# VAISALA Certificate of Calibration

| | |
|---|---|
| **Certificate #:** | 161130-DMP74B-M1234567 |
| **Calibration Date:** | November 30, 2016 |
| **Type:** | Vaisala Dewpoint & Temperature Probe |
| **Model #:** | DMP74B |
| **Serial #:** | M1234567 |
| **SR #:** | NA |
| **Asset #:** | 123 |

ACCREDITED

Calibration - Certificate No: 2083.01

**Customer:**
Sample Inc.
123 Sample Rd.
Sample, MA 01234

**Condition:** The instrument was operational upon receipt.

**Action Taken:** The instrument was adjusted and calibrated.

**Date Received:** November 29, 2016
**Due Date: *** November 30, 2017

Td Calibrated By:

Hun Khun
Calibration Technician

Approved By:

The measurement results on the certificate are traceable to the SI via NIST or another National Metrology Institute. 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. The certificate and all measurements (unless otherwise specified) comply with the requirements of ISO/IEC 17025:2005.

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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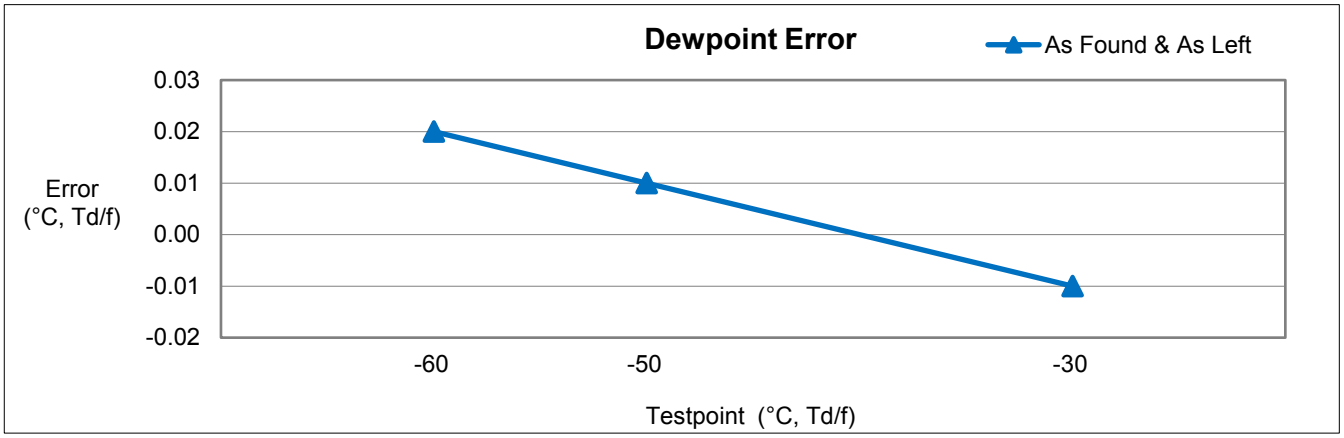
## Accredited Dewpoint Calibration

**Procedure #:** PI213889 Rev. C
**Instrument Range:** -60 to 20 °C, Td/f
**Lab Environment:** Relative Humidity 36.0 %RH, Temperature 23.0 °C

## As Found & As Left Data

### Out Of Tolerance As Received: NO

| Dewpoint, °C Td/f (Frostpoint Below 0 °C) | | | | |
|---|---|---|---|---|
| **Reference Mean** | **Unit Under Test Mean** | **Error** | **± Tolerance** | **± Uncertainty** |
| -60.00 | -59.98 | 0.02 | 2.00 | 0.73 |
| -50.00 | -49.99 | 0.01 | 2.00 | 0.73 |
| -30.00 | -30.01 | -0.01 | 2.00 | 0.73 |




| Reference Standards Calibration Information | | | | |
|---|---|---|---|---|
| **Model** | **Serial Number** | **Asset Number** | **Calibration Date** | **Due Date** |
| Thunder Scientific 3900 | 9706009 | 5011-0015 | Nov. 06, 2016 | May. 06, 2017 |

Vaisala Inc. | Boston Office
10-D Gill Street, Woburn, MA 01801, USA
Phone +1 781 933 4500 | Fax +1 781 933 8029
www.vaisala.com

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**Description**

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

Dewpoint Calibration: The sensor of the instrument was installed in a sample cell connected to the outlet of a Thunder Scientific 3900. The instrument was allowed to stabilize for at least 2 hours at each testpoint.

**References**

The Thunder Scientific 3900 Two-Pressure/Two-Temperature Low 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 where it expands to a lower pressure. The TS3900 generates a particular dewpoint by first selecting a suitable saturation temperature. It then determines the saturation pressure required to establish the correct saturation vapor pressure.

**Measurement results**

At least ten consecutive pairs of reference and unit under test measurements were recorded at each testpoint. Each measurement result on the certificate is the average of this set of readings.

**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. D



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