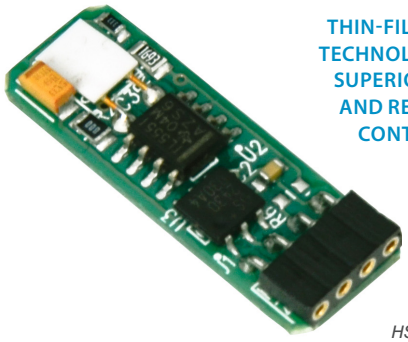
HS



HS

U.S. Patent No. 5,844,138

THIN-FILM CAPACITIVE TECHNOLOGY PROVIDES SUPERIOR ACCURACY AND RESISTANCE TO CONTAMINANTS

ORDERING INFORMATION

	Accuracy	NIST	
HS	☐	☐	X
	1 = 1%*	N = NIST (1% & 2% models only)	
	2 = 2%		
	3 = 3%	X = None (2%, 3%, & 5% models only)	
	5 = 5%		

Example:

HS 5 X X

*1% HS sensors used in outdoor applications are limited by the device to 2% accuracy.

Note: 1-year limited warranty.

PROVIDES EASY FIELD REPLACEMENT FOR VERIS DELUXE HUMIDITY SENSORS

DESCRIPTION

The HS replaceable humidity element is designed to lower costs and reduce downtime. It features thin-film capacitive technology for superior accuracy and exceptional resistance to contaminants. It is compatible with all Veris deluxe sensors, making replacement quick and easy. No need to install a new humidity sensing device, just insert a new element into the unit and resume operation.

These humidity elements are calibrated in a high accuracy, NIST traceable, humidity generator. Each sensor is digitally calibrated at four different relative humidity levels over an eight-hour period. Calibration data is programmed into the replaceable sensing element. This computer-controlled digital calibration eliminates errors associated with manual "trimming." A certificate of calibration is provided with NIST versions of the HS.

Veris' calibration system produces known humidity values using the fundamental principle of the "two pressure" generator developed by NIST (H-4622). The two-pressure method involves saturating air with water vapor at a given pressure and temperature. Saturated gas then flows through an expansion valve where it is isothermally reduced to chamber pressure. Gas temperature is held constant during pressure reduction, so relative humidity at chamber pressure is calculated as the ratio of two absolute pressures.

Temperature uniformity in the chamber is maintained by circulating a temperature controlled fluid through a shell surrounding the test space. Highly accurate pressure measurements are made using NIST traceable piezoresistive transducers. The resulting system accuracy is better than 0.5% RH over all ranges and temperatures.

This system is capable of continuously supplying accurate humidity values for instrument calibration, evaluation, and verification.

Certificate of Performance

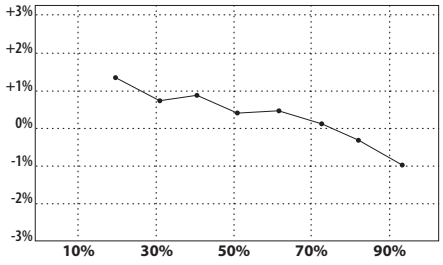
HS Digital Humidity Sensor

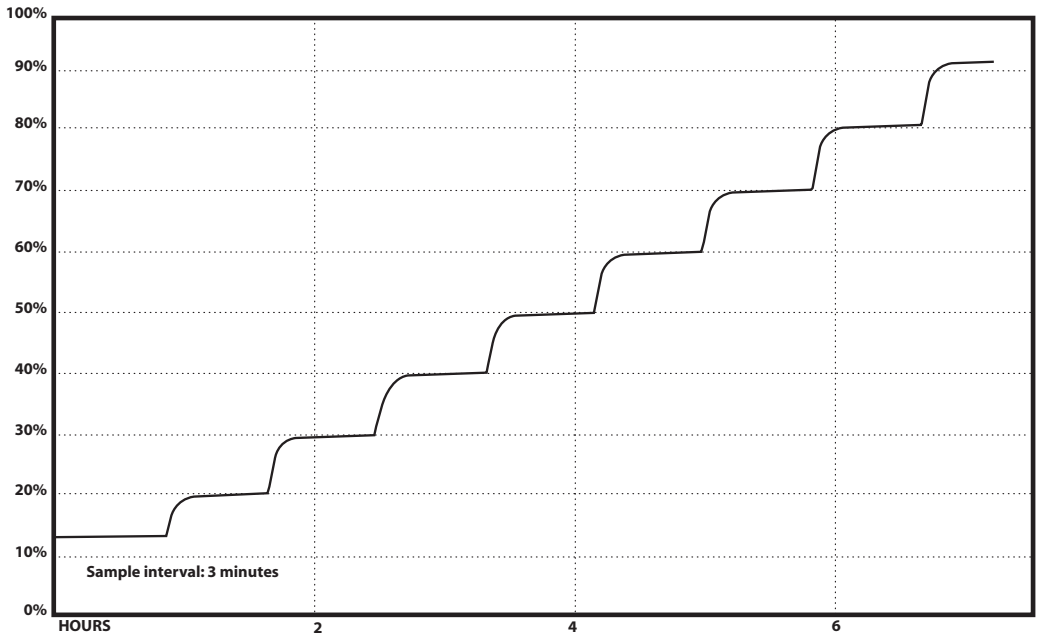
Serial Number: SAMPLE **Date:** _____ **Accepted by:** _____

This digital sensor has been computer profiled and calibrated at multiple relative humidity levels using standards traceable to the National Institute of Standards and Technology through test #H-4622.

The humidity standard produces an atmosphere of known humidity based on the "two-pressure" principal which is to saturate an air stream with water vapor at a given pressure and temperature. The saturated air stream is then reduced to test pressure. The humidity at test pressure is then the ratio of the two absolute pressures, corrected for vapor pressure and enhancement factor ratios.

Reference	Reading	Difference
12.0%	12.53%	+0.53%
20.0%	20.44%	+0.44%
30.0%	29.94%	+0.06%
40.0%	40.12%	+0.12%
50.0%	49.80%	+0.20%
60.0%	59.98%	-0.02%
70.0%	69.84%	-0.16%
80.0%	79.43%	-0.57%
90.0%	88.80%	-1.20%





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