



## TherMoiré Model PS600 Metrology Solution

The TherMoiré PS600 is a metrology solution that utilizes the shadow moiré measurement technique combined with automated phase-stepping to characterize out-of-plane displacement for samples up to 600 mm x 600 mm. With time-temperature profiling capability, the TherMoiré PS600 captures a complete history of a sample's behavior during a user-defined thermal excursion.

The combination of the shadow moiré technique and dynamic temperature profiling is the foundation of the patented TherMoiré platform. Dynamic profiling is the most effective approach to analyze mechanical behavior induced by real-world processes and operating environments. Using the TherMoiré PS600, engineers will gain a better understanding of the interactions of materials, packages, substrates and complete assemblies, allowing for a thorough analysis of the system, improving its reliability and operating performance. The PS600 is critical to helping meet the ever increasing interconnect and reliability requirements on both the device and substrate levels.



The PS600 is designed to meet the requirements of OEMs, PCB fabs and contract manufacturers who need large board/assembly characterization. With its 600 mm x 600 mm field of view, the PS600 is the largest temperature-dependent metrology tool available for the microelectronics industry.

The PS600 can be used in the laboratory:

- Pb-Free processing implementation
- Pre-production mechanical behavior qualification
- Evaluation of different materials and constructions
- Failure/defect analysis
- Validation of computer modeling
- Reflow profile optimization
- Evaluation of component-substrate seating plane interconnect

### **Akrometrix**

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## TherMoiré Model PS600 Product Specifications

### Measurement Performance\*:

Sample Size (max):	600mm x 600mm
Field of View:	600mm x 600mm
Vertical Resolution:	2.5 micron
Lateral Resolution:	640 x 480 pixels
Repeatability (STD Deviation):	2.5 micron

Accuracy: Larger of +/- 2.5 micron or +/- 3%

\*Specifications apply to the relative height measurements (e.g., coplanarity) on AkroMetrix calibration sample or equivalent high-contrast, uniform reflectivity, continuous surface, using a 100 line per inch (LPI) grating. Performance specifications are affected by sample surface optical properties and should be confirmed for specific samples of user interest. Vertical resolution, repeatability and accuracy can be improved by using a higher frequency grating.

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### Mechanical:

Footprint (w x l x h):	1422mm x 1118mm x 2108mm
Weight:	950 kg (crated for shipment)
Electrical:	480VAC, 3 phase, 50/60Hz, 21A full load

### Optical:

Camera:	2/3" CCD, 768x494 pixels
Lenses:	10mm-160mm motorized zoom lens
Illumination:	Two (2) 150W, 21VAC halogen lamps, Two (2) 12" fiber optic lines
Grating:	100 lines per inch (LPI), 600mm x 600mm ruled area

### Heat Chamber\*\*:

Temperature Range:	Room temperature to 300 C
Heating Rate:	2.0 C/sec or better (50 C to 250 C)
Cooling Rate:	1.0 C/sec or better (300 C to 125 C)

\*\* Specifications apply to samples of 27 x 27 x 1.6mm FR-4 PCB material; performance specifications are affected by sample mass, thermal capacity and emissivity and should be confirmed for specific samples of user interest.

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