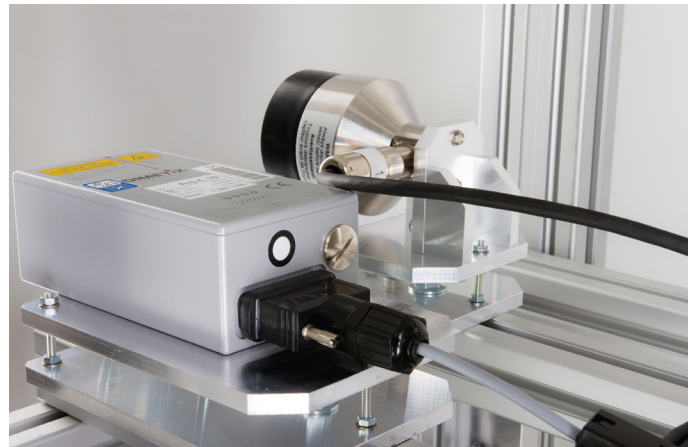
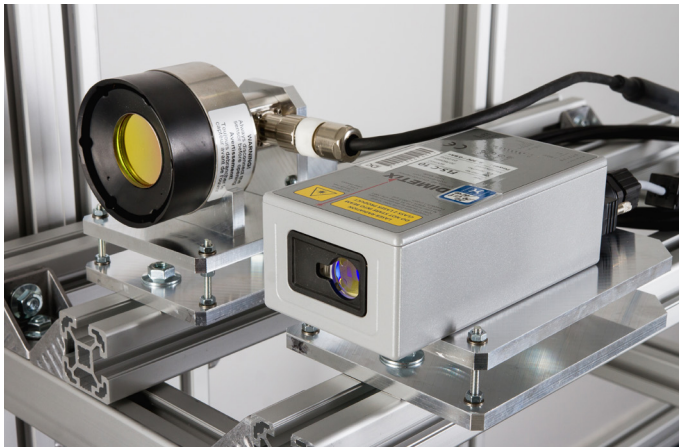
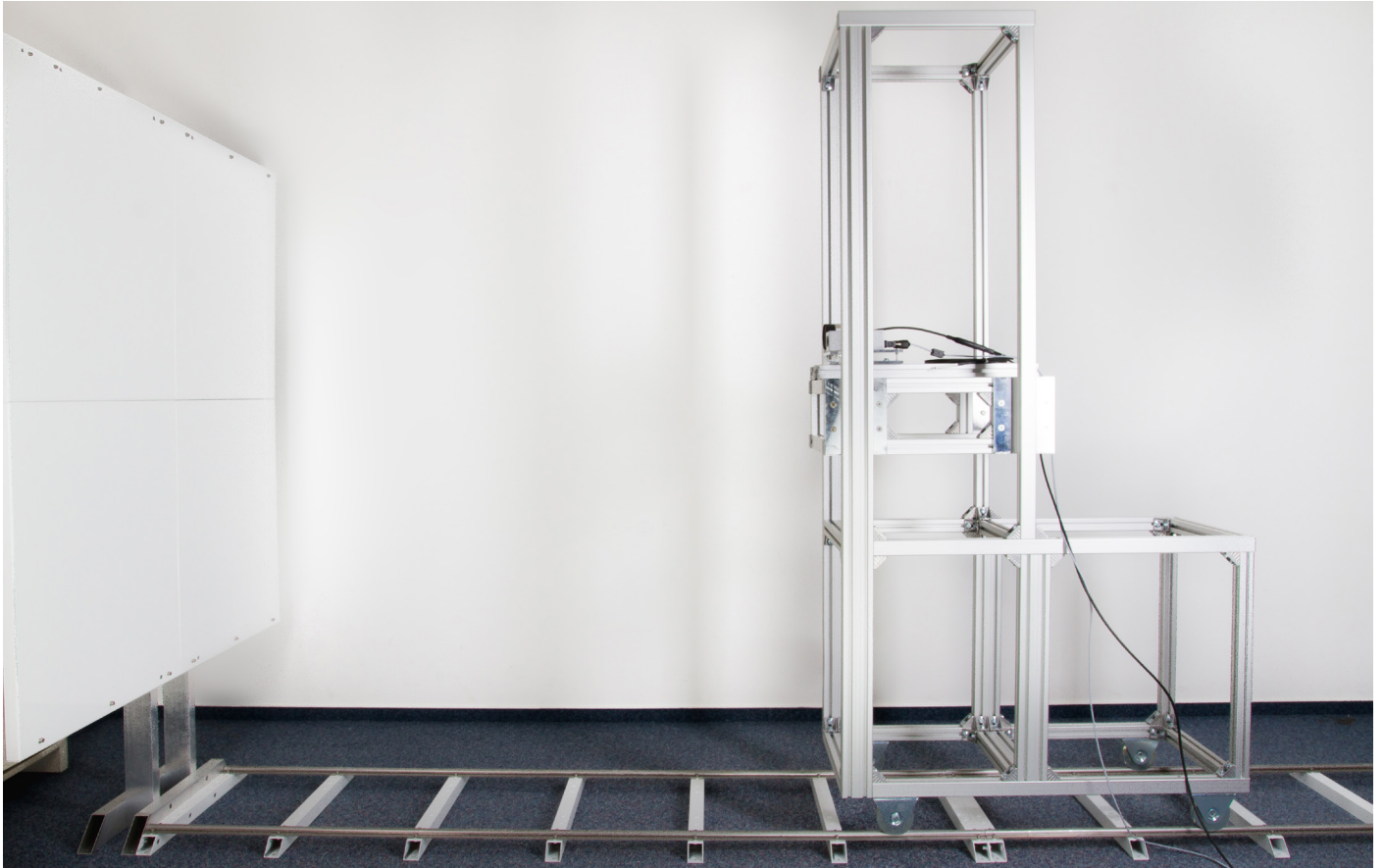


Calibration system for distance sensors

Direct comparison of distance sensors

Calibration system for distance sensors is designed to allow calibration of devices such as ultrasonic water level sensors, snow height sensors, radar water level sensors and laser snow height sensors with high measurement accuracy.



Calibration of water level and snow height sensors



Calibration by comparison with reference laser distance sensor



Complete solution for calibration



Distance range custom per request



Calibration process automation with IMS4 CalibLab software

The sensors are compared with a reference - laser telemeter. An important part of the system is a sliding bench made of aluminum profiles, that slides on rails. At the end of the measuring path there is an aluminum plate from which the laser and the devices under the test are reflected. As we strive to make all of the processes in a laboratory as automated as possible, this calibration system is fully automated and integrated into the calibration software. Whole calibration

process from the initialization of the laser to the certificate generation is done automatically by the software.

Devices without electronic output can also be calibrated - the reading is taken manually by the operator and then entered into the software.

Customer can choose a distance range, if required up to 500 m.

Technical parameters

Measuring range	0.05 to 500 m
Accuracy	± 1 mm
Repeatability	0.3 mm
Resolution	0.1 mm
Supply voltage	between 9 V DC and 30 V DC
Interfaces	RS-232 RS-422 Analog output 0/4 to 20 mA 3 digital outputs 1 digital input for external trigger
Laser	visible, red

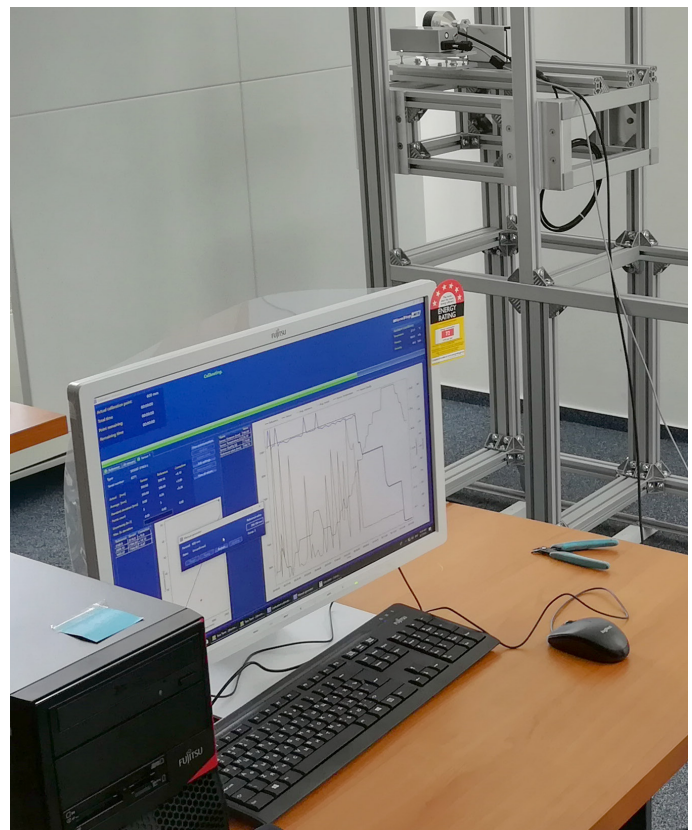
Automate calibration with IMS4 CalibLab

With IMS4 CalibLab, the process of calibration and adjustment of sensors can be fully automated. Read more:



The software guides the user through the calibration setup in several steps. The software can read serial numbers from certain (digital) sensor types. Preconfigured sensor types include specific calculation of uncertainty, corrections and other formulas. Graphic user interface (GUI) allows the user to configure a new type of sensor. A list of setpoints can be edited, saved or loaded.

When the calibration starts the software will ask you to set the desired distance, set and confirm it, and then it scans the readings from all the devices under the test. The system



evaluates the readings for stability, calculates mean values and uncertainty. In case of any problem, error is readily indicated. After the process goes through all setpoints, the results are stored in a database. You can generate certificates

for all devices under the test by one click. The certificate is generated from a template. You can freely edit the template to fit your needs.

The database of calibrations holds the history of calibrations from whole calibration laboratory at one place. You can browse it by quantity, year, sensor type, serial number etc. Looking for calibration history of a certain instrument is a brief. The built-in database browser allows online tabular and graphical view of multiple certificates. The software supports export to .csv, .odt, .xml and .pdf formats. Whole database can be backed-up or restored by simple click of a button. There is also provision of automatic periodic back-up.

- Support for calibration of more quantities
- Graphical user interface
- Multiple step wizard for easy setup of calibration
- Automated instrument serial readout (if supported by instrument)
- Simultaneous calibration of multiple instruments
- User defined sensor types
- Automated calibration controller

- User defined calibration process (setpoint list)
- Support of saving / loading of setpoint list
- On-line graphing of read values, chart zooming
- On-line calculation of statistics and uncertainty
- On-line display of elapsed time and time estimate until the end
- Display of preliminary results during calibration
- Possibility to stop, pause or restart the calibration process
- Detection of sensor fault, automatic kick-out or wait until the problem is solved
- Indication of errors, sound alarm
- Generation of calibration certificates from template document
- Database of calibrations, filtering, graphing, export to .csv, .pdf, .odt, .xml
- Database backup / restore from file, automatic backup scheduler

For the automatic adjustment of the other types of sensors please contact **info@microstep-mis.com**.