for spot checking the performance of natural gas processing and drying systems, gas storage facilities, compression stations, refinery processes, heat treating furnaces, instrument air and more. It is ideally suited for field verification of permanently installed moisture analyzers and transmitters.

The unit is equipped with a rechargeable battery that provides 8 to 10 hours of operation as well as integrated sample conditioning components. An easy-to-use display/keypad enables direct display of moisture, temperature and pressure. The unit also provides both analog (4-20 mA) and digital interfaces (RS232/485 and Ethernet) for data recording.

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![Baker Hughes, a GE company logo]

Specifications

Range	
Calibrated Range	0 to 5000 ppm$_v$ For CO_2 applications: 0 to 1000 ppm$_v$
Lower Detection Level	2 ppm$_v$ (-71.7°C) For CO_2 applications: 20 ppm$_v$ (-55.3°C)
Dew/Frost Point	-97.1° to 27.3°F (-71.7°C to -2.6°C) frost point @ STP of 25°C, 14.696 psia
Process Dew/Frost Point	Process/Equivalent dew Point/Frost point calculation at user-defined constant pressure or external pressure specified by Modbus
Absolute Humidity	0.095 to 237 lbs/MMSCF (1.52 to 3,803 mg/m^3)

Accuracy	
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 ppm$_v$ For H_2 recycle applications: ±1% of reading or ±2 ppm$_v$ (for up to ±5% H_2 and ±1% C_2H_6 variation from nominal calibration composition) (Individual instrument calibrated accuracy conditions provided in Certificate of Conformance. Accuracy of other parameters derived from ppm$_v$)
Repeatability	±0.2 ppm$_v$ or ±0.1%, whichever is greater For CO2 applications: ±1.0 ppm$_v$ 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	30 psig (308.2 kPa)

Flow Rate	
Sample Cell Flow Rate	0.1 to 1.0 SLPM (0.2 to 2.1 SCFH) 0.5 SLPM (1.1 SCFH) nominal
Bypass Fast Loop	5 to 10X of flow rate through sample cell

I/O	
Display	Backlit transflective display. Three programable simultaneous parameters. Alphanumeric status and diagnostic display. LEDs for power, laser temperature stability, keypad lockout
Power	Standard rechargeable lithium-ion battery pack (14.4V/6600 mAh); Universal 100 - 240 VAC, 50/60 Hz, 120W adapter with 24 VDC output
Analog Outputs	Three 0/4-20 mA DC (source) with maximum 500 ohm impedance. User programmable for any parameter and scalable. Complies with NAMUR protocol for analog signals.
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	Tactile keypad with status/fault indicator LEDs
Laser	Class 1 product. Conforms to IEC 60825-1. Edition 2.0 Safety of Laser Products

Enclosure	
Net Weight	49 lbs. (22.3 kg)
Dimensions (H x L x W)	24.6 in X 19.7 in X 11.7 in (624.84 mm X 500.38 mm X 297.18 mm)

Temperature	
Operating	-20°C to 50°C (-4°F to 149°F) with battery discharging; 0°C to 45°C (32°F to 113°F) with battery charging
Storage	-20°C to 50°C (-4°F to 149°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

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