F32-sX
Thin-Film Analyzer

The Compact Solution for In-line Measurements

Film thickness is measured in-line quickly and easily with the affordable F32-sX. Spectral analysis of reflectance from the top and bottom of your film provides thickness information in real time.

The F32-sX advanced-spectrometry system comes in a half-width 3U rack-mount chassis and, with additional spectrometers, can be configured to measure thinner films (with the VIS extension), or to measure up to two different locations. The F32-sX software can be controlled through digital I/O or the host software to start/stop/reset measurements. Measurement data can be exported automatically to the host software for statistical process control (SPC). Filmetrics also provides optional lens assemblies for easy integration onto existing production fixtures.

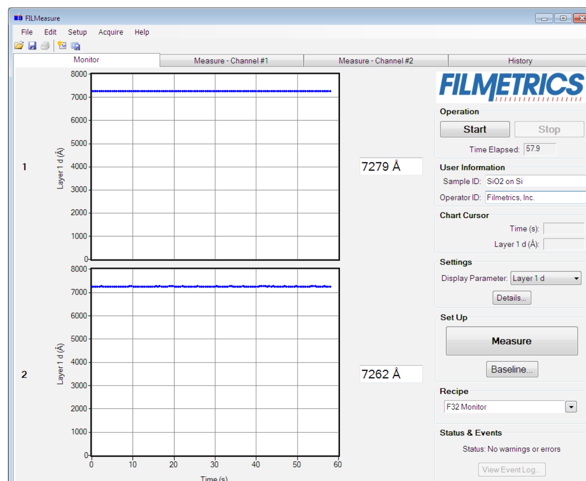
The included software and USB connectivity make installing the F32-sX onto any Windows-platform PC simple. With help from the FILMeasure software, which is preloaded with over one-hundred materials, measurements of single and multilayer stacks are easily attainable. New materials can be added quickly by measuring the optical constants of samples or by importing data from an existing source.

The Filmetrics Advantage

- World's leader in tabletop thin-film measurement
- 24-hour phone, e-mail, and online support
- Intuitive analysis software standard with every system

Additional Features

- Built-in online diagnostics
- Standalone analysis software included
- Sophisticated history function for saving, reproducing, and plotting results



Measurement with VIS extension

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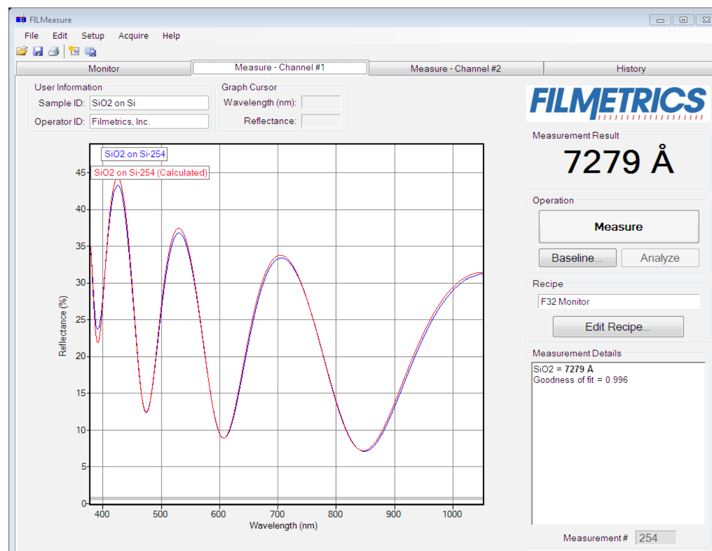

Measurement with VIS extension

General Specifications	F32-s980	F32-s1310	F32-s1550	VIS Extension
Spectrometer Wavelength Range:[1]	960 - 1000 nm	1280 - 1340 nm	1520 - 1580 nm	380 - 1050 nm
Light Source:	200K Hrs MTBF SLED	200K Hrs MTBF SLED	200K Hrs MTBF SLED	40K Hrs MTBF Hybrid
SLED Output Power:	<0.1 mW	0.1 mW	0.1 mW	—
Measurement Specifications[2]				
Thickness Measurement Range, n=1.5:	10 μm - 1 mm	15 μm - 2 mm	25 μm - 3 mm	15 nm - 70 μm
Thickness Measurement Range, n=3.5 (silicon):	4 μm - 350 μm	7 μm - 1 mm	10 μm - 1.3 mm	6 nm - 25 μm
Accuracy: The greater of	0.4% or 50 nm	0.4% or 50 nm	0.4% or 50 nm	0.2% or 2 nm
Precision:	5 nm [3]	5 nm [3]	5 nm [3]	0.02 nm [4]
Stability:	5 nm [5]	5 nm [5]	5 nm [5]	0.05 nm [6]
Spot Size:	10 μm	10 μm	10 μm	8 μm [7]
Nominal Working Distance:[8]	53 mm	53 mm	53 mm	53 mm
Working Distance Tolerance,[8] 100 μm thickness:	4 mm	4 mm	4 mm	—
Working Distance Tolerance,[8] 500 μm thickness:	1.2 mm	1.2 mm	1.2 mm	—

General Requirements	
Power:	100 - 240 VAC, 50 - 60 Hz, 0.6-0.3 A
Computer Interface:	USB 2.0
Certifications:	CE EMC and safety directives
Operating System	
PC:	Windows XP (SP2) - Latest Windows (64-bit)
Mac:	OS X Lion - Latest Mac OS running Parallels

[1] Nominal range. Actual central wavelength range may vary by +/- 30 nm.
[2] With UPG-RT-to-Thickness option
[3] 1σ of 100 measurements of 100 μm SiO_2-on-Si. Average of 1σ over 20 successive days.
[4] 1σ of 100 measurements of 1 μm SiO_2-on-Si. Average of 1σ over 20 successive days.
[5] 2σ of daily average of 100 measurements of 100 μm SiO_2-on-Si over 20 successive days.
[6] 2σ of daily average of 100 measurements of 1 μm SiO_2-on-Si over 20 successive days.
[7] For 6X objective lens
[8] For 2X objective lens, other objectives and working distances available

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