Metrohm DropSens provides you with one instrument combining Light source (VIS-NIR: 360-2500 nm Tungsten halogen), a Spectrometer (Wavelength range: 900-2200 nm) and a Bipotentiostat/Galvanostat (± 4 V DC potential range, ± 40 mA maximum measurable current).

All the components are perfectly fitted and synchronized, thus offering for the first time in the market a fully integrated spectroelectrochemical instrument where both measurements - electrochemical and optical - are accurately synchronized.

**Key features**

- One software: DropView Spelec for Windows
- Synchronized electrochemical signals and spectra
- Real Time spectra
- Dark and blank spectrum subtraction
- Counts, Absorbance, Transmittance and Reflectance measurements and calculations
- Automatic and manual shutter control
- Selectable integration time
- Data treatment and analysis
- Selection of spectra captured within a selected EC range, spectrum associated to a specific EC point.
- Plot overlay, peak integration, smoothing (all raw data spectra).
- 3D plotting of curves, experiment film.
- Export to .csv all synchronized data.

**DropView SPELEC Software:**

Advanced data collection and treatment

- Real time panel that collects the generated spectra during the electrochemical measurement and continuously at any time.
- Plot of Optical Spectra vs Electrochemical curves at a specified wavelength: voltabsorptogram, chronoabsorptogram, derived ones.
- Individual Information for each spectrum and electrochemical curve.
Workspace allows to combine in the same window electrochemical and optical data (cyclic voltammogram in blue, derivative voltabsorptogram in red).

**Technical specifications**

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**Light Source**

- Wavelength range: 360-2500 nm Tungsten halogen

**Spectrometer**

- Detector: InGaAs photodiode array 256 pixels, TE cooled
- Wavelength range: 900-2200 nm
- Integration time: 1 ms to 2s
- Optical resolution: ≈ 17 nm FWHM
- Signal to Noise Resolution: 10000:1 (at 10 ms integration time)
- Fiber optic connector: SMA 905

**(Bi)potentiostat/Galvanostat**

- Operating modes: BiPotentiostat, Potentiostat, Galvanostat
- DC-potential range: ±4V
- Maximum measurable current: ±40 mA
- Current ranges (potentiostat): ±1 nA to ±10 mA (8 ranges)
- Applied Potential Resolution: 1 mV
- Measured Current Resolution: 0.025 % of current range
- 1 pA on lowest current range
- Applied Current Resolution: 0.1% of current output range
- Measured Potential Resolution: 1 pA on lowest current range

The equipment can also be used independently as a Spectrometer or as a Bipotentiostat/Galvanostat. SPELECNIR can be used with standard cuvette holders or spectroelectrochemistry cells, but also with innovative DropSens cells and screen-printed electrodes.