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## Operating instructions


 The unit complies with the corresponding EC guidelines.



Fig. 1: 35630-00 Compact spectrometer

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## 1 SAEFTY PRECAUTIONS



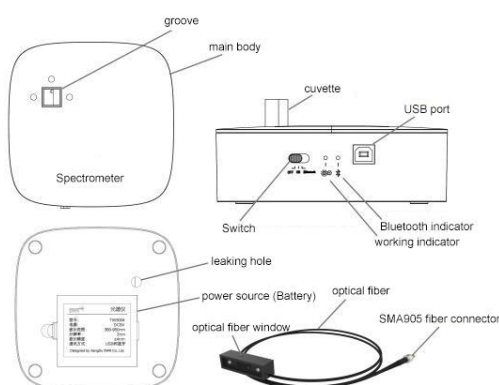
### Caution!

- Carefully read these operating instructions before operating this instrument. This is necessary to avoid damage to it, as well as for user-safety.
- Do not start up this instrument in case of visible signs of damage to it.
- Only use the instrument for the purpose for which it was designed.
- If there is a lot of noise or waveform changes, the appropriate average sampling times can be set to reduce the noise and obtain stable data.
- The transparent surface of the cuvette must not be soiled and fingerprints must not be left on it. After use, it should be cleaned with a soft cloth and stored in a dry place.
- Fill the cuvette only about  $\frac{3}{4}$  full to avoid overflowing.
- There should be no bubbles in the solution.
- The optical fibers in the optical fiber are fragile and should be handled carefully during use and storage.

## 2 PURPOSE AND CHARACTERISTICS

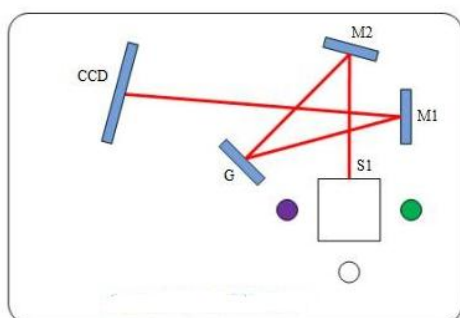
The compact spectrometer is a specially developed compact measuring instrument for science teaching. It is easy to operate and, with the associated software, offers a wide range of options for visualization, measurement, comparison and evaluation. To measure optical spectra, the cuvettes included in the scope of delivery are inserted into the instrument. External light sources can also be measured using the supplied fiber optic cuvette adapter. The respective light is spectrally decomposed via a permanently installed grating. The spectrum is recorded by means of a CCD array, so that the complete spectrum is recorded in one go, which makes it possible to reliably record even rapid changes in a spectrum. The software, which is optimally matched to the device, is available free of charge as a download. Power is supplied via the USB cable or four AA batteries (not included).

## 3 FUNCTIONAL AND OPERATING ELEMENTS



### Measuring principle

It uses a cross-asymmetric C-T optical system. The system has a simple structure and a small volume. Light emitted from slit S1 and collimated by reflector M2 becomes parallel light emitted on grating G, which is then reflected on reflector M1 and focused on CCD. Optical signals become electrical signals, which are processed by the circuit system and displayed on the computer in the software.



## 4 HANDLING

The spectrometer is connected to the computer via a USB port. The software automatically detects the connected device.



To measure a solution: Prepare a solution of a specific concentration and fill the cuvette  $\frac{3}{4}$  full. Then start the measurement.

To measure the light spectrum: use the optical fiber, insert one end of the black sheath of the optical fiber into the groove of the cuvette and adjust the window so that it faces the sensing elements in the spectrometer (away from the light emitting diode).



## 4 SCOPE OF DELIVERY

Spectrometer	1x
Optical fiber	1x
Cuvette	4x
USB cable	1x

## 5 TECHNICAL DATA

- Dimensions: 130x130x50 mm
- Mass: 400 g
- Structure: plastic housing
- Spectral range: 380 - 950 nm
- Resolution: 2-3 nm
- Interface: USB 2.0
- Fiber connector: SMA 905
- Cell dimensions 10 x 10 mm

## 6 WASTE DISPOSAL

The packaging consists predominately of environmentally compatible materials that can be passed on for disposal by the local recycling service.



Should you no longer require this product, do not dispose of it with the household refuse.

Please return it to the address below for proper waste disposal.

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