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Welcome to Issue 15 of the PSI NEWS

This issue is dedicated to:

SpectraPen LM-500

Handheld, Cost-Effective Spectroradiometer

Key Features:

- Measures light intensity and characteristics in various parameters
- Precise radiometric calibration
- Spectral response range:
UV-VIS 340 – 780 nm
NIR 640 – 1050 nm
- Integrated cosine corrector
- Data processing
- Light parameter calculation
- Fast spectra recording

Custom-Designed Versions:

- **SpectraPen LM-500-H**
 - Cosine corrector facing up
 - Limited space measurement
 - In UV/VIS or NIR spectral range
- **SpectraPen LM-500-V**
 - Cosine corrector facing front
 - Field measurement
 - Tripod mount
 - In UV/VIS or NIR spectral range



SpectraPen LM-500-H



Applications:

- Light radiation monitoring
- Environmental monitoring
- Artificial lighting measurements
- Light source testing and quality control
- Ecology
- Agriculture and horticulture
- Color measurement

Other Benefits:

- Compact, comprehensive system - no bulky accessories needed
- Durable and lightweight device with affordable price
- Programmable via intuitive touch-screen use
- Both lab and field use
- Battery-powered
- USB connectivity to a PC for data collection and analysis
- Integrated GPS (optional)

Measured and Calculated Parameters:

- Irradiance spectrum [$\mu\text{W}/\text{cm}^2/\text{nm}$]
- Photon flux density spectrum [$\mu\text{mol}/\text{m}^2/\text{s}/\text{nm}$]
- Irradiance [W/m^2] in user defined range
- Photon flux density [$\mu\text{mol}/\text{m}^2/\text{s}$] in user defined range
- Illuminance [lux] *
- PAR [$\mu\text{mol}/\text{m}^2/\text{s}$] *
- Chromacity diagram CIE1931 *
- CIE color coordinates *
- Correlated color temperature *
- Color rendering index *
- User defined formulas in PC software

* Parameter can be measured only with the UV-VIS version



SpectraPen LM-500-V



Device Firmware:

- Automatic sensitivity adjustment
- Different tools: zoom, marker, auto scale, curve smoothing
- Data browsing
- Data averaging

PC Connectivity:

- Data downloading
- Data analysis
- User defined calculations
- Export to Excel
- Firmware update

Check the quality of your light sources! Price starts from 3699 €!

Technical Specification:

Optical Entrance	Cosine corrector
FWHM bandwidth	7 mm
Spectral response range	UV-VIS: 340 nm - 780 nm NIR: 640 nm – 1050 nm
Spectral response half width *	9
Spectral straylight *,**	-30 dB
Wavelength reproducibility	+/- 0.5 nm
Integration time	Automatic, 5 ms to 10 s
Number of pixel	256
Dimension of pixel	0.5 x 15.8 mm
Touch screen	240 x 320 pixel; 65535 colors
Memory capacity	16 Mbit (up to 4000 measurements)
System data	16 bit AD conversion
Noise	15 LSB RMS
Communication	USB
Dimensions	18 x 7.5 x 4 cm
Weight	300 g
Case	Splash-proof
Battery	Li-ion; rechargeable via USB port of a PC
Battery life	48 hours (continuous operation)
Operating temperature	0 to +50 °C
Storage temperature	-20 to +70 °C

* Depends on the slit opening.

** When monochromatic light of $\lambda = 550 \text{ nm}$ or $\lambda = 850 \text{ nm}$ is input, spectral stray light is defined as the ratio of the count measured at the input wavelength, to the count measured at a wavelength 40 nm longer or shorter than the input wavelength.