



Measuring building thermal processes and conditions with the highest precision - all in real-time via the Internet

One system for all measurements

- ☑ Collect high quality, continuous data in real-time.
- ☑ Customizable, add other sensors in order to measure more parameters such as meteorological conditions or even pollutants.
- ☑ Reliable online data access at any time and from anywhere using a laptop or other mobile device.
- ☑ Collaborate, share data with multiple users and automatically publish data to websites.
- ☑ Process data, directly and in real-time using R programming platform.

"Decentlab is my preferred choice for measurement acquisition. Their wireless sensors enable fast installation and accurate real-time data from day one"

Dr. Karim Ghazi Wakili, Empa

Swiss Federal Laboratories for Materials Science and Technology
(Decentlab customer with 175 sensor channels installed on four sites world-wide; Japan, Vienna, Milano and Zurich)

Who We Are

Our Mission

Decentlab provides wireless monitoring solutions, easy to deploy over multiple locations. We ensure data quality and support scientific collaboration.

About Us

- Swiss based company which has been working with research institutions to improve their real-time measurements for eight years. Together we have developed a sensor system able to operate autonomously on buildings and in remote areas world-wide.
- Our sensor integration expertise ensures the highest quality data acquisition especially in outdoor environments.
- Customer focused team specialised in reliable remote monitoring solutions based on wireless communication technology.
- World-wide deployments in 13 countries including Australia, Austria, Belgium, Brazil, Greece, Italy, Japan, New Zealand, Sweden, South Africa, US and Switzerland.

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BUILDING PHYSICS MEASUREMENTS



Place & Measure

Sensors attached to wireless nodes communicate with the base station using radio transmission, enabling easy deployment without the hassle of cable installation.

Basically any sensor can be attached to either **8 Channel Nodes** or **Single Channel Nodes**.

Logging interval range from 2 ms up to 24 hours.

Low power radio network (scalable, multi-hop, mesh) enables up to 200m wireless range per hop.

Base Station Wi-Fi / LAN and Base Station GSM provides convenient data logging, either over the Internet, using mobile network, existing infrastructure or off-line.

Online data access at any time and from anywhere using a laptop or other mobile device.

Download data any time in standard CSV (Excel) format or synchronize with existing databases.

Collaborate, share data with multiple users and automatically publish data to websites.



Wireless Sensors



Heat flux sensors provide precise thermal measurements used in many building physics applications.

Displacement sensors used to measure change of distances and heights.



Accelerometers sensors used to monitor stress and vibrations to determine the structure integrity.

Strain gauge is used to measure strain on an object.

Our **vibrating-wire** solutions measure force (weight / strain). They consume little energy and are long-term stable with high interference resistance.



Anemometer or wind meter can be used for measuring wind speed.



Tipping bucket rain gauges measures the amount of rainfall or precipitation.

Photosynthetically Active Radiation (PAR) measures light energy used by plants to drive photosynthesis.

PYR Solar Radiation Sensor measures total solar radiation.



SHT-21 sensor with a multi-plate radiation shield measures air temperature and humidity ($\pm 0.3^{\circ}\text{C}$ & $\pm 2\%$ RH accuracy). A low power fully calibrated sensor with excellent long-term stability.



World-wide Deployments

World-wide real-time measurements from Australia, Austria, Belgium, Brazil, Greece, Italy, Japan, New Zealand, Sweden, South Africa, US and Switzerland.

Enabling laboratory quality data readings in the field



More than 50 deployments within Switzerland

Customers

- Swiss Federal Research Institute WSL, Switzerland
- Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland
- ETH - Swiss Federal Institute of Technology, Switzerland
- University of Basel, Switzerland
- Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia
- Auckland University of Technology, New Zealand
- Ghent University, Belgium
- Fixit AG, Switzerland
- Ida house, Japan
- Chalmers University of Technology, Sweden
- KTH Royal Institute of Technology, Sweden