

Certificate #: 2011394-150212-HMT337-G0620104
Calibration Date: February 12, 2015
Type: Vaisala Humidity & Temperature Transmitter
Model #: HMT337
Serial #: G0620104
SR #: 304816

Customer: Oregon State University
130 Burt Hall
Oceanic & Atmos Sciences
Corvallis, OR 97331

Condition: No as found data were available. Upon receipt, the instrument read 110% constantly. The sensor and filter were contaminated with foreign substance.

Action Taken: The sensor, filter and the sensing heat cable were replaced. The instrument was adjusted and calibrated.

Analog Outputs: CH1: 0...5 V 0...100 %RH
CH2: 0...5 V -40...180 °C, Temperature

Due Date: * February 12, 2016

RH Calibrated By:


Jhonson François
Calibration Technician

Approved By:



The measurement results on the certificate are traceable to national or international standards. The results of this calibration relate only to the items being calibrated. This certificate may not be reproduced, except in full, without the prior written approval of the issuing laboratory. Vaisala is ISO 9001:2008 certified. Vaisala's calibration system complies with the requirements of ANSI/NCSL Z540-1-1994.

The calibration laboratory is controlled at 22 °C ± 3 °C and 40 %RH ± 20 %RH.

Special Limitations: None.

*Any due date given is based on a customer provided calibration interval. A number of factors may cause drift prior to the due date. Monitor all devices and calibrate when measurement error is suspected.

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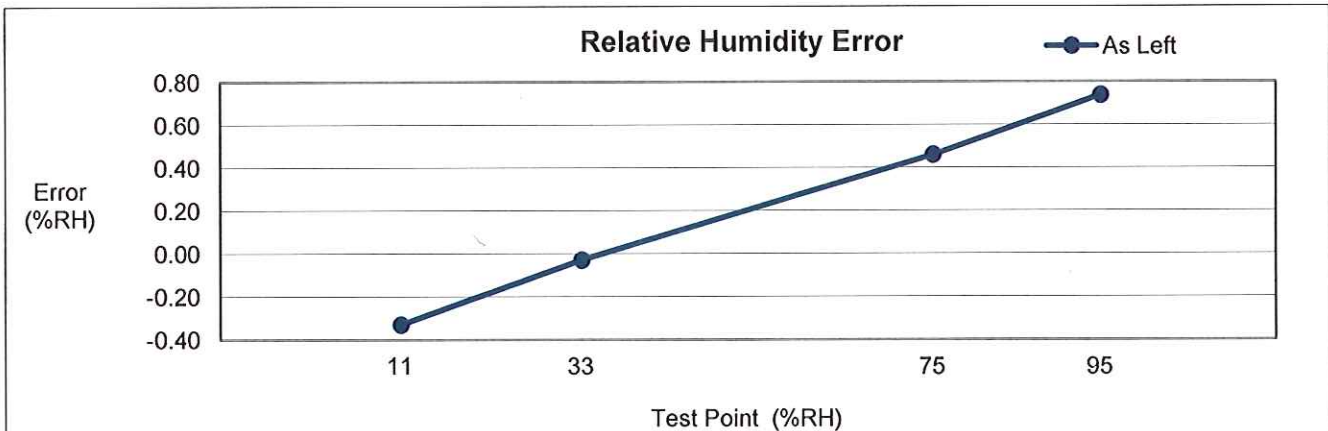
Relative Humidity Calibration

Procedure #: PI216167 Rev. B
Instrument Range: 0 to 100 %RH
Lab Environment: Relative Humidity 49.2 %RH, Temperature 21.6 °C

As Left Data

Relative Humidity, %RH				
Reference	Unit Under Test	Error	± Tolerance	± Uncertainty
11.50	11.17	-0.33	1.00	0.42
33.08	33.05	-0.03	1.00	0.60
75.11	75.57	0.46	1.00	0.79
95.10	95.84	0.74	1.70	0.72

Temperature, °C				
Reference	Unit Under Test	Error	± Tolerance	± Uncertainty
22.24	22.25	0.01	0.21	0.13



Reference Standards Calibration Information				
Model	Serial Number	Asset Number	Calibration Date	Due Date
Thunder Scientific 2500	1311987	5011-0079	Nov. 26, 2014	May. 26, 2015
Fluke 45	7405014	1011-0220	Mar. 22, 2014	Mar. 22, 2015

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Description

The calibration was performed in the Standard Laboratory of Vaisala, Inc. The instrument was first allowed to equilibrate to the laboratory environmental conditions for a period of at least 8 hours.

Relative Humidity Calibration: The sensor of the instrument was placed in the chamber of a Thunder Scientific 2500. The instrument was allowed to stabilize for at least 30 minutes at each testpoint.

References

The Thunder Scientific 1200/2500 Two-Pressure Humidity Generator saturates a continuous stream of air with water vapor at a controlled pressure and temperature. The saturated high-pressure air then passes through an expansion valve to generate a specific humidity at the chamber pressure and temperature. The generator is traceable to NIST via Thunder Scientific or an MBW 373LHX chilled mirror hygrometer.

In or Out of Tolerance Decision Rule

Out of tolerance conditions are determined by the product specification only. The calibration uncertainty is not tied in with the instrument's accuracy.

Uncertainty

The reported expanded uncertainty of the measurement is stated as the standard uncertainty of the measurement multiplied by the coverage factor of $k=2$, which corresponds to a coverage probability of approximately 95%. The standard uncertainty of the measurement has been determined in accordance with the ISO Guide to the Expression of Uncertainty in Measurement.

DOC228428 Rev. B