VAISALA

Certificate report no. H12-07260013

CALIBRATION CERTIFICATE

Instrument	PTU300(500-1100) digital barometer
Serial number	C2610002
Manufacturer	Vaisala Oyj, Finland
Calibration date	26th June 2007
Test procedure	doc210434A

This instrument has been calibrated against a Ruska 2465 pressure balance traceable to the National Institute of Standards and Technology (NIST, USA) via Vaisala Measurement Standards Laboratory (MSL). Vaisala MSL has been accredited by FINAS according to ISO/IEC 17025 standard.

At the time of shipment, the instrument described above was within its operating specifications.

Calibration results

Reference pressure hPa	Observed pressure hPa	Correction* hPa	Uncertainty** hPa
499.51	499.52	-0.01	± 0.07
549.25	549.25	0.00	± 0.07
648.73	648.73	0.00	± 0.07
748.20	748.21	-0.01	± 0.07
850.61	850.61	0.00	± 0.07
947.16	947.16	0.00	± 0.07
999.82	999.82	0.00	± 0.07
1049.56	1049.56	0.00	± 0.07
1099.29	1099.29	0.00	± 0.07

*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.

**The calibration uncertainty given at 95 % confidence level, k = 2

Equipment used in the calibration

Type	Serial number	Calibration date	Certificate number
RUSKA 2465	TL-1242	2006-11-25	P01693
MKS SRG2	90768 G / 91794	2006-09-22	M-06P113

Ambient conditions

Humidity: humi ± 5 %RH Temperature: temp ± 1 °C Pressure: 987 ± 1 hPa

For Vaisala Oyj

Jarmo Karvinen

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Domicile Vantaa, Finland
Trade Reg. No. 96.607

VAISALA

Certificate report nr. H04-07260025

CALIBRATION CERTIFICATE

Instrument	Pressure, Humidity and Temperature Transmitter PTU307
Order code	PTU300-71F20A4BCPB1A0C1E4B0B0A
Serial number	C2610002
Manufacturer	Vaisala Oyj, Finland
Calibration date	25th June 2007
Test procedure	Doc210426-A

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	0.49979	- 0.00021	±0.00125
2.500	2.49963	- 0.00037	±0.00125
4.500	4.49971	- 0.00029	±0.00125

Analog output channel 2 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.50016	+ 0.00016	±0.00125
2.500	2.49997	- 0.00003	±0.00125
4.500	4.49997	- 0.00003	±0.00125

Analog output channel 3 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.49976	- 0.00024	±0.00125
2.500	2.49986	- 0.00014	±0.00125
4.500	4.50018	+ 0.00018	±0.00125

Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
HP34970A	EM 12504	2006-09-29	K004-06S678

Uncertainty (95 % confidence level, k=2)
Voltage ±0.00069V
Ambient conditions / Humidity 24 ± 5%RH, Temperature 29 ± 2 °C, Pressure 1025 ± 20 hPa.

For Vaisala Oyj

Anu Koivisto

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VAISALA

Certificate report nr. H35-07260025

CALIBRATION CERTIFICATE

Instrument	Pressure, Humidity and Temperature Transmitter PTU307
Order code	ptu300 71F20A4BCPB1A0C1E4B0B0A
Serial number	C2610002
Manufacturer	Vaisala Oyj, Finland
Calibration date	25th June 2007
Test procedure	doc210426-a

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 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
+ 93.6	+ 22.23	+ 93.9	-	+ 22.22	+ 0.3	± 1.7
+ 74.1	+ 22.23	+ 74.3	-	+ 22.23	+ 0.2	± 1.0
+ 53.3	+ 22.24	+ 53.6	-	+ 22.23	+ 0.3	± 1.0
+ 32.6	+ 22.22	+ 33.1	-	+ 22.24	+ 0.5	± 1.0
+ 12.4	+ 22.22	+ 12.7	-	+ 22.24	+ 0.3	± 1.0
+ 0.1	+ 22.22	+ 0.1	-	+ 22.25	0.0	±1.0

Temperature calibration results

Reference temperature °C	Observed probe temperature °C	Temperature difference °C		Additional probe temperature °C	Temperature difference °C	Permissible difference °C
+ 22.23	-	-		+ 22.23	0.00	± 0.10

Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
373 LHX	05-0217	2006-02-07	836/H-4817/TN 273081-06
HMT337 / T	B2850022	2006-10-16	K008-P01406
HMT337 / T	B2850023	2006-10-16	K008-P01407
HMT337 / RH	B2850022	2007-04-02	H35-07141001
HMT337 / RH	B2850023	2007-04-02	H35-07141002

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 39 ± 5%RH, Temperature 23 ± 1 °C, Pressure 992 ± 1 hPa.

For Vaisala Oyj

Eeva Karvinen

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