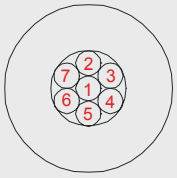
Spectrophotometer with Reflection Measuring Probe

Specbos 2101

The **Specbos 2101** is a fiber-coupled VIS spectrophotometer for reflection measurement with a flexible fiberoptic probe. It includes a small light source and a miniature spectrograph. The instrument has a USB (virtual COM port) interface for ease of installation and needs no other power supply.



1 receiving fiber
2-7 illumination fibers

Measuring head

The **Specbos 2101** is operated using JETI's intuitive measuring software. (For a demo, see www.jeti.com.) It is ideally suited for spectra acquisition, transmission / reflection, absorbance and 1st / 2nd derivative calculations. Single and continuous measurement modes and averaging are possible. The obtained data can be exported to Excel™ spreadsheets and to ASCII files.

Furthermore, it is possible to incorporate the instrument into individual applications using the virtual COM port, utilizing the following methods:

- DLL
- Virtual Instruments for LabView
- Serial commands

Advantages:

- Compact instrument with included light source
- Easy installation and operation
- USB bus powered
- Start of measurement with external trigger
- DLL and Virtual Instruments (for LabView) included

The device can be delivered with a modified measuring head, e.g. with a changed fiber set up (increased distance between central fiber and fiber ring or with fibers totally separated). Furthermore, focusing optics in front of the fiber bundle is available.

Specification

Applications	Determination of reflection / remission spectra, e.g. of coatings
Optical parameters	
Spectral range	400 … 780 nm
Optical resolution	9 nm (optional 5 nm) FWHM
Calculated wavelength step	1 nm
Connector	ST
Digital resolution	15-bit ADC
Measuring ranges and accuracies	
Measuring geometry	0 ° / 0 ° (nearly directed)
Measuring probe	Fiberoptic bundle (6 outer illuminating and one central receiving fibers)
Measuring diameter	approx. 1 … 3 mm (adjustable)
Measuring time	approx. 1 sec
Wavelength accuracy	± 0.7 nm (ASTM E275, filter BG 20, 2 mm, λ = 528.7 nm / 684.3 nm)
Wavelength reproducibility	± 0.2 nm (ASTM E275, filter BG 20, 2 mm, λ = 528.7 nm / 684.3 nm)
Photometric reproducibility	± 0.005 AU (λ = 550 nm)
Stray light	< 10^{-3} (ASTM E387, GG495, 4 mm, λ = 420 nm/ 630 nm)
Integration time	10 msec ... 60 sec
Other technical data	
Light source	Krypton lamp (life time > 10,000 hours)
Spectrometer	Imaging grating (flat field)
Light receiving element	Photodiode array 1024 or 2048 pixel
Power supply	USB bus powered
Interface	USB 2.0 full speed
Operating conditions	Temperature 10 ... 40 °C Humidity < 85 % relative humidity at 35 °C
Accessories (included)	JETI Specbos software for Windows 2000/XP DLL, LabView Virtual Instruments Fiberoptic reflection probe with distance holder USB cable and trigger connector Operating instructions Transport box

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