JETI Technische Instrumente

Spectrometric Solutions from Components to Systems

specbos 1211-2

Broadband Radiometer 350 … 1000 nm

specbos 1211-2 is a broadband miniaturized and fast which can be used in laboratories as well as production enviroment to measure the following quantities:

- Luminance, Radiance
- Illuminance, Irradiance
- xy and u'v' coordinates, RGB values
- Dominate wavelength, color purity
- Correlated Color Temperature
- Color Rendering Index

Highlights:

- Wavelength range from VIS to NIR
- High sensitivity
- Radiance as well as Irradiance measuring modes
- Small and easy to use
- NIST traceable calibration
- Measurement also possible with DLLs or SCPI compatible commands

Additional features:

- Pass/ fail decisions
- Ranking function (up to 16 ranks)
- Saving of reference spectra
- Spectral calculations
- Data export in csv and xls files
- Switching between Si and Imperial units

Advantages:

- USB powered
- Very fast measurement
- Internal target spot laser (luminance measurement)
- Mechanical shutter for dark signal compensation
- Easy to install
- Start of measurement with external trigger signal

Examples for Applications are the following:

- Calibration of broadcast monitors
- Color adjustment of digital projectors
- Measurement of weighted spectra, e.g. to characterize hazardous radiation
- Measurement of fluorescence lamps
- Spectral measurements in goniometers
- Measurement of extended luminaires like OLEDs
- The instrument can be operated with the intuitive measuring software JETI LiVal (for a demo version see www.jeti.com) or with one of the application specific programs.

Specifications

Optical parameters	
Spectral range	350 … 1000 nm
Optical bandwidth	4.5 nm
Wavelengths resolution	1 nm
Digital electronic resolution	15 bit ADC
Viewing angle	1.8° (luminance mode)
Measuring distance/ diameter	20 cm - Ø6 mm; 100 cm - Ø31 mm (luminance mode)
Polarizations error	f_8=0.5%
Measuring values	Spectral Radiance/ spectral Irradiance Luminance / total and weighted Radiance Illuminance / total and weighted Irradiance Chromaticity coordinates x,y; u',v' Correlated Color Temperature, Color purity CRI, CQS, RGB Circadian metrics, Photosynthetically Active Radiation
Measuring ranges and accuracies	
Measuring range luminance	0.1 ... 100 000 cd/m² (Ill. A) 0.1 ... 25 000 cd/m² (typical white LED) (higher values with optional filter)
Measuring range illuminance	2 … 500 000 lx (Ill. A) 2 ... 150 000 lx (typical white LED) (higher values with optional diffusor/ filter combination)
Luminance accuracy	±2 % (@ 100 cd/m² and ill. A)
Luminance repeatability	±1 % (@ 100 cd/m² and ill. A)
Chromaticity accuracy	±0.002 x, y (Ill. A)
Color repeatability	±0.0005 x, y (Ill. A)
CCT repeatability	±20 K (Ill. A)
Other technical data	
Dispersive element	Imaging grating (flat field)
Light receiving element	Backthinned CCD array 2048 pixels (binned)
Power supply	USB Hub powered
Interface	USB 2.0 fullspeed, Bluetooth (specbos 1211-BT) RS232 (specbos 1211-RS), LAN (specbos 1211-LAN)
Dimensions	180 mm x 82 mm x 53 mm
Weight	450 g
Operating conditions	Temperature 10 ... 40 °C Humidity < 85 % relative humidity at 35 °C
Accessories (included)	PC software JETI LiVal for Windows 7/ 8/ 10, SDK USB cable and trigger connector Cosine diffusor (for irradiance measurement) Calibration certificate, operation instructions Tripod, transport box
Accessories (optional)	Filters, side view and fiber extended diffusors, add on optics (see: www.jeti.com)
Calibration	NIST traceable
Recommended interval	1 year

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