E+E ELEKTRONIK® Ges.m.b.H. YOUR PARTNER IN SENSOR TECHNOLOGY

HUMIDITY

Calibration Service for relative humidity

The calibration laboratory of E+E Elektronik GmbH is accredited according to DIN EN ISO/IEC 17025, with identification number 0608, by Akkreditierung Austria / Federal Ministry of Science, Research and Economy. E+E Elektronik is a designated lab, responsible for the maintenance of the “National Standard for Air Humidity” in Austria.
The calibration of humidity transmitters and humidity generators in the designated lab is of particular interest to accredited calibration centres.
The reliable calibration of your humidity transmitters is carried out either in our lab or directly on-site.
Measurements in extreme climatic conditions are one of the specialities of E+E Elektronik. The E+E OEKD calibration lab offers relative humidity calibrations in the temperature range from -70 °C to 200 °C (-94 °F to 392 °F).

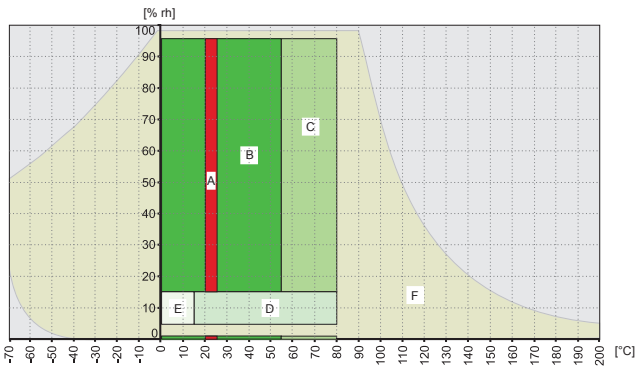
Calibration object

- Humidity measuring transducers
- Electronic and mechanical hygrometers
- Humidity data loggers and hand-held transmitters
- Psychrometers
- Humidity generators

Calibration range

Calibration standard		*Calibration object*	*Measurement method*	*Measurement range*
NMI	Lab	Special calibration of humidity transmitters in the designated BEV/E+E lab		
OEKD	Lab	Hygrometers, data loggers	Dual pressure, dual temperature generator in combination with a temperature-stabilised measurement chamber	(0 to 98) % RH (-70 to 200) °C (0 to 9) bar relative
OEKD	Lab	Hygrometer with external sensor; data logger up to 100x85x40 mm	Dual pressure, dual temperature generator at room temperature	(15 to 95) % RH and 0 % RH 23 °C ± 3 °C
OEKD	Lab	Humidity generator (e.g. Humor 20)	Comparison with dew point monitor hygrometer	(1 to 95) % RH (-20 to 80) °C
OEKD	on-site	Hygrometer with external sensor; data logger up to 100x85x40 mm	Comparative measurement with humidity generator HUMOR 20	(10 to 95) % RH 25 °C ± 10 °C
OEKD	on-site	Hygrometers, data loggers	On-site comparative measurement with dew point hygrometer in a climate controlled cabinet	(10 to 95) % RH (0 to 90) °C
ISO	E+E	Hygrometer with external sensor; data logger up to 100x85x40 mm	Comparative measurement	(10 to 95) % RH 25 °C ± 3 °C
ISO	on-site	Hygrometer with external sensor; data logger up to 100x85x40 mm	Comparative measurement	(10 to 95) % RH 25 °C ± 10 °C

Calibration range	*Humidity / temperature*
A (OEKD)	(15 to 95 % RH and 0 % RH at 23 °C ± 3 °C
B	(15 to 95 % RH and 0 % RH from (0 to 55) °C
C	(15 to 95 % RH and 0 % RH from (>55 to 80) °C
D	(5 to <15) % RH from (15 to 80) °C
E	(5 to <15) % RH from (0 to <15) °C
F	upon request
A (ISO)	(10 to 95) % RH at 25 °C ± 3 °C



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OEKD Calibration Standard

OEKD ACCREDITED CALIBRATION - Accreditation Austria

The essential characteristic of an accredited calibration certificate is the traceability of measurement results and thus their international comparability. The essential factor is mainly the indication of measurement uncertainties, which is determined from the measurement process.
According to international agreements (ILAC), only calibration labs accredited in accordance with EN ISO/IEC 17025 can perform traceable calibrations, thus ensuring full international comparability of the calibration results.

Calibration procedure

Air is generated (displayed) with a defined dew point temperature and a maximum gas flow of 5 l/min in a dual pressure, dual temperature humidity generator. This air stream is passed through a temperature-stabilised measurement chamber and there it produces a defined air humidity level, depending on the temperature, pressure and the displayed dew point temperature.
The humidity generated at the measurement location is determined by measuring the dew point temperature by means of a reference dew point mirror and the temperature by means of a calibrated Pt100 resistance thermometer and used as a reference value.

ISO Calibration Standard

ISO calibrations are comparative measurements of external test samples with E+E internal reference units. The reference units used are traceable to national standards. The comparative measurement is performed according to internal procedures, which comply with the requirements of ISO 9001.
By using high quality measuring equipment, the comparative measurement provides information about the device's calibration situation.

Ordering Guide

Calibration standard		OEKD-A	ISO-A
Calibration object	Hygrometer/Thermohygrometer	H	H
	Humidity generator	G	
Humidity calibration	Number of humidity calibration points per calibration range	1...9	1...9
	Calibration range[1)]	A...E (F)	A
	Number of calibration temperatures	1...9	
Temperature calibration [2)]	none	no code	no code
	Number of temperature calibration points	T1...T9	T1...T9
Standard calibration points OEKD: 15/35/55/75/90 % RH at 5/23/50 °C ISO: 10/20/35/55/75/90 % RH at 25 °C	Calibration points according to E+E standard	SD	SD
	Calibration points other than E+E standard	SX	SX

1) For humidity calibration points in multiple calibration ranges, give the number of points for each range
2) Only for thermohygrometers

Order example

OEKD-AH3A1SD

Description:
[A] - accredited humidity calibration of a
[H] - hygrometer with
[3A] - 3 measuring points in calibration range A
[1] - 1 cycle at 23 °C
[SD] - according to E+E standard at 15/55/90 % RH

ISO-AH5ASD
Text field: 10/35/55/70/90 % RH at 25 °C

Description:
[A] - ISO humidity calibration of a
[H] - hygrometer with
[5A] - 5 measuring points in calibration range A
[SD] - according to E+E standard at 10/35/55/75/90 % RH

OEKD-AH3A3B2T2SD
Text field: 15/55/90 % RH at 23 °C and 50 °C

Description:
[A] - accredited humidity calibration of a
[H] - thermohygrometer with
[3A] - 3 measuring points in calibration range A
[3B] - 3 measuring points in calibration range B
[2] - 2 cycles at 23 °C and 50 °C
[T2] - 2 temperature points 23 °C and 50 °C on the certificate
[SD] - according to E+E standard at 15/55/90 % RH

OEKD-AH3B1SX
Text field: 70/80/90 % RH at 35 °C

Description:
[A] - accredited humidity calibration of a
[H] - hygrometer with
[3B] - 3 measuring points in calibration range B
[1] - 1 cycle at 35 °C
[SX] - other than E+E standard (e.g. 70/80/90 % RH)