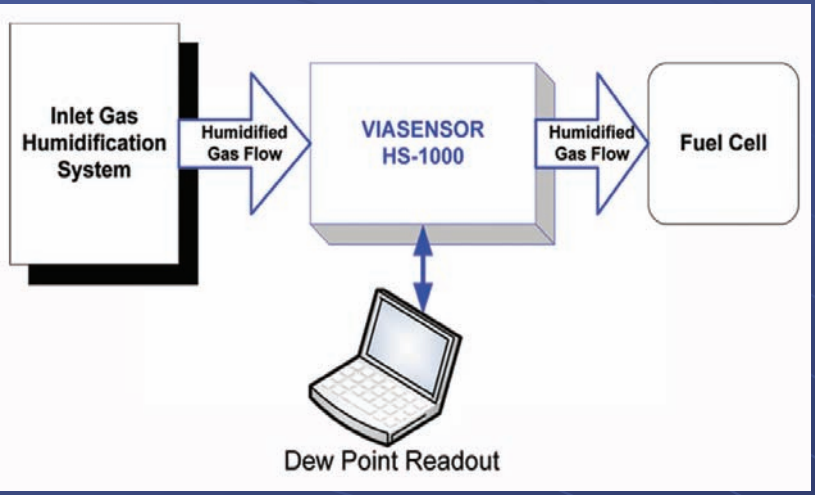
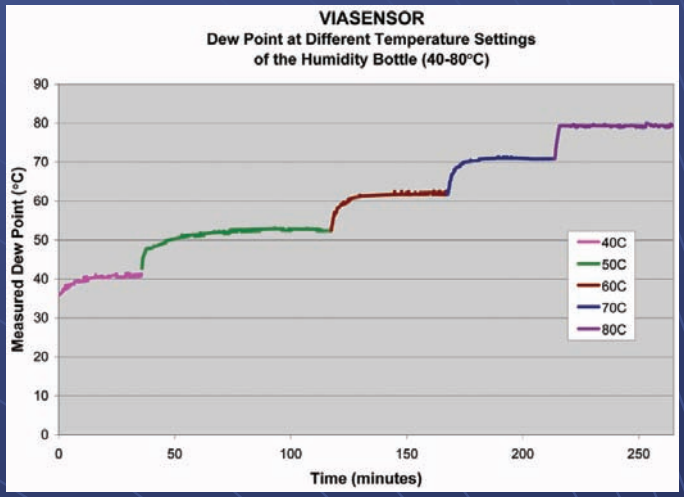
REAL-TIME FUEL CELL HUMIDITY SENSOR

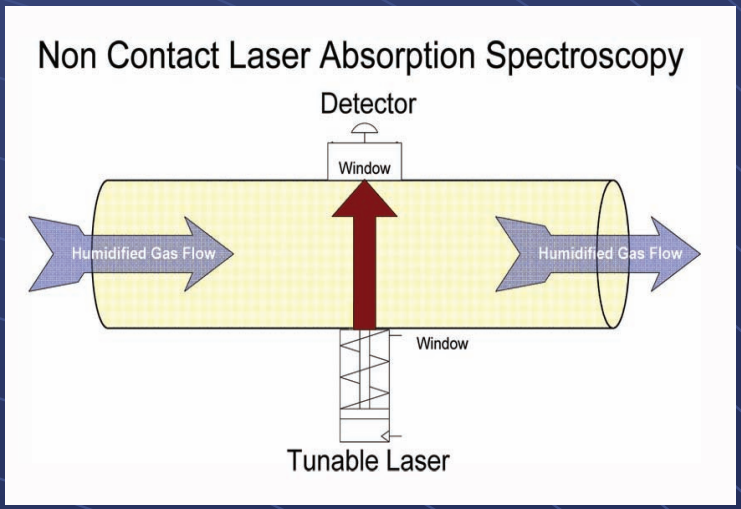
VIASENSOR HS-1000

LASER-BASED
CONTINUOUS DATA
FAST RESPONSE
NON-CONTACT

HIGH TEMPERATURE
HIGH HUMIDITY
EASY TO USE
NO MAINTENANCE







The VIASPACE real-time humidity sensor, VIASENSOR, uses patent pending miniature laser technology to enable real-time, accurate, and reliable measurement of the humidity of the inlet gases in PEM fuel cell testing and operation. The VIASENSOR provides researchers and fuel-cell developers with a solution for in-situ, real-time humidity measurements.

The VIASENSOR is a non-contact sensor with a laser beam passing though the inlet gas. Other types of sensors contact the gas stream and may depend on a slow chemical reaction, diffusion or phase change to detect the moisture. These mechanisms make other sensors slow to respond and leave them vulnerable to contaminants in the gas. The VIASENSOR continuously scans the laser on and off the water absorption line and uses the off-line signal to constantly re-calibrate the sensor for any drift in the laser, detector, or sample cell conditions. The continuous calibration provides accurate readings without maintenance.

VIASENSOR HS-1000 HUMIDITY SENSOR

The VIASENSOR solves the key challenges of accurately measuring the fuel cell humidity levels in high temperature and high humidity environments.

Features	Benefits
• VIASENSOR solution has been designed specifically for the PEMFC environment. • Dew point range: ambient to >80°C • Operates at a wide range of flow rates	• Dew points at high humidity and high temperature can be readily measured with existing lab set-ups. • Allows the user to experiment with a range of typical fuel cell conditions such as high humidity, high temperature, and various flow rates.
• Is the only solution that provides in-situ, real time, continuous, and fast-responding dew point measurement	• The user can monitor the dew point of the input gas at the set temperature in real time while testing fuel cells, allowing immediate fuel cell performance information and feedback during testing. Data can be taken as often as every five seconds
• Provides accurate and reliable dew point data • No drift over time	• PEM Fuel Cell's performance depends strongly on the humidity of the input gas, and this data is provided directly over the complete length of testing.
• Designed to prevent condensation • No calibration needed	• No delays or resets are required between measurements due to water condensation problems. This translates to easy set-up, operation, and time savings.
• Dew point can be measured independent of the gas mixture components (normal air, H_2, CO, CO_2, N_2, do not overlap with the H_2O absorption line	• VIASENSOR measures dew point for a single component gas or mixture of gases without interference from other gases or contaminants
• VIASENSOR measurement is simple to implement, low cost and robust • RS232 Serial Output • Plug-and-play • Small packaging	• Saves money and time in the set-up, measurement and data collection • Provides the user with a frustration-free testing experience • Allows convenient and automatic data collection by computer via serial port or USB adapter
• Able to detect transients in the humidification	• Excellent for detailed measurements with high accuracy
• Non-invasive humidity measurement in the inlet gas stream	• Does not require specialized installation and risk damaging the fuel cell under test
• Sensor does not get flooded, no need to dry out	• No danger of harm to the device or cell
• Modest package size and weight	• Fits on virtually any lab bench or workspace

For information related to this product please contact us at the following:

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VIASPACE

HUMIDITY MEASUREMENTS YOU CAN DEPEND ON