



www.saharahenderson.com

SAHARA MOISTURE TRANSMITTER (SMT)



Features

- Thin-film aluminum oxide moisture sensor technology
- Microprocessor-based, all-digital technology for reliable operation
- Compact size
- NEMA 4X/IP67
- Loop-powered 4 to 20 mA output
- -100°C to +30°C (-148°F to +86°F) range capability
- NIST-traceable calibration

Measures Moisture Range From -100°C to +30°C

The Sahara Moisture Transmitter (SMT) provides a simple, accurate, and highly reliable solution for either dewpoint temperature or moisture measurement.

Designed for desiccant regenerative air dryers, the SMT covers the overall moisture range of -100°C to +30°C (-148°F to +86°F) dew point temperature. The SMT is a loop-powered device that provides a 4-20mA output proportional to the output range selected. The SMT also features a compact size and profile, and still maintains a NEMA4X/IP67 environmental rating.

Improve Product Efficiency and Performance

The SMT can be used to significantly improve the energy and efficiency of regenerative gas dryer systems. By monitoring the dryer outlet moisture content, desiccant bed regeneration can be initiated on demand, rather than on a timed cycle. This process has resulted in improved performance and significant savings in energy costs. In addition, the SMT can be used to monitor overall dryer operations, determine regular maintenance intervals, and detect faulty operation.

Advanced Moisture Sensor Technology

The SMT combines a technologically advanced aluminum oxide moisture sensor with state-of-the-art software and electronics for unequalled overall performance.

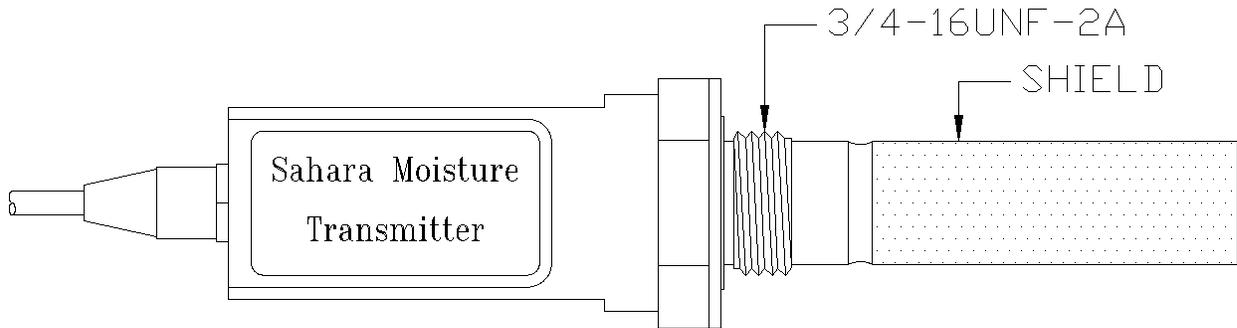
NIST-Traceable Calibration

Superior sensitivity, speed of response, calibration stability, and wide dynamic range have made aluminum oxide moisture probes the standard of performance and value in industrial moisture measurement. They are suitable for laboratory and industrial moisture measurement applications in gases and non-aqueous liquids over a wide range of process conditions. All moisture probe calibrations are traceable to the National Institute of Standards and Technology (NIST).

Installation Flexibility

This rugged, compact transmitter is designed specifically for installations where space is at a premium. It should be installed in the sample system provided, but can be installed directly in the process stream.

SAHARA MOISTURE TRANSMITTER (SMT)



Specifications

Moisture Range	-100°C to +30°C (-148°F to +86°F)
Operating Temperature	-40°C to +60°C (-40°F to +140°F)
Storage Temperature	70°C (158°F maximum)
Warm Up Time	Meets specified accuracy within 3 minutes
Accuracy	±2°C from -65° to +40°C dew/frost point (-85°F to +104°F) ±3°C from -100° to -66°C dew/frost point (-148°F to -87°F)
Repeatability	±0.5°C from -65° to 40°C dew/frost point (-85°F to +104°F) ±1.0°C from -100° to -66°C dew/frost point (-148°F to -87°F)
Response Time	Less than five seconds for 63% of a step change in moisture content in either wet-up or dry-down cycle
ELECTRICAL	
Power	7 to 28 VDC (loop-powered, customer supplied)
Output	4-20 mA
Output Resolution	0.01 mA
MECHANICAL	
Sample Connection	¾" 16 straight male thread with o-ring
Operating Pressure	5 µ Hg to 5000 psig (345 bar)
Enclosure	NEMA 4X/IP67
Dimensions	Overall: 6.76" x 1.13" diameter Electronics with cable: 4.08" x 1.13" diameter
Weight	5 oz. (140 grams)
European Compliance	Complies with EMC Directive 89/336/EEC and PED 97/23/EC for DN<25
MOISTURE SENSOR	
Sensor Type	Thin-film aluminum oxide moisture sensor probe
Calibration	Each sensor is individually computer calibrated against known moisture concentrations, traceable to NIST
Calibration Interval	Sensor recalibration is recommended every six to 12 months depending on application
Flow Rate	Gases: Static to 10,000 cm/sec linear velocity @ 1 atm



SAHARA AIR PRODUCTS
A Division of HENDERSON ENGINEERING COMPANY, INC.
95 North Main Street • Sandwich IL 60548
815-786-9471 • 800-544-4379 • Fax: 815-786-6117
www.saharahenderson.com