

CALIBRATION CERTIFICATE

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Certificate Number:

HEL190910185



Instrument: Humidity and Temperature Transmitter HMT337
Order code: HMT330 7S1D004BCAB120A3DCABAA1
Serial Number: R0910428
Manufacturer: Vaisala Oyj, Finland
Calibration date: 2019-02-25

Approved by:

Digitally signed by DPSIG
 Date: 2019.02.25 12:01:50 +02:00
 Reason: Calibration responsible
 Location: Vaisala Oyj, Finland

The analog outputs of the instrument were calibrated by using working standards of the manufacturer. The outputs were forced by digital input to three output values. The observed values were determined by measuring the voltage over a calibrated precision resistor.

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95 %. The measurement results are traceable to the international system of units (SI) through national metrology institutes (NIST USA, MIKES Finland, or equivalent) or via ISO/IEC 17025 accredited calibration laboratories.

Analog output channel 1 calibration results

Channel 1 scaling: RH 0...100 %RH

Output forced to V	Observed output V	Difference V	Acceptance limit V	Pass/Fail
+0.500	+0.500	0.000	±0.0025	Pass
+2.500	+2.500	0.000	±0.0025	Pass
+4.500	+4.500	0.000	±0.0025	Pass

Analog output channel 2 calibration results

Channel 2 scaling: T -40...60 °C

Output forced to V	Observed output V	Difference V	Acceptance limit V	Pass/Fail
+0.500	+0.500	0.000	±0.0025	Pass
+2.500	+2.500	0.000	±0.0025	Pass
+4.500	+4.500	0.000	±0.0025	Pass

Analog output channel 3 calibration results

Channel 3 scaling: -

Output forced to V	Observed output V	Difference V	Acceptance limit V	Pass/Fail
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Reference equipment used in calibration

Type	Identity Number	Certificate Number	Calibration Date
HP34970A	US37039699	1250-307094090	2018-06-05
-	-	-	-

Calibration uncertainties (k=2, ~95% confidence level):

Voltage ±0.00069V

Ambient conditions:

Humidity [%RH] Temperature [°C] Pressure [hPa]
 18 ± 4 23 ± 2 1011 ± 20



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Certificate Number:

HEL190910186



Instrument: Humidity and Temperature Transmitter HMT337
Order Code: HMT330 7S1D004BCAB120A3DCABAA1
Serial Number: R0910428
Manufacturer: Vaisala Oyj, Finland
Calibration Date: 2019-02-25

Approved by:

Digitally signed by DPSIG
 Date: 2019.02.25 12:02:01 +02:00
 Reason: Calibration responsible
 Location: Vaisala Oyj, Finland

The humidity sensor of the instrument was calibrated by comparing the instrument's humidity reading to a generated reference humidity reading. The reference humidity reading was calculated based on two-pressure humidity generation principle, using the measurement results of saturator pressure and temperature and calibration chamber pressure and temperature.

The temperature sensor(s) of the instrument was calibrated by comparing the instrument's temperature readings to a reference thermometer.

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95 %. The measurement results are traceable to the international system of units (SI) through national metrology institutes (NIST USA, MIKES Finland, or equivalent) or via ISO/IEC 17025 accredited calibration laboratories.

Humidity calibration results

Reference Humidity [%RH]	Reference Temperature [°C]	Observed Humidity [%RH]	Observed Temperature [°C]	Humidity Error [%RH]	Acceptance Limit [%RH]	Pass/Fail
15.1	+22.21	14.8	+22.20	-0.3	±1.0	Pass
33.1	+22.20	32.8	+22.21	-0.3	±1.0	Pass
54.2	+22.21	54.0	+22.21	-0.2	±1.0	Pass
75.4	+22.21	75.4	+22.21	0.0	±1.0	Pass
95.6	+22.20	95.6	+22.20	0.0	±1.7	Pass

Temperature calibration results

Reference Temperature [°C]	Observed Temperature [°C]	Error [°C]	Acceptance Limit [°C]	Pass/Fail
+22.27	+22.27	0.00	±0.10	Pass

Additional temperature probe calibration results

Reference Temperature [°C]	Observed Temperature [°C]	Error [°C]	Acceptance Limit [°C]	Pass/Fail
+22.21	+22.21	0.00	± 0.10	Pass

Reference equipment used in calibration

Type	Identity Number	Certificate Number	Calibration Date	Calibration Due Date
PTU307	18380	K008-B01561	2018-06-14	2019-06-30
HMP307	17007	K008-B02636	2018-09-14	2019-09-30
GE Druck DPS 823B	16735	K008-B03466	2018-11-29	2019-05-31
AM1612	16998	K008-B02634	2018-09-14	2019-09-30
PXI-4070	17090	B02633	2018-09-14	2019-09-30

Calibration uncertainty (k=2, ~95% confidence level):

Humidity ± 0.5 %RH @ 0...40 %RH, ± 0.8 %RH @ 40...95 %RH
 Temperature ± 0.10 °C

Ambient conditions:

Humidity [%RH] Temperature [°C] Pressure [hPa]
 17 ± 4 24 ± 2 1011 ± 20

Vaisala provides 10-year warranty to the HMT330 transmitters that are annually calibrated at the Vaisala Service Center.
www.vaisala.com/warranty

