



SOUTHWEST RESEARCH INSTITUTE®

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Institute Calibration Laboratory
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Calibration Laboratory
Certificate #0972-01

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: DON BANNON

Manufacturer / Model: VAISALA / HMP235

Description: HUMIDITY/TEMPERATURE TRANSMITTER

Serial No: W1840037

Asset No: 008768

Procedure: HUMIDITY-DEW POINT - 19 MAY 06

Work Order: 303075861

Date Issued: Aug 15, 2007

Calibration Date: Aug 15, 2007

*Calibration Due: Aug 15, 2008

Calibration Location: Bldg. 64

Environment: Temp. 73.0°F Hum. 40 %RH

**Data Type: FOUND-LEFT

DivID/Location: N/A

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 2005, ANSI/NCSL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The client has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance. See Remarks or attached Measurement Report with the same Work Order number for data.

Reported uncertainty calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM) and represents an expanded uncertainty with a coverage factor of k=2 to approximate a 95% confidence level.

Remarks: -20 to 180°C (4-20 mA) 0 to 100 %RH (<-20 mA)

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
009917	604420	HART SCIENTIFIC	5612	RTD	Sep 28, 07
010375	8426006	FLUKE	45	MULTIMETER	Jul 17, 08
012098	9096026	FLUKE	45	MULTIMETER	Mar 02, 08
006404	9806123	THUNDER SCIENTIFIC	2500	HUMIDITY GENERATOR	May 30, 08

Reviewed by: () wgh () srk () jrg () blt () pwc

Metrology Technician

m:\a2la1.rpt Rev date August 15, 2005

Measurements by: Bob Trollinger

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303075861	Mfr.	VAISALA	Technician:	blt
Asset No.	008768	Model	HMP235 -20 to 180 C		
Serial No.	W1840037	Type.	Temp/RH Transmitter	Cal Date:	15-Aug-07
Remarks: Temperature accuracy is based on worst case error. Manufacturer %RH Limits are +/-1% 0 to 90%RH. CALIBRATED 25 to 65 °C					

Function/Range	Test Point	TI Reading		Difference	+/-Limit	+/-Uncertainty	Found/Left
% RH	% RH	mAmp	% RH	% RH	% RH	% RH	Result
0-100	20.00	7.074	19.21	-0.79	1.0	0.58	Pass
	40.48	10.466	40.41	-0.07	1.0	0.58	Pass
	60.06	13.552	59.70	-0.36	1.0	0.58	Pass
	70.08	15.1	69.38	-0.70	1.0	0.58	Pass
Degrees	°C	mAmp	°C	°C	°C	°C	
	25.67	7.640	25.50	-0.17	0.60	0.021	Pass
	44.24	9.141	44.26	0.03	0.60	0.038	Pass
	63.38	10.681	63.51	0.14	0.60	0.055	Pass

END OF REPORT