

MProbe® MSP

Microscope Thin Film Measurement System

It is easy to be an expert with MProbe

Majority of translucent or lightly absorbing films can be measured quickly and reliably: Oxides, Nitrides, Photore-sists, Polymers, Semiconductors (Si, aSi, polySi), Compound Semiconductors (AlGaAs, InGaAs, CdTe, CIGS), Hard coat-ings (SiC, DLC), Polymer coatings (Paralene, PMMA, Poly-amides), adhesives, thin metal films and many more.

Thickness Range: 1 nm - 1.8 μm
Wavelength Range: 200nm -1700nm
Spot size: 200μm to 2 μm

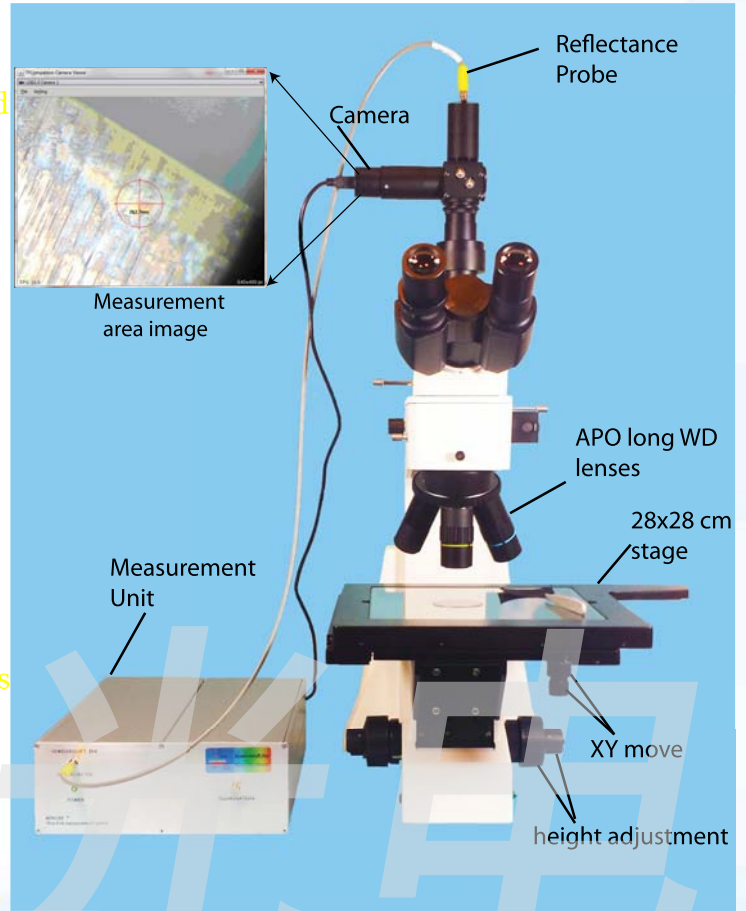
Thin -Film solar cells: aSi, TCO, CIGS, CdS, CdTe, perovskites - full solar stack measurement.
 LCD, FPD application: ITO, Cell Gaps, Polyamides.
 Optical Coatings: dielectric filters, hardness coating, anti-reflection coating. Semiconductor and dielectrics: Oxides, Nitrides, OLED stack.
 Biomedical: stents, orthopedic implants coating

Extensive materials library (500+ materials) - new materials easily added. Support of parameterized materials: Cauchy, Tauc-Lorentz, Cody-Lorentz, EMA and many more....

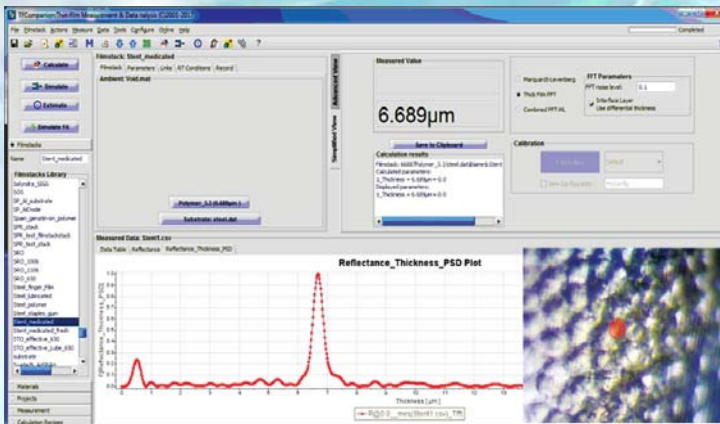
Flexible: Easy integration with external softwares.

Measurement parameters: thickness, optical constants, sur-face roughness. Unlimited number of layers.

Ease of use and powerful analysis tools -ready for R&D and production application. One-click measurement and analysis. Simulation & sensitivity, background and scaling correction, linked layers and materials, multisample mea-surements, dynamic measurement and production batch processing.



- Integrated camera and software to exactly pinpoint measurement location and display results on the image
- 280x280mm (11"x11") sample stage
- Height adjustment up to 30 mm
- Long working distance (WD) lenses (20mm - 35mm)
- Achromatic UV-NIR tube lens



Measurement of coating thickness on stent

Precision	<0.1nm or 0.1%
Accuracy	<0.2% or 1 nm
Stability	<0.2nm or 0.3%
Spot Size	200 μm to 2 μm
Sample Size	from 100 μm to 250mm x 250mm

Clean room class 1000 design

Basic Options/ Specification

Option	Description	Comments
-MXY[6 or 8]	Motorized XY stage 6" x6" (150mm) or 8"x8" (200mm). Controller and software support for mapping is included. 0.5 μm step size, +-1 μm repeatability	11"x 11" manual stage is included as standard with all models
-TOM [VISNIR/UV]	Transmittance measurement configuration. Includes: insert for stage, condenser, fiber optics (TO) .	for UV, VisIR and UV-VISNIR models
APO VIS objectives	Following APO, 95mm parfocal objectives for visible range(400-1000 nm) are available: 10x, 20x, 50x, 100X	
APO VisNIR objectives	Following APO, 95mm parfocal objectives for visible range(400-1700 nm) are available: 10x, 20x, 50x	
UV-NIR objectives	All-reflective achromatic objective (200-2000nm wavelength range), 95mm parfocal are available: 10x, 15x (long working distance 24mm to 31 mm)	6x is included as standard

Model	Wavelength range	Spectrometer/Detector/Light source	Thickness range*
VIS-MSP	400-1000 nm	Spectrometer F4/Si 3600 pixels/ Tungsten - Halogen light source	10 nm to 75 μm
UVVisSR-MSP	200-1000 nm	Spectrometer F4/ Si CCD 2048 pixels/ Deuterium & Tungsten-Halogen source	1 nm to 75 μm
UVVisF-MSP	200 - 900nm	Spectrometer F4/ Si CCD 2048 pixels 20W Xe flash lamp	1 nm - 5 μm
VISHR-MSP	700-1100 nm	HR Spectrometer F4/Si 2048 pixels/ Tungsten - Halogen light source	1 μm to 400 μm
NIR-MSP	900-1700nm	Spectrometer F4/512 pixels InGaAs/Tungsten-Halogen light source	50 nm to 85 μm
VISNIR-MSP	400-1700 nm	Spectrometer F4 Si CCD 3600 pixels(Vis channel);Spectrometer F4/512 InGaAs PDA(NIR channel) Tungsten-Halogen light source	10 nm to 85 μm
UVVISNIR-MSP	200 -1700 nm	Spectrometer F4 Si CCD 2048 pixels(UVVis channel);Spectrometer F4/512 InGaAs (NIR channel) Deuterium & Tungsten-Halogen light source	1 nm - 85 μm
NIRHR-MSP	1500-1550nm	Spectrometer F4/512 pixels InGaAs/ 20W SLD light source +50W TH lamp	10 μm-1800 μm(quartz) 4 μm -500 μm(Si)

Measurement principle: Optical spectroscopic reflectometer (transmittance measurement is available as an option)

Other configuration are available. One year limited warranty on labor and materials for all system.

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