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# RaPort Pro

Handheld Raman Analyzer

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EnSpectr  
Enhanced Spectrometry



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## RaPort Pro – Handheld Raman Analyzer in a new design with great possibilities

Bringing qualities of laboratory analysis into field applications, **RaPort** by EnSpectr secures precise material identification with utmost mobility. **RaPort** enables real-time and accurate identification of various chemical substances and compounds by analyzing their unique Raman spectra of molecular vibrations. Analysis can be done by direct contact with material through transparent or semitransparent packaging. RaPort, a fully portable instrument, lightweight, supplied with an in-built battery and wireless data transfer, easily acquires spectra of various chemicals and materials.

Have **RaPort** with with EnSpectr mobile software. Create your own database, work with spectra, and manage measurement options within one user-friendly interface. Identify pieces of substance at concentrations as low as 1% due to the unique recognition algorithm and quality of measurements.

### Features:

- **Real-time in-situ identification**
- **Non-destructive detection**
- **Detected substances: liquids, powders, gels, solids**
- Detection through transparent / semitransparent package (glass, plastic)
- Qualitative and quantitative analysis of substances and mixtures
- **Up to 12 hours of continuous autonomous operation**
- **Barcode Scanner**
- **In-built camera**
- Data transmission via Bluetooth connection, USB
- **Windows software**
- **Large database can be complemented by user**
- 3 sec per measurement and recognition
- Operation set-up time – 1-3 min.
- **Weight 2.1 kg**

### Technology

**RaPort Pro** consists of a single grating spectrometer without moving parts connected to a firmly fixed laser assembly which yields excellent wavelength reproducibility. **RaPort** utilizes a 30  $\mu\text{m}$  (20 optional) entrance slit, 1800 g/mm holographic grating, cutting-edge low pass filter, as well as a 30 mW single mode laser emitting at 532 nm to provide high accuracy Raman and luminescent

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measurements in a broad spectral range from 120 to 4000  $\text{cm}^{-1}$ . These features allow measuring and recognizing the spectrum of an unknown substance in one second, position spectral lines and determine relative intensity of Raman and luminescent lines, the substance “fingerprints”.

**RaPort Pro** comes with a low-noise 3648-element linear-array CCD detector operating at room temperature and a state-of-the-art system for suppressing the Rayleigh scattering signal and straight laser light. **RaPort Pro** has an onboard programmable microcontroller that provides flexibility in controlling the spectrometer and accessories.

**RaPort Pro** is supplied with an internal accumulator and enables 8 hours off-line operation. No sample preparation is required for express-analysis. The instrument is simple and does not require any special technical training to use it.

**RaPort Pro** comes with **EnSpectr Professional Software (Windows)** which has a user-friendly intuitive interface. **EnSpectr Professional Software** automatically manages all the parts involved into the spectral signal measurement process. The program automatically compares the acquired spectrum with the reference substance spectra stored in the spectral database and thus recognizing the spectrum.

## EnSpectr PRO Software

- Substances are recognized by both narrow (Raman) lines and wide (luminescence) lines
- Adjustable laser power
- Possibility of averaging over several measurements
- Automatic subtraction of dark current
- Spectra are saved in .dat extension and can be converted into .xls
- Acquired spectra can be saved into a database to be used afterwards for automatic substance identification
- A specialized database of Raman spectra can be ordered optionally on request
- Databases can be comprised and enlarged by the user
- Automatic subtraction of systematic error and noise

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