

# CALIBRATION CERTIFICATE

## After adjustment

**Instrument** PTU300(500-1100) Digital Barometer  
**Serial number** C2610001  
**Manufacturer** Vaisala Oyj, Finland  
**Calibration date** 06th July 2011

The above instrument was calibrated by comparing the readings of the instrument to the factory working standard of Vaisala.

The pressure readings of the factory working standard have been calibrated at an ISO/IEC 17025 accredited calibration laboratory (FINAS), Vaisala Measurement Standards Laboratory (MSL), by using MSL working standards traceable to NIST.

### Calibration results

Reference hPa	Observed hPa	Correction* hPa	Acceptance limit hPa
510.01	510.01	0.00	± 0.05
550.04	550.03	0.01	± 0.05
650.03	650.02	0.01	± 0.05
750.02	750.01	0.01	± 0.05
849.99	849.99	0.00	± 0.05
950.04	950.03	0.01	± 0.05
1000.00	1000.00	0.00	± 0.05
1049.99	1049.99	0.00	± 0.05
1100.01	1100.01	0.00	± 0.05

\*To obtain the true pressure, add the correction to the barometer reading.

Interpolated corrections may be used at intermediate readings of the scale of the barometer.

### Equipment used in calibration

<b>Type</b>	<b>Serial number</b>	<b>Calibration date</b>	<b>Certificate number</b>
PPC4	476	2011-04-08	K008-U00991

### Uncertainty ( 95 % confidence level, k=2)

Pressure ± 0.07 hPa

### Ambient Conditions

Humidity 49 %RH ± 5 %RH  
 Temperature 22 °C ± 1 °C  
 Pressure 1007 hPa ± 1 hPa

  
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## CALIBRATION CERTIFICATE

**Instrument** Pressure, Humidity and Temperature Transmitter PTU307  
**Order code** PTU300 71F20A4BCPB1A0C1E4B0B0A  
**Serial number** C2610001  
**Manufacturer** Vaisala Oyj, Finland  
**Calibration date** 4th July 2011

The above instrument was calibrated by comparing the readings of the instrument to working standards of the manufacturer. The reference humidity was calculated from dewpoint temperature and temperature readings with the exception of the driest condition that was measured as relative humidity. Dewpoint temperature was measured with a 373 LHX dewpoint meter. Temperature and relative humidity were measured with two factory working standards. At the time of shipment, the instrument described above met its operating specifications.

The 373 LHX dewpoint meter has been calibrated at National Institute of Standards and Technology (NIST). The temperature readings of the factory working standards have been calibrated at Vaisala Measurement Standards Laboratory (MSL) by using MSL working standards traceable to NIST. The relative humidity readings of the factory working standards have been calibrated at the Vaisala factory by using a 373 LHX dewpoint meter. The temperature calibration at MSL has been accredited by the FINAS according to the ISO/IEC 17025.

### Humidity calibration results

Reference humidity %RH	Reference temperature °C	Observed humidity %RH	Observed probe temperature °C	Additional probe temperature °C	Humidity difference %RH	Permissible difference %RH
+ 0.1	+ 22.28	+ 0.1	-	+ 22.30	0.0	±1.0
+ 12.5	+ 22.17	+ 12.7	-	+ 22.16	+ 0.2	± 1.0
+ 32.6	+ 22.25	+ 32.9	-	+ 22.24	+ 0.3	± 1.0
+ 53.2	+ 22.26	+ 53.5	-	+ 22.17	+ 0.3	± 1.0
+ 74.0	+ 22.22	+ 74.1	-	+ 22.20	+ 0.1	± 1.0
+ 93.4	+ 22.28	+ 93.8	-	+ 22.27	+ 0.4	± 1.7

### Temperature calibration results

Reference temperature °C	Observed probe temperature °C	Temperature difference °C	Additional probe temperature °C	Temperature difference °C	Permissible difference °C
+ 22.22	-	-	+ 22.20	- 0.02	± 0.10

### Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
MBW 373 LHX	08-1204	2011-05-13	M-11H032
HMT337 / T	E0840006	2011-04-02	K008-U00907
HMT337 / T	E0840007	2011-04-02	K008-U00908
HMT337 / RH	E0840006	2011-05-20	H33-11211001
HMT337 / RH	E0840007	2011-05-20	H33-11211002

### Uncertainties ( 95 % confidence level, k=2)

Humidity ± 0.6%RH @ 0...40%RH, ± 1.0%RH @ 40...97%RH

Temperature ± 0.10 °C.

Ambient conditions / Humidity 47 ± 5%RH, Temperature + 22 ± 1 °C, Pressure 1013 ± 1 hPa.



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# CALIBRATION CERTIFICATE

**Instrument** Pressure, Humidity and Temperature Transmitter PTU307  
**Order code** PTU300-71F20A4BCPB1A0C1E4B0B0A  
**Serial number** C2610001  
**Manufacturer** Vaisala Oyj, Finland  
**Calibration date** 05th July 2011

The analog outputs of the above instrument were measured by using working standards of the manufacturer. The outputs were forced by digital input signals to three output values. The observed values were determined by measuring the voltage over the output terminals. All results are traceable in terms of voltage to NIST.

## Analog output channel 1 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.4997	- 0.0003	±0.0025
2.500	2.50001	+ 0.00001	±0.0025
4.500	4.50049	+ 0.00049	±0.0025

## Analog output channel 2 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.49954	- 0.00046	±0.0025
2.500	2.49984	- 0.00016	±0.0025
4.500	4.50031	+ 0.00031	±0.0025

## Analog output channel 3 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.49984	- 0.00016	±0.0025
2.500	2.49992	- 0.00008	±0.0025
4.500	4.50027	+ 0.00027	±0.0025

## Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
HP34970A	EM 13666	2011-02-11	K004-11S050

## Uncertainty ( 95 % confidence level, k=2)

Voltage ±0.00069V

Ambient conditions / Humidity 22 ± 5%RH, Temperature 23 ± 2 °C, Pressure 1004 ± 20 hPa.

  
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**Service Report**  
**Date**  
07.07.2011  
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**Consignee**  
Oregon State University  
Oceanic & Atmos. Sciences  
130 Burt Hall  
Corvallis OR 97331  
United States

**Invoicing address(if not consignee)**  
Vaisala Inc.  
Boulder Operations  
194 South Taylor Ave.  
Louisville CO 97331  
United States

Pos	Description	Serial number - Lot Number	Quantity
27797	PTU300 Pressure, Humidity and Temperature Transmitter	C2610001	1
	--NON CONFORMANCE DESCRIPTION FROM CUSTOMER-- Calibration.		
	--NON CONFORMANCE CAUSE -- RH/T probe filter dirty and sensor corroded. Humidity sensor short circuit.		
	--CORRECTIVE ACTION-- Filter and humidity sensor changed. Operation tested, adjustment made and calibrated. Calibration certificate numbers: H53-11270008 (Pressure calibration) H35-11270008 (RH and T calibration) H37-11270007 (Analog output calibration)		

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