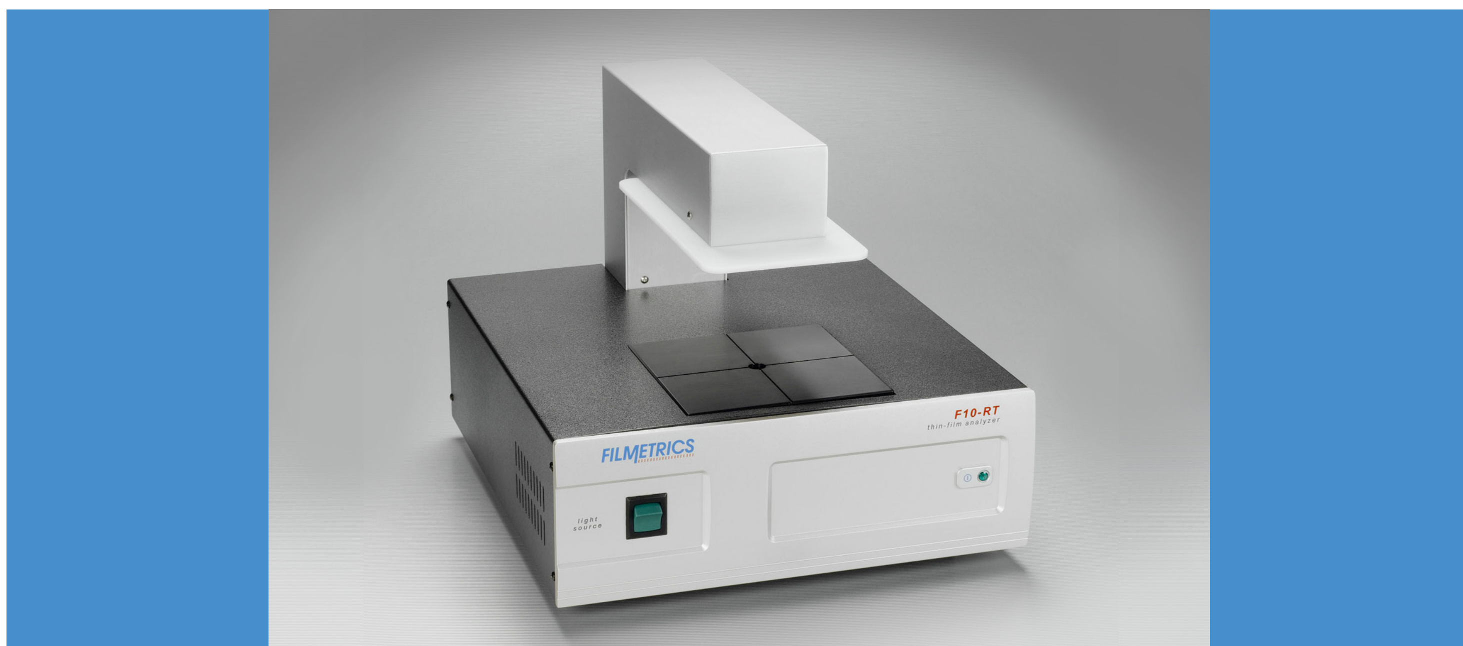
F10-RT
Thin-Film Analyzer



Simultaneous Reflectance/Transmittance Measurements for Thin-Film Applications

The F10-RT requires only a mouse-click to capture both reflectance and transmittance spectra by eliminating time-consuming changes in hardware configuration. Data capture is fast – the array-based spectrometers typically take less than a second.

The Analysis Advantage

The F10-RT brings the power of Filmetrics analysis to simultaneous reflectance and transmittance measurements. A click of the mouse instantly reports minimum and maximum reflectance and transmittance values in user-configurable wavelength ranges. Color analysis is standard and can be displayed in common color-space systems (e.g. CIELAB and CIEXYZ) as well as visually. Measured spectra and other data can easily be printed and exported or can be saved in JPEG image format for easy distribution. Optional film thickness and index-solving modules give the F10-RT all of the advanced multi-film analytical power of the Filmetrics F20.

All in a Robust, Reliable Package

The F10-RT arrives complete with reference standards. Its small footprint and USB connectivity ensure effortless setup. With no moving parts, no maintenance other than lamp replacement is necessary and high reliability is guaranteed.

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 software included
- Sophisticated history function for saving, reproducing, and plotting results

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F10-RT
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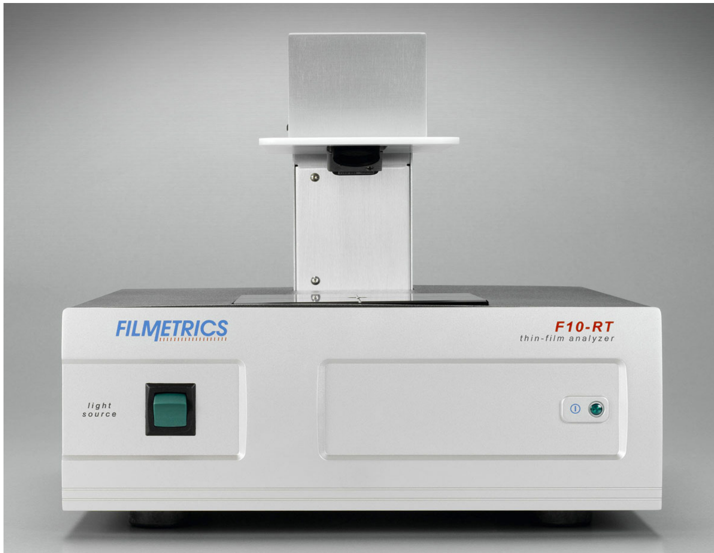

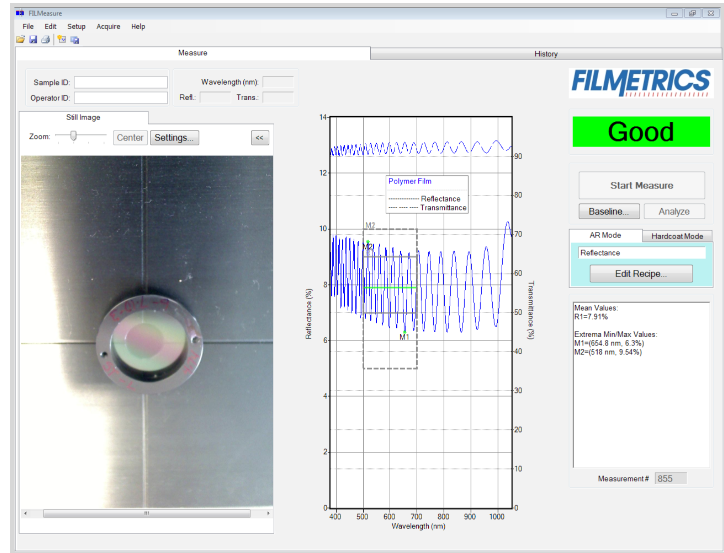

The F10-RT makes automatic quantitative assessment quick and easy.

	F10-RT-UV	F10-RT-UVX	F10-RT	F10-RT-EXR	F10-RT-NIR
Wavelength Range (R0, T0):	190 - 1100 nm	190 - 1700 nm	380 - 1050 nm	380 - 1700 nm	950 - 1700 nm
Thickness Measurement Range*:	1 nm - 40 μm	1 nm - 150 μm	15 nm - 70 μm	15 nm - 150 μm	100 nm - 150 μm
Min. Thickness to Measure n and k*:	50 nm	50 nm	100 nm	100 nm	500 nm
Accuracy*: The greater of	1 nm or 0.2%	1 nm or 0.2%	2 nm or 0.2%	2 nm or 0.2%	3 nm or 0.4%
Precision[1]:	0.02 nm	0.02 nm	0.02 nm	0.02 nm	0.1 nm
Stability[2]:	0.05 nm	0.05 nm	0.05 nm	0.05 nm	0.12 nm
Light Source:	External, D2+Halogen		Internal, Halogen		

Spectrometers[3]	
Wavelength Accuracy:	Better than 0.5 nm
Wavelength Reproducibility:	0.1 nm
Wavelength Resolution:	2.5 nm
Reflectance Accuracy for $R \leq R_{Std}$ [4]:	$0.005 * R_{Std}$
Reflectance Accuracy for $R > R_{Std}$ [4]:	$0.005 * R_{max} / R_{Std}$
Transmittance Accuracy[5]:	$0.005 * T_{max} / T_{Std} + 0.001$
Noise:	< 0.0002 A rms
Stray Light:	< 0.25% at 500 nm
Amplitude Resolution:	14-bit

General	
Probe Spot Size:	6 mm
Sample Orientation:	Face down
Lamp Warm Up Time for High Precision:	15 minutes
Interface:	USB 1.0 (USB 2.0 recommended)
Power Requirements:	100 - 240 VAC, 50 - 60 Hz, 20W
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

* Material dependent

[1] 1σ of 100 measurements of 500 nm SiO_2-on-Si. Average of 1σ over 20 successive days.

[2] 2σ of daily average of 100 measurements of 500 nm SiO_2-on-Si over 20 successive days.

[3] Specifications for 400 - 950 nm unless otherwise noted.

[4] R_{Std} is reflectance of the reflectance standard used. R_{max} is the maximum measured reflectance over the wavelength range. Sample must be flat to < 0.03°.

[5] T_{Std} is transmittance of the transmittance standard used. T_{max} is the maximum measured transmittance over the wavelength range.

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