specbos 2511

Stand-alone UV | VIS | NIR spectroradiometer

specbos 2511 is a hand-held device, designed for both stand-alone operation and PC/laptop connectivity to be used out in the fields or in the lab.

Highlights:
- Wavelength range:
  specbos 2511: 380 … 780 nm
  specbos 2511-NIR: 380 … 1100 nm
  specbos 2511-UV: 200 … 1100 nm
- High sensitivity and repeatability
- NIST traceable calibration

specbos 2511 displays the following measuring values:
- Luminance, Radiance, Illuminance*, Irradiance*
- xy and u´v´ coordinates, RGB values
- Dominate wavelength, color purity
- Correlated Color Temperature
- Color Rendering Index
- Radiometric spectrum

Additional features with PC software JETI LiVal:
- Quantities as CQS, L* a*b*, TLCI and TM-30
- Pass/ fail decisions
- Ranking function (up to 16 ranks)
- Saving of reference spectra
- Spectral calculations
- Data export in csv and xls files
- Issuing of customer specific pdf protocols
- Writing of history graphs

Examples for applications:
specbos 2511 / 2511-HiRes / 2511-NIR
- Calibration of broadcast monitors
- Color adjustment of digital projectors
- Measurement of weighted spectra
- Spectral measurements in goniometers
- Measurement of extended luminaires like OLEDs
- Measurements in green houses and museums

Advantages:
- High resolution 4.3" capacitive touch display
- Internal memory for up to 120 000 measurements
- Internal target spot laser (Radiance measurement)
- Mechanical shutter for dark signal compensation
- Measurement also possible with DLLs or SCPI similar commands
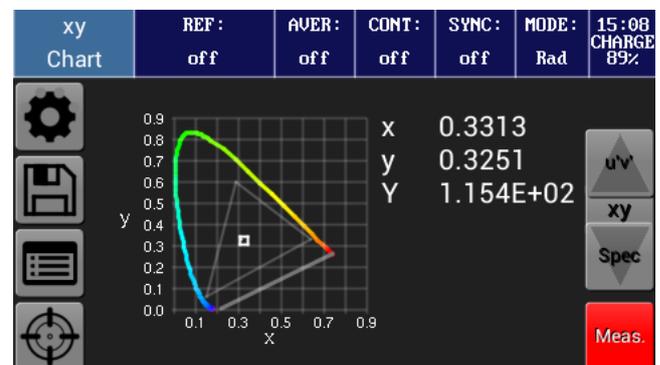
Display output after a measurement

specbos 2511-UV
- Radiation measurement of UV curing devices
- Measurement of UV disinfection apparatus
- Determination of the hazard effect of non coherent light sources
- Measurement of UV LEDs and other UV sources
- Extended metameric meas. (M_u)

Specifications

Optical parameters

Spectral ranges

specbos 2511	380 … 780 nm
specbos 2511-NIR	380 … 1100 nm
specbos 2511-UV	200 … 1100 nm

Optical resolution (FWHM)	≤ 4.0 nm (all versions); ≤ 2.0 nm (specbos 2511-HiRes)
Wavelength resolution	1.0 nm
Digital electronic resolution	16 bit ADC
Viewing angle	2.1° (Radiance mode)
Measuring distance/ diameter	15 cm - Ø 5 mm; 50 cm - Ø 20 mm; 200 cm – Ø 74 mm

Measuring values

Measuring values	Spectral Radiance, Luminance, total Radiance, x,y, u',v', CCT, CRI, RGB, PAR, TLCI, circadian metrics and others
With **optional** diffusor*	Spectral Irradiance/ total Irradiance/ Illuminance

Measuring ranges/ Accuracies/ Reproducibilities

Luminance measuring range	0.2 ... 150 000 cd/m² (Ill. A)
	0.2 ... 100 000 cd/m² (typical warm white LED) (higher values with optional filter)
Luminance accuracy	± 3.5 % (Ill. A @ 100 cd/m2, k=2)
Luminance reproducibility	± 1 %
Chromaticity accuracy	± 0.002 x, y (Ill. A, k=2)
Color reproducibility	± 0.0005 x, y (Ill. A)
Illuminance measuring range	1 ... 800 000 lx (Ill. A), 1 ... 500 000 lx (typical warm white LED)
Illuminance accuracy	± 2.4 % (Ill. A @ 2000 lx, k=2)
CCT reproducibility	± 20 K (Ill. A)
Max. wavelength error	± 0.3 nm (HgAr line source)
Polarization error f_8	< 1 %

Other technical data

Display	High resolution 4.3" capacitive touch display
Internal memory	up to 120 000 measurements
Dispersive element	Imaging grating (flat field)
Light receiving element	Back thinned CMOS/ CCD array 2048 pixels
Power supply	USB Hub powered, internal battery
Power consumption	< 5 W
Interfaces	USB-C (screwable), Bluetooth
Dimensions/ weight	186 mm x 105 mm x 50 mm / 1000 g
Operating conditions	Temperature 10 ... 40 °C, Humidity < 85 % relative humidity at 35 °C
Accessories (included)	PC software JETI LiVal for Windows 10/ 11, manual and SDK on USB flash drive, USB cable, charger, tripod, carrying case, protection cap, calibration certificate
Accessories (optional)	Integrating sphere, filters, side view and fiber extended diffusors, add-on optics
Calibration	NIST traceable, recommended recalibration interval: 1 year

*For measurements of spectral Irradiance/Illuminance an optional diffusor is required (available at jeti.com). [V: 02/2026]