VIASENSOR

VIASENSOR HS-1000
HUMIDITY SENSOR

FOR (PEMFC) ENVIRONMENTS

HS-1000

The **VIASENSOR HS-1000** solves the key challenges of accurately measuring the fuel cell *humidity levels* in high temperature and high humidity fuel cell gas conditions.

Easy to read large well-lit display

Potable Analyzer for breathing zones

Built in gas moisture removal

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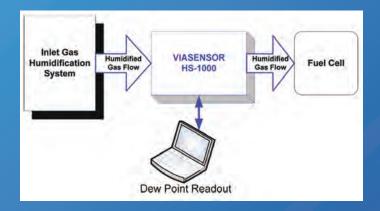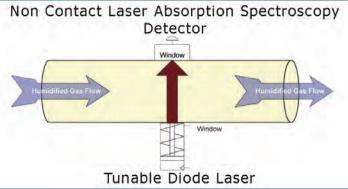
VIASENSOR HS-1000 HUMIDITY SENSOR

Features

- Designed specifically for (PEMFC) environments
- Dew point range 30°C to 100°C
- Able to detect transients in the humidification
- Dew point is measured independent of gas mixture
  - components (normal air, H2, CO, CO2, N2 do not overlap with the H2O vapor absorption line
- Provides accurate and reliable dew point data
- No drift over time
- Operates at a wide range of flow rates

Key Benefits

- Allows the user to experiment with a range of typical fuel cell conditions such as high humidity, high temperature, and various flow rates
- Continuous readings with rapid response time as as 0.8 seconds for gas flows greater than 0.4 L/min
- Measures gas humidity in and out of fuel cell to mass balance
- Quickly verify the accuracy and stability of humidification equipment

Applications

- PEMFC
  - (Proton Exchange Membrane Fuel Cells)
  - (Polymer Electrolyte Membrane Fuel Cells)

Non Contact Laser Absorption Spectroscopy Detector

Ranges

Range	40 mB to 1000 mB water vapor partial pressure (30° to 100°C dew point)
Accuracy	±2% of the reading in millibars + 1 millibar, or ±0.5°C dew point
Max Pressure	30 psig (200 kPa gauge pressure)
Response Time	As quickly as 0.8 seconds for gas flows greater than 0.4 L/min

Pump

Flow Rate Change	Flow rate independent (Note: Response time increases below 0.4 L/min)
	High flow rates (above 15 L/min) may be accommodated using a slip-stream/bypass flow line

Environmental Conditions

Ambient Temperature Range	50°F to 86°F (10°C to 30°C)
Max Sample Cell Temperature	221°F (105°C)

Physical

Analog Output	(0-5VDC), 20 mA maximum
AC Power	90 to 240 VAC, 1.4 A, 50 to 60 Hz
Dimensions and Weight	Sample cell: 6" x 6" x 2" (15cm x 15cm x 5cm) 1.7 lb (0.8 kg)
	Electronics: 8.75" x 10" x 3.5" (22.2cm x 25.4cm x 8.9cm), 3.75 lb (1.7 kg)
Cable Length	40" (1m)
Data Logging Software Requirements (for computer)	Minimum display resolution: 1024 x 768 Serial input or Serial/USB adapter
Wetted Materials	Nickel-plated aluminum, sapphire, epoxy

✍ Note:
Due to VIASENSOR'S continuous program of improvement, this specification is subject to change without prior notice.