GE
Measurement & Control

Aurora

Reliable Moisture Measurement

GE's 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 measurement. 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.

Specifications

Range	
Calibrated Range	0 to 5000 ppm_v
Lower Detect Level	5 ppm_v
	For CO_2 applications: 50 ppmv
Dew/Frost Point[1]	-85.9° to 27.3°F (-65.5° to –2.6°C) frost point @ STP of 25°C, 14.696 psia
Process Dew/Frost Point[1]	Process or equivalent dew point/frost point by calculation with process pressure signal (4-20 mA) or constant
Absolute Humidity	0.24 to 237 (3.8 to 3,803 mg/m^3) lbs/MMSCF
Accuracy	
Parts Per Million by Volume	±2% of reading or ±4 ppm_v whichever is higher
	For CO_2 applications: ±3% of reading or ±5 ppm_v For H_2 recycle applications up to 10% H_2 and 1% C_2H_6 variation from nominal: ±2% of reading or ±4 ppm_v (Accuracy of other parameters derived from ppm_v)
Repeatability	±2 ppm_v (parts per million by volume) below 200 ppm. 1% above 200 ppm
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	69 to 172 Kpa (10 to 25 psia)
Maximum Pressure	1380 KPa (200 psi)
Process Pressure	400 psig (2.76MPa) [2500 psig (17.23MPa) with heated pressure regulator option][2]
	Higher pressure available with application of additional sampling system components.

Flowrate	
Sample Cell Flowrate	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
I/O	
Display	Backlit LCD. Three programable simultaneous parameters. Alphanumeric status and diagnostic display. LEDs for power, laser temperature stability, keypad lockou
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 Interface	Two programmable digital communications ports RS232, RS485 with multidrop capability and assignable address, MODBUS RTU 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	37 kg (100 lb)
Dimensions in in (mm)	33.12 H (841.2) x 18.31 L (461) x 13.08 W (332.3)
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 IEC Ex: Ex de IIB + H2 T6 -20°C to +65°C Flameproof with increased safety compartment

www.gemeasurement.com

920-468G