VAISALA

CALIBRATION CERTIFICATE

Vaisala is ISO 9001, ISO 14001 and AQAP 2110 certified company.

Certificate Number: HEL211840432

Instrument: PTUMODULE
Serial Number: T1820379
Manufacturer: Vaisala Oyj
Issue Date: 2021-05-06

Approved by:

Digitally signed by JANPI
Date: 2021.05.06 16:13:14 +03:00
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 of the instrument was calibrated by comparing the instrument's temperature readings to a reference thermometer.
The pressure sensor of the instrument was calibrated by comparing the instrument's pressure readings to a reference barometer.

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 and temperature calibration results, calibration date 2021-05-05

Reference Humidity [%rh]	Reference Temperature [°C]	Observed Humidity [%rh]	Observed Temperature [°C]	Humidity Error [%rh]	Acceptance Limit [%rh]
0.0	22.39	0.0	22.38	0.0	±3.0
15.0	22.40	14.7	22.39	-0.3	±3.0
33.0	22.40	32.8	22.40	-0.2	±3.0
54.1	22.40	54.0	22.40	-0.1	±3.0
75.0	22.41	75.0	22.41	0.0	±3.0
95.2	22.41	96.3	22.41	1.1	±5.0

Reference Temperature [°C]	Observed Temperature [°C]	Temperature Error [°C]	Acceptance Limit [°C]
22.41	22.41	0.00	±0.30

Ambient conditions in humidity and temperature calibration

Humidity [%rh]	Temperature [°C]	Pressure [hPa]
23 ±4	23 ±2	996 ±20

Reference equipment used in Humidity and temperature calibration

Type	Identity Number	Certificate Number	Calibration date	Calibration due date
PTU307	19522	K008-D02845	2020-08-03	2021-08-31
PXI Pt-100 sensor	17007	K008-D04418	2020-12-03	2021-12-31
DPS823B	19385	K008-D03720	2020-10-12	2021-10-31
PXI Pt-100 sensor	16998	K008-D04417	2020-12-03	2021-12-31
PXI-4070	17090	D04415	2020-12-04	2021-12-31

Pressure calibration results, calibration date 2021-05-05

Reference Pressure [hPa]	Observed Pressure [hPa]	Pressure Error [hPa]	Acceptance limit [hPa]
601.1	601.1	0.0	±0.5
800.6	800.6	0.0	±0.5
900.6	900.6	0.0	±0.5
1080.5	1080.5	0.0	±0.5

Reference equipment used in pressure calibration

Type	Identity Number	Certificate Number	Calibration date	Calibration due date
Fluke RPM4	PA 14217	D04440	2020-12-03	2021-06

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

Humidity	±0.6 %rh @ 0...40 %rh, ±1.0 %rh @ 40...95 %rh
Temperature	±0.10 °C
Pressure	±0.3 hPa

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