

VAISALA

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CALIBRATION CERTIFICATE

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Certificate Number:

HEL203420686



Instrument: Humidity and Temperature Probe HMP155
 Order Code: A2JB11A0A0A1A0A
 Serial Number: S3410851
 Manufacturer: Vaisala Oyj, Finland
 Calibration Date: 2020-08-17

Approved by:

Martha West

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. At 0 %RH point the humidity sensor of the instrument was calibrated by comparing the instrument's humidity readings to a reference humidity transmitter.

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
0.0	23.29	0.0	23.30	0.0	±1.0	Pass
15.0	23.30	15.0	23.31	0.0	±1.0	Pass
33.0	23.30	32.9	23.31	+0.1	±1.0	Pass
54.0	23.30	53.9	23.31	-0.1	±1.0	Pass
75.2	23.31	75.2	23.31	0.0	±1.0	Pass
95.7	23.32	95.8	23.32	0.1	±1.7	Pass

Temperature calibration results

Reference Temperature [°C]	Observed Temperature [°C]	Error [°C]	Acceptance Limit [°C]	Pass/Fail
23.31	23.31	0.00	±0.10	Pass

Additional temperature probe calibration results

Reference Temperature [°C]	Observed Temperature [°C]	Error [°C]	Acceptance Limit [°C]	Pass/Fail
-	-	-	-	-

Reference equipment used in calibration

Type	Identity Number	Certificate Number	Calibration Date	Calibration Due Date
PTU307	18469	K008-C03549	2019-10-18	2020-10-31
HMP307	17429	K008-D01945	2020-06-03	2021-06-30
GE Druck DPS 823B	16734	K008-D01942	2020-06-02	2021-06-30
AM1612	17116	K008-D01947	2020-06-03	2021-06-30
PXI-4070	17432	D01944	2020-06-03	2021-06-30

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

Humidity ± 0.6 %RH @ 0...40 %RH, ± 1.0 %RH @ 40...95 %RH
 Temperature ± 0.10 °C

Ambient conditions:

Humidity [%RH] 35 ± 4 Temperature [°C] 24 ± 2 Pressure [hPa] 1010 ± 20



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Certificate Number:

HEL203420685



Instrument: Humidity and Temperature Probe HMP155
Order code: A2JB11A0A0A1A0A
Serial Number: S3410851
Manufacturer: Vaisala Oyj, Finland
Calibration date: 2020-08-17

Approved by:

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 and measured with a calibrated voltmeter.

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: T -80...60 °C 0...1 V

Output forced to [V]	Observed output [V]	Difference [V]	Acceptance limit [V]	Pass/Fail
0.1000	0.1000	0.0000	±0.0010	Pass
0.5000	0.5000	0.0000	±0.0010	Pass
0.9000	0.8999	-0.0001	±0.0010	Pass

Analog output channel 2 calibration results

Channel 2 scaling: RH 0...100 % 0...1 V

Output forced to [V]	Observed output [V]	Difference [V]	Acceptance limit [V]	Pass/Fail
0.1000	0.1000	0.0000	±0.0010	Pass
0.5000	0.5001	0.0001	±0.0010	Pass
0.9000	0.9000	0.0000	±0.0010	Pass

Reference equipment used in calibration

Type	Identity Number	Certificate Number	Calibration Date
PXI-4070	17432	D01944	2020-06-03

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

Voltage ± 0.0002 V

Ambient conditions:

Humidity [%RH] Temperature [°C] Pressure [hPa]
35 ± 4 24 ± 2 1010 ± 20