

TS, TS-Logger, THS and TS-PT sensor Temperature Calibration process

6.2.2015 Arto Kuivanen

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Temperature Calibration Points

- **Calibration is by default made at one temperature point**
 - calibration point is selected within ± 5 °C of the temperature at which the sensor is most frequently used
 - default calibration points are +4 °C for cool storages and -22 °C for freezers
- **Three normally used calibration points are -22 °C, +4 °C and +22 °C**
- **Additional or other calibration points according to customer need**

Methodology

- **Verification process is according to standard EN13486**
- **Calibration is made in a thermostatic bath**
- **Sensors are sealed in a vacuum bag and put into a thermostatic bath**
- **After the sensors have stabilized in the bath (*meaning minimum 60 minutes of time*), liquid temperature is measured with a reference thermometer and readings of the sensors are taken at the same time**
- **Measurement uncertainty is ± 0.5 °C, estimated by SAMK Temp Center (FINAS accredited calibration laboratory)**

Temperature Calibration Setup

- **Container for the thermostatic bath is an EPP cooler that is placed within environment at the chosen calibration temperature**

Calibration point	Liquid	Environment
< 0 °C	ethanol	Freezer
0 °C	crushed ice	Room temperature
0 – 10 °C	water	Refrigerator
> 10 °C	water	Room temperature

- **Reference thermometer by ETI Ltd, UKAS certified**

Calibration Certificates

- Calibration certificate of the sensor is saved in electronic format and is available in <https://calibration.seemoto.com>
- Printed certificates are delivered with sensors only if requested by the customer