



SPR'3



Portable Spectroradiometer for the speedy and comfortable measurement of absolute spectra

The spectroradiometer system SPR'3 enables the speedy and easy measurement of spectral distributions and the respective illuminance and irradiance.

The evaluation and processing of all current colorimetric parameters is simple by means of the appendant software tool spec'3.

Depending on the application, the user can choose a variety of spectral regions. Normally, the SPR'3 is used within the visible spectral region of 360 nm to 830 nm, also within UV for the measurement of UV-irradiance.

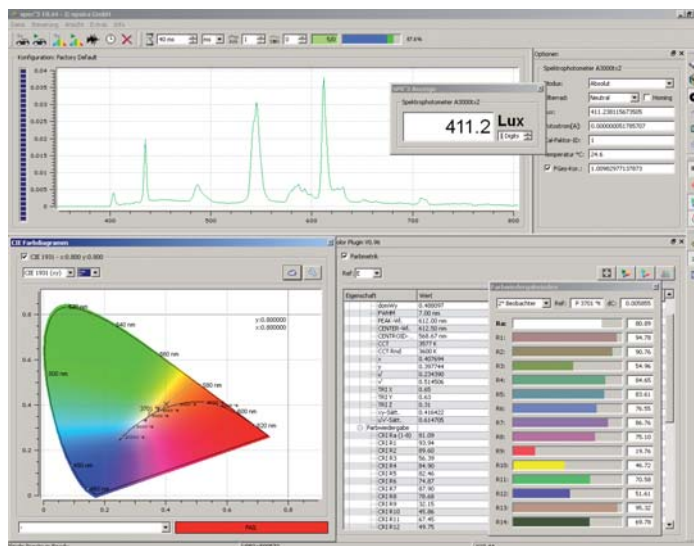
The measurement system consists of an array-spectrometer measuring with high wavelength resolution and with electromechanical shutter and filter wheel function. Therefore, adjustments to weighting functions or measurement areas are possible whenever required. The spectrometer is complemented by a top-quality photometer of high measurement dynamic. Again, depending on the application, detectors for the visible region (VIS), the near infrared area (NIR) as well as UV detectors are available.

The system provides an excellent linearity over several orders of magnitude. Additionally, the measurement values are corrected in respect of temperature in order to eliminate the influence of the ambient temperature on the measuring accuracy almost completely.

The SPR'3 can be connected to a USB interface directly and does not need any external analysis units.



spec'3 - V10 Software



Measurands

Absolute spectra	$S(\lambda)$	$[W \cdot m^{-2} \cdot nm^{-1}]$
Irradiance ¹	E_R	$[W \cdot m^{-2}]$
Illuminance	E_V	$[Lux], [lm \cdot m^{-2}]$
Chromaticity coordinates (CIE 2° and 10° Observer)	X, Y, Z	accord. CIE1931
	x, y	accord. CIE1931
	u, v	accord. CIE1960
	u', v'	accord. CIE1964
	L*a*b*	accord. CIE1976
	Lab99	accord. DIN6176:2001-3
Correlated colour temperature (CCT)	T, T _n	[K]
Colour rendering indices	R _{sa} , R ₁ – R ₁₄	[%]
Colour saturation	S	[%]
Hue angle	h	[°]
Dominant wavelength	λ_d	[nm]
Peak wavelength	λ_p	[nm]

Specifications

Wavelength band	350 nm – 830 nm typ. / any region from 180 nm to 2500 nm possible
Number of detector pixels	approx. 2048
AD converter	16 Bit / 1 MHz (spectrometer), 16 Bit (radiometer)
Wavelength resolution	0,03 nm to 10 nm FWHM
Measuring dynamics	2·10 ⁸ (spectrometer system), 1300:1 (single measurement)
Linearity	1·10 ⁸ , 100 mLux ≤ E _v ≤ 1 MLux (photometer system)
Stray light	>99,92% (spectrometer), >99,7% (radiometer)
Integration periods	0.05% @ 600 nm / 0.10% @ 435 nm (spectrometer)
Spectral mismatch index ²	1 ms to 65 s
	Insignificant due to spectrum related mismatch correction

¹Power Integration in arbitrary intervals possible

²With standard illuminant A, f₁ < 4%, photometer without correction

Typical values of a standard configuration. Changes are possible depending on the system configuration.
Variations to the technical data may occur due to the permanent improvement and development of our measurement systems.
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