



### Features

- Experimental introduction to temperature measurement: methods, areas of application characteristics
- Clearly laid out unit primarily for laboratory experiments, also suitable for demonstration purposes

Recording temperature is one of the basic tasks in metrology. Electric temperature sensors are the most widely used in automation applications but conventional thermometer types are still widely applied in many areas.

Sci-tech Thermometers & Temperature Measurement Apparatus 32338 experimental set-up covers the full range of temperature measurement methods. As well as non-electrical measuring methods, such as gas- and liquid-filled thermometers and bimetallic thermometers, all typical electric measuring methods are covered in the experiments. The electrically measured temperatures are displayed directly on programmable digital displays. A temperature-proportionate output voltage signal (0...10V) is accessible from lab jacks, enabling temperature characteristics to be recorded with, for example, a plotter. For measuring the relative air humidity a psychrometer with two thermometers is available, one of the thermometers measures the dry bulb. The wet bulb thermometer is covered in a wet cotton cloth and measures the evaporative cooling. The temperature difference allows the relative air humidity to be determined.

A digital multimeter with precision resistors is used to calibrate the electrical measuring devices. Various heat sources or storage units (immersion heater, vacuum flask and laboratory heater) permit relevant temperature ranges to be achieved for the sensors being tested. A tool box houses the sensors, cables, temperature measuring strips and immersion heater.

The well-structured instructional material sets out the fundamentals and provides a step-by-step guide through the experiments.

### Specifications

- Experiments in the fundamentals of temperature measurement with 7 typical measuring devices
- Various heat sources or storage units: laboratory heater, immersion heater, vacuum flask
- Calibration units: precision resistors and digital multimeter
- Liquid-in-glass thermometers with safe non-toxic liquid – no mercury
- Bimetallic and gas pressure thermometers
- Temperature sensors: Pt100, thermocouple type K, thermistor (NTC)
- Various temperature measuring strips
- Psychrometer for humidity measurement
- Tool box for sensors, cables, measuring strips and immersion heater
- Optionally, Works with its Sci-Cal Acquisition System for simple and reliable recording and processing of results

### Technical Specifications

- Immersion heater

Note: Specifications are subject to change.

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