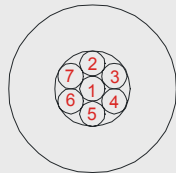




## Spectrophotometer with Reflection Measuring Probe specbos 2101

**specbos 2101** is a fiber coupled VIS spectrophotometer for reflexion measurement with a flexible fiber optic probe. It includes a small light source and a miniaturized spectrograph. The instrument has a USB (virtual COM port) interface that can be easily installed. It needs no extra power supply.



1 receiving fiber  
2-7 illumination fibers

Measuring head

**specbos 2101** can be operated with an intuitive measuring software VersaSpec (for a demo version see [www.jeti.com](http://www.jeti.com)). It is suited for spectra acquisition and transmission/ reflexion, absorbance and first/ second derivation calculations. Single and continuous measurement modes and averaging are possible. The obtained data can be exported to Excel™ spread sheets and to Grams (SPC) or CSV files.

Furthermore it is possible to implement the instrument into individual applications using the virtual COM port directly by the following ways:

- DLL
- Virtual Instruments for Lab-View
- Serial commands

### Advantages:

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

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

## Specification

Applications	Determination of reflexion/ remission spectra, e.g. of coatings
<b>Optical parameters</b>	
Spectral range	400 ... 780 nm
Optical bandwidth	9 nm (optional 5 nm) FWHM
Wavelengths resolution	1 nm
Connector	ST
Digital resolution	16 bit ADC
<b>Measuring ranges and accuracies</b>	
Measuring geometry	0°/ 0° (nearly directed)
Measuring probe	Fiber optic bundle (6 outer illuminating and one central receiving fiber)
Measuring diameter	approx. 1 ... 3 mm (adjustable)
Measuring time	approx. 1 s
Wavelength accuracy	± 0.7 nm (ASTM E275, filter BG 20, 2 mm, $\lambda = 528.7 \text{ nm}/ 684.3 \text{ nm}$ )
Wavelength reproducibility	± 0.2 nm (ASTM E275, filter BG 20, 2 mm, $\lambda = 528.7 \text{ nm}/ 684.3 \text{ nm}$ )
Photometric reproducibility	± 0.005 AU ( $\lambda = 550 \text{ nm}$ )
Stray light	< 10 <sup>-3</sup> (ASTM E387, GG495, 4 mm, $\lambda = 420 \text{ nm}/ 630 \text{ nm}$ )
Integration time	10 ... 60000 ms
<b>Other technical data</b>	
Light source	Krypton lamp with filter
Spectrometer	Imaging grating (flat field)
Light receiving element	Photodiode array 128 pixel (1024 pixel at increased resolution)
Power supply	USB powered
Interface	USB 2.0 fullspeed
Dimensions	145 mm x 58 mm x 34 mm
Weight	350 g
Operating conditions	Temperature 10 ... 40 °C Humidity < 85 % relative humidity at 35 °C
Accessories (included)	PC software VersaSpec for Windows 2000/ XP DLL, LabView VI's Fiber optic reflexion probe with distance holder USB cable and trigger connector Operation instructions Transport box