



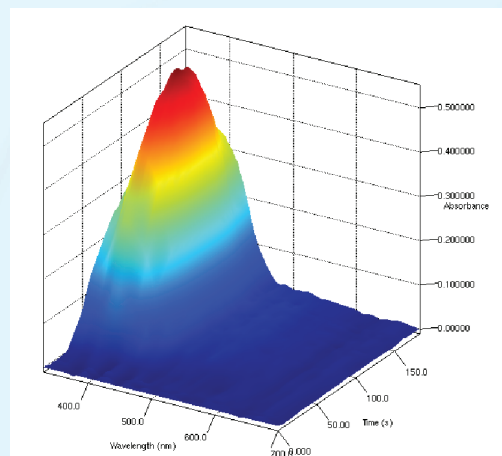
SPELEC is the **world's only equipment** in the market for performing **SPECTROELECTROCHEMISTRY** studies combining in **only one box** a **Lightsource** (UV-VIS-NIR wavelength range: 215-400 nm Deuterium, 360-2500 nm Tungsten halogen), a **Bipotentiostat/Galvanostat** (± 4 V DC potential range, ± 40 mA maximum measurable current) and a **Spectrometer** wavelength range: 200-900 nm (ref. SPELEC) or wavelength range: 350-1050 nm (ref. SPELEC1050).

All the components are perfectly fitted and synchronized, thus offering for the first time in the market a **fully integrated synchronized spectroelectrochemical instrument**.

The equipment can also be used independently as a Spectrometer or as a Bipotentiostat/Galvanostat.

SPELEC is controlled by the **New DROVIEW SPELEC Software** for Windows, which provides powerful functions such as:

- **Shutter** lamp control (automatic dark and reference)
- **Real Time** panel that collects the generated spectra not only during the electrochemical measurement but continuously at any time.
- Spectroscopic measurements shown in **Counts**, **Absorbance**, **Transmittance** or **Reflectance** during the Electrochemical process.
- Plot of **Optical Spectra vs. Electrochemical Curves** at a specified wavelength (Voltabsorptogram, Chronoabsorptogram or Derivated ones).
- Plot overlay, peak integration, smoothing, subtraction, derivative curve, baseline fitting.
- **3D** plotting of curves.
- Export to .csv all synchronized data.



SPELEC can be used with electrochemical sensors or electrochemical cells with three electrodes: working electrode, reference electrode and auxiliary electrode. Also, it can be used in bipotentiostat mode, with a two-working electrodes system sharing the same reference electrode and auxiliary electrode.

SPELEC can be used with standard cuvette holders or spectroelectrochemistry cells, but also with the new **innovative DropSens cells** for **Transmission** or for **Reflection** spectroelectrochemistry experiments using screen-printed electrodes (transparent ITO or PEDOT electrodes for transmission experiments, or other conventional screen-printed electrodes for reflection experiments).

Spectroelectrochemical Instrument

Refs. SPELEC
SPELEC1050

General Specifications	
• Power	12 V DC
• PC interface	USB
• LED indicators	Power
• Dimensions:	25 x 24 x 11 cm (L x W x H)
• Weight	1950 g

Lightsource	
• Wavelength range	215-400 nm (deuterium); 360-2500 nm (tungsten halogen)
• Stability	~1.0% peak-to-peak (over 4 hours) after 30-minute warm-up
• Time to stable output	10 minutes (deuterium); 1 minute (tungsten halogen)
• Ignition delay	<2.0 seconds (delay for cold start-up may be longer)
• Bulb life	>1,000 hours @ 240 nm (time) <50% @ 240 nm (decrease of intensity) Continuous operation (testing conditions)
• Fiber optic connector	SMA 905

Spectrometer	
• Detector	Linear silicon CCD array
• Pixels	2048
• Pixel size	14 μm x 200 μm
• Pixel well depth	~62,500 electrons
• Fiber optic connector	SMA 905
• Wavelength range	200 – 900 nm (ref. SPELEC) 350 – 1050 nm (ref. SPELEC1050)
• Optical resolution:	~0.3-10.0 nm FWHM
• Signal-to-noise ratio	250:1 (at full signal)
• A/D resolution	16 bit
• Dark noise	50 RMS counts
• Dynamic range	8.5 x 10 ⁷ (system); 1300:1 for a single acquisition
• Integration time	1 ms to 65 seconds
• Stray light	≤0.05% at 600 nm; <0.10% at 435 nm

Potentiostat/Galvanostat	
• Operating modes	BiPotentiostat, Potentiostat, Galvanostat
• DC-Potential range	±4 V
• Current ranges (potentiostat)	±1 nA to ±10 mA (8 ranges)
• Maximum measurable current	±40 mA
• Potential ranges (galvanostat)	±100 mV, ±1 V (2 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	0.012 % of potential range
• Potential Accuracy	±0.2 %
• Current Accuracy	≤0.5 % of current range at 100 nA to 10 mA

Specifications are subject to change without previous notice

Related products



TRANSCELL



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