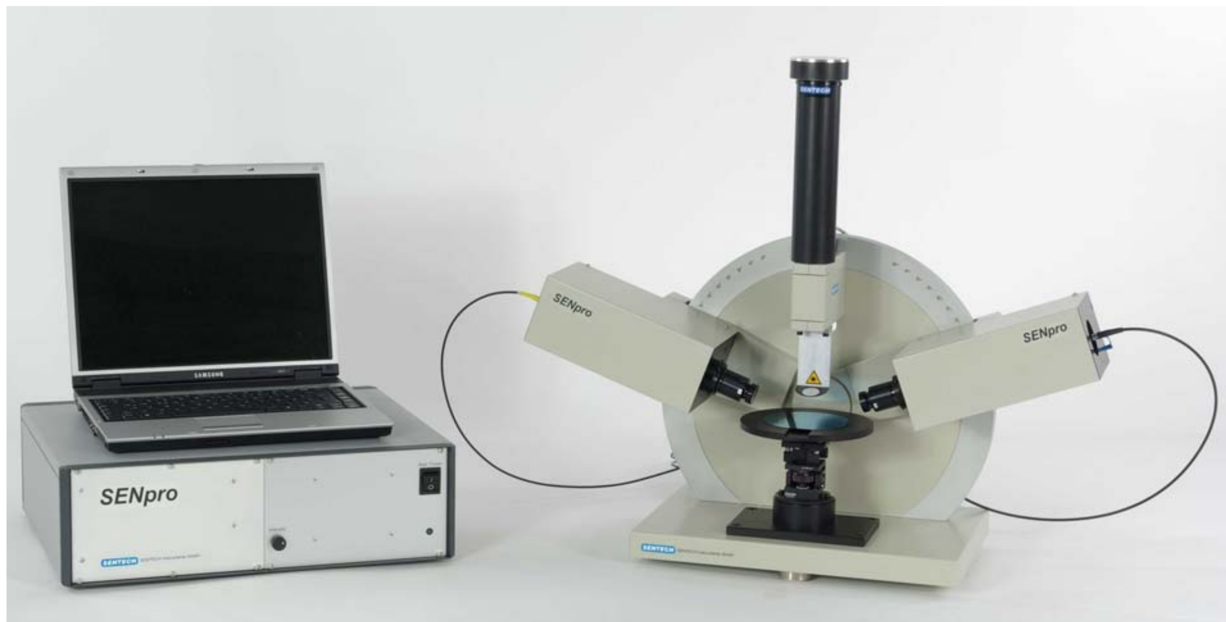
SENTECH Erfolg durch Leistung

SENTECH Instruments GmbH
Carl-Scheele-Str. 16, 12489 Berlin, Germany
Tel.: +49/30/6392-5520
Fax: +49/30/6392-5522
e-mail: marketing@SENTECH.de

Product Description

Low Cost Spectroscopic Ellipsometer SENpro

- **Low cost spectroscopic ellipsometer to measure film thickness and optical constants between 370 nm and 1050 nm wavelength**
- **Measures more than 500 wavelength points in a few second**
- **SpectraRay LT easy to use application oriented software**



The **SENpro** represents a new generation of low cost spectroscopic ellipsometers featuring simple operation, measurement speed and combined data analysis of ellipsometric measurements at single or multiple angle of incidence.

It measures thickness, refractive index and extinction coefficient of single films and multilayer stacks. Reflection measurements at different incidence angles and transmission measurements can be carried out and combined with ellipsometric data.

A compensator is used to correct automatically for depolarization effects caused by non-uniform films.

- Technical data, specifications and configurations are subject to change without notice -

Erfolg durch Leistung

SENTECH Instruments GmbH
Carl-Scheele-Str. 16, 12489 Berlin, Germany
Tel.: +49/30/6392-5520
Fax: +49/30/6392-5522
e-mail: marketing@SENTECH.de

The **SENpro** comes with the spectroscopic ellipsometer software **SpectraRay LT** for system control and data analysis including modeling, simulation, fitting and presentation. Ready to use application files make the operation very easy even for beginners.

Technical Specifications

Spectral Range:	370 nm – 1050 nm UV-VIS
Measurement time	Typically < 10 s for full spectra (more than 500 wavelength points)
Light source:	Stabilized Tungsten-Halogen lamp
Detection unit	Spectrometer with high order cutoff filters, controller with PC interface, connected to the ellipsometer receiver arm via optical fiber
Ellipsometer operation principle	Step Scan Polarizer
Measurement spot size	2 mm
Goniometer	Mechanical Goniometer, variable from 40° to 90° , set in 5° steps
Sample stage	Fixed height and tilt adjustable stage with 150 mm diameter sample platform
	Other stages optional
Sample size	Up to 6 “ wafers and pieces
	8” sample platform optional
Sample height	Maximal sample height 8 mm
	Thicker samples on request
Sample alignment	Software based height measurement using ellipsometer beam, laser reflex tilt measurement
Software **SpectraRay LT**	Software for operation, modeling fitting and data presentation
	Supports the variable angle ellipsometric measurements of ψ; Δ, Fourier coefficients s_1, s_2,

SENTECH Instruments GmbH
Carl-Scheele-Str. 16, 12489 Berlin, Germany
Tel.: +49/30/6392-5520
Fax: +49/30/6392-5522
e-mail: marketing@SENTECH.de

	Models and fits single films and multilayer stacks
	Includes libraries for materials and dielectric models (e.g. EMA, Cauchy, Sellmeier, Leng oscillator, Tauc-Lorentz oscillator, Forouhi-Bloomer)
	Allows to model different types of material gradients
	Simultaneous graphical display of experimental and simulated data
	Comprehensive data presentation
	Allows to export and import of ASCII data
Control rack	Comprising photo spectrometer, micro-controller, power supplies
Power requirement	Rated voltage:115/230 VAC auto select (100-132 VAC or 207-264 VAC), Rated frequency: 50-60 Hz, Rated power: 350.
PC	Windows XP PC optional
	LAN interface between ellipsometer and computer

Optional items

Manual x-y stage	
(SE 800-PXY)	50 mm travel, 150 mm height and tilt adjustable sample platform
Motorized x-y stages	
(SE 800-14)	50 mm x 50 mm motorized travel, 150 mm height and tilt adjustable sample platform
	extensive mapping software to define scan raster and to display scans in various ways
	vacuum chuck
(SE 800-15)	150 mm x 150 mm motorized travel, 150 mm height and tilt adjustable sample platform
	extensive mapping software to define scan raster and to display scans in various ways
	vacuum chuck

Erfolg
durch Leistung

SENTECH Instruments GmbH
Carl-Scheele-Str. 16, 12489 Berlin, Germany
Tel.: +49/30/6392-5520
Fax: +49/30/6392-5522
e-mail: marketing@SENTECH.de

(SE 800-16)	200 mm x 200 mm motorized travel, 150 mm height and tilt adjustable sample platform extensive mapping software to define scan raster and to display scans in various ways vacuum chuck

Additional software

(SE 800-51)	Comprehensive software **SpectraRay** including all features of a powerful ellipsometer software, especially multi-experiment, multi-angle and combined photometric analysis, variable angle measurements of reflectance R_s and the measurement of transmission vs. wavelength or energy.

Computer

Hewlett-Packard PC	State of the art processor, 512 MB RAM, 60 GB hard drive, CD-ROM drive, 17” TFT-FPD monitor, keyboard, mouse, Windows XP, LAN interface

- Technical data, specifications and configurations are subject to change without notice -