

# 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 coatings (SiC, DLC), Polymer coatings (Paralene, PMMA, Poly-amides), adhesives, thin metal films and many more.

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

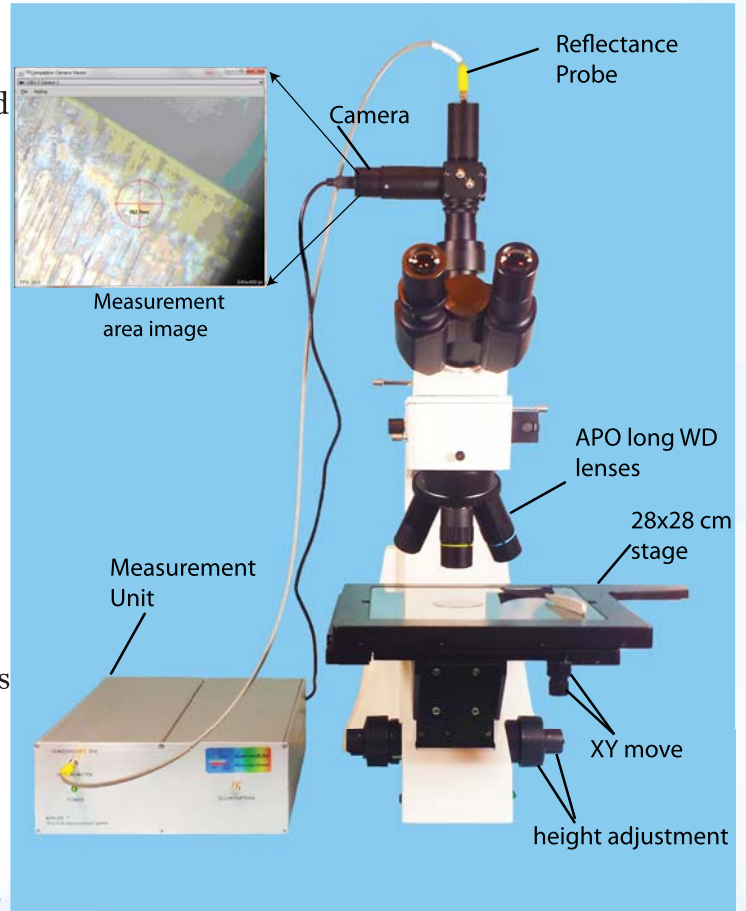
Thin -Film solar cells: aSi, TCO, CIGS, CdS, CdTe, perovskites - full solar stack measurement.  
 LCD, FPD application: ITO, Cell Gaps, Polyamides.  
 Optical Coatings: dielectric filters, hardness coating, anti-reflection coating. Semiconductor and dielectrics: Oxides, Nitrides, OLED stack.  
 Biomedical: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

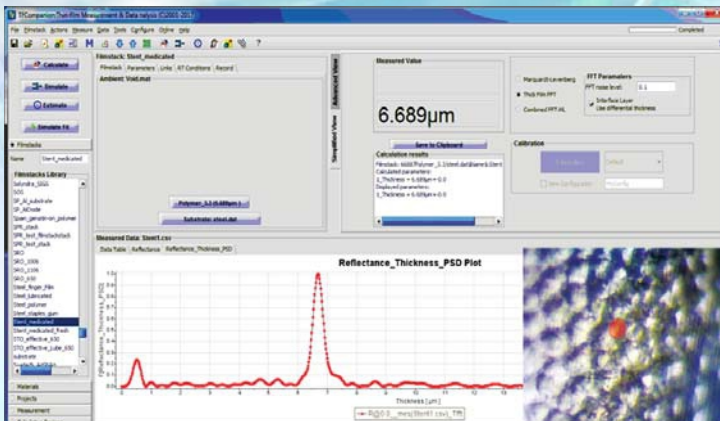
**Flexible:** Easy integration with external softwares.

Measurement parameters: thickness, optical constants, surface 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 measurements, 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
<b>-MXY[6 or 8]</b>	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
<b>-TOM [VISNIR/UV]</b>	Transmittance measurement configuration. Includes: insert for stage, condenser, fiber optics (TO) .	for UV, VisIR and UV-VISNIR models
<b>APO VIS objectives</b>	Following APO, 95mm parfocal objectives for visible range(400-1000 nm) are available: 10x, 20x, 50x, 100X	
<b>APO VisNIR objectives</b>	Following APO, 95mm parfocal objectives for visible range(400-1700 nm) are available: 10x, 20x, 50x	
<b>UV-NIR objectives</b>	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*
<b>VIS-MSP</b>	400-1000 nm	Spectrometer F4/Si 3600 pixels/ Tungsten - Halogen light source	10 nm to 75 μm
<b>UVVisSR-MSP</b>	200-1000 nm	Spectrometer F4/ Si CCD 2048 pixels/ Deuterium & Tungsten-Halogen source	1 nm to 75 μm
<b>UVVisF-MSP</b>	200 - 900nm	Spectrometer F4/ Si CCD 2048 pixels 20W Xe flash lamp	1 nm - 5 μm
<b>VISHR-MSP</b>	700-1100 nm	HR Spectrometer F4/Si 2048 pixels/ Tungsten - Halogen light source	1 μm to 400 μm
<b>NIR-MSP</b>	900-1700nm	Spectrometer F4/512 pixels InGaAs/Tungsten-Halogen light source	50 nm to 85 μm
<b>VISNIR-MSP</b>	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
<b>UVVISNIR-MSP</b>	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
<b>NIRHR-MSP</b>	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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