

Production Calibration Certificate

Certificate for LIBERO ID	83001038
LIBERO sensor type	LIBERO WSI
Calibration date	02. Aug. 2017

Process of calibration

The calibration follows a certified quality system according ISO 9001. Therefore, a comparison with certified calibration standards (reference instrument, reference material) is performed.

Calibration standards & traceability

Calibration standards are calibrated by an ISO/IEC 17025 accredited laboratory and are traceable to ISO/IEC 17025, and/or national/international standards (equivalent to NIST, UKAS, DAkkS).
Certificates for the used calibration standards are on file at ELPRO.

Measuring uncertainty

The measurements, the uncertainties with confidence probability and calibration methods are given in the table below.
The reported expanded uncertainty of measurements 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 uncertainty includes the uncertainty of the standard, the processes of calibration, the conditions of measurement and the device to calibrate.

Measurement conditions

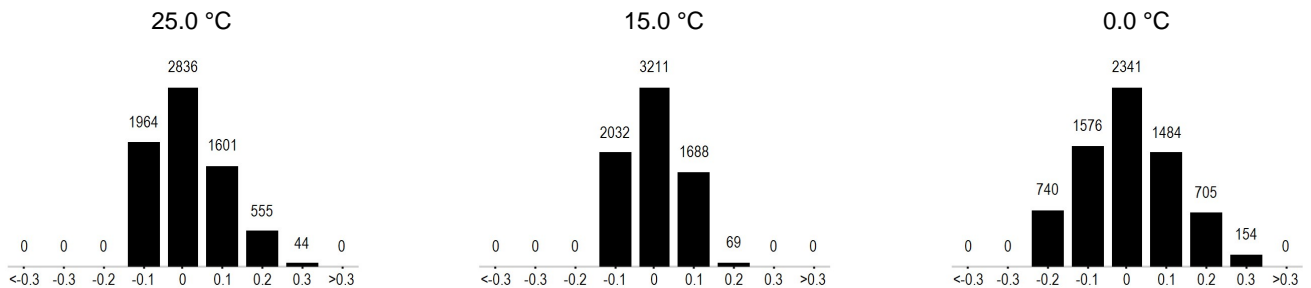
Temperature +15 °C..+30 °C
Relative humidity 0% RH..90% RH

Measuring results

	Result	Unit	Rated value	Observed value	Difference	Allowed tolerance	Uncertainty	Standard
Electrical Calibration	passed	°C	-10.00	-9.90	0.10	±0.20	0.13	LBWT-DIB-R6-1
Electrical Calibration	passed	°C	25.00	25.00	0.00	±0.20	0.13	LBWT-DIB-R6-1
Electrical Calibration	passed	°C	50.00	50.10	0.10	±0.20	0.13	LBWT-DIB-R6-1
Temperature Calibration	passed	°C	25.00	see below	see below	±0.30	0.19	PM193
Temperature Calibration	passed	°C	15.00	see below	see below	±0.30	0.19	PM193
Temperature Calibration	passed	°C	0.00	see below	see below	±0.30	0.19	PM193

Observed values sensor calibration

The sensor used in LIBERO ID 83001038 is from lot NDTA160330-3W-26.
The calibration results of the sensors in lot NDTA160330-3W-26 are noted below.



The LIBERO conforms to the given specifications

 Yes

 No

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This certificate shall not be published or reproduced other than in full, except with the prior written approval of the issuing laboratory.