



## Process Spectrometer Versa PS 2000

The process spectrometer Versa PS 2000 was developed for online transmission measurements of optical layers during production. It can be used for other tasks too, e.g. spectral transmission measurements of liquids or reflexion measurements during coating processes.

### The advantages of PS 2000 are:

- fast measurement (integration time down to 10  $\mu$ s)
- fast read out
- variety of interfaces
- read out of an external position sensor
- high reliability

The firmware of Versa PS 2000 allows to preprocess the measuring data. So it is possible to calculate process specific data such as reflectivity or layer thickness.

Versa PS 2000 will also be available with an internal light source (halogen lamp or xenon flash lamp).



### Applications

- online spectral measurement
- process control of vacuum deposition
- thickness measurement of thin layers
- analytical instrumentation
- multichannel spectrometric systems

### Interfaces

- USB (high or full speed)
- LAN
- RS 232/ 422/ 485

### Description

- storage of reference data
- preprocessing of data, dark signal correction, absolute calibration
- internal calculations like averaging, interpolation, transmission, reflexion, absorption, color-coordinates
- DLL based SDK and SCPI compatible control syntax
- software and hardware trigger

# Specification

<b>Optical parameters</b>	
Spectral range	200 nm ... 1000 nm
Spectrometer	flat field holographic grating, aberration correction mirror
Optical bandwidth	≤ 4.0 nm FWHM (100 µm slit) ≤ 2.5 nm FWHM (50 µm slit) ≤ 2.0 nm FWHM (30 µm slit)
Asymmetry factor	≥ 0.7
Optical input	F-SMA 905 connector for a 200 µm fiber
Wavelength accuracy	≤ 0.2 nm (HgAr linesource)
Wavelength reproducibility	≤ 0.02 nm (HgAr linesource)
Stray light	< 0.2 % (ASTM E387, GG495, λ = 420 nm/ 600 nm)
Dynamics	depends on detector
Detector	25 mm BTCCD, CMOS, NMOS*
<b>Electronical parameters</b>	
Digital resolution	16 bit
AD-noise	2 counts RMS
Sampling speed	up to 4 MS/ s
Transfer speed	up to 40 Mb/ s (via High Speed USB)
Integration time	0.01 ... 65535 ms
Trigger delay	10 µs
Jitter	≤ 2 µs
Interfaces	USB Ethernet or RS 422/485 RS 232
Power supply	110 ... 220 V or PoE (if Ethernet is used)
<b>Mechanical parameters</b>	
Dimensions (total)	25 cm x 25 cm x 15 cm
Weight	3 kg
<b>Scope of delivery</b>	
Basic unit, PC software VersaSpec, power supply cable, JETI SDK, operation manual	

\* others on request

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