



MS-FIS 200/300

Multi-Sensor Film Inspection System

Fast, accurate and reliable metrology module designed for instantaneous multi-point measurement of continuous film's sheet resistance, resistivity and uniformity. It incorporates state of the art technology based on MultiMetrix proprietary Resonance Sensor Technology (RST™). The module incorporates innovatively designed chuck with a built-in 49-points sensor to deliver film characterization under 1 second and is reconfigurable for tightest production specs control.

Hardware Configuration

Ceramic chuck with embedded sensors: 64 points max for 200 mm wafers & 127 points max for 300 mm wafers

Control Features

Computing – Pentium 4, RAM 2 Gb, HD 120 Gb, RS 232, special hardware, 4U rack mount
Line Voltage – 110/220 V and 50/60 Hz

Measurement Range

Resistivity	Low:	0.001 Ω -cm - 0.5 Ω -cm
	Middle:	0.5 Ω -cm - 100 Ω -cm
	High:	100 Ω -cm - 1,000 Ω -cm
Sheet Resistance*	Low:	0.01 Ω /sq - 10 Ω /sq
	Middle:	10 Ω /sq - 100 Ω /sq
	High:	100 Ω /sq - 1,000 Ω /sq
*Optional:	<i>ITO on glass and other substrates with size up to 1,870 mm x 2,200 mm Sheet resistance 1,000 Ω/sq - 1GM Ω/sq</i>	

Measurement Performance

Accuracy**	$\pm 20 \text{ \AA}$ for film thickness < 1,000 \AA
	$\pm 30 \text{ \AA}$ for 1,000 \AA < film thickness < 20,000 \AA
	1% for film thickness of 1 μ m higher

***The module is calibrated for metallic films measurement only. All other materials and structures are subject for calibration. Accuracy and measurable ranges depend from measurable material and/or structure.*

Repeatability: 0.5% or better

Mapping	Instantaneous 2D and 3D data representation
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Throughput	1 wafer under 1 second
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Component Reliability

Uptime	> 80%
MTBF	> 20,000 hours
MTBA	> 7,500 hours