ZYGO’s NewView™ 3DPV-TF Profilers: Increase Efficiency, Yield Enhancement and Cost Savings for the Photovoltaics Industry

Cost-per-watt improvements drive photovoltaics manufacturing. Like the semiconductor, data storage and flat panel display industries before it, the photovoltaic industry is moving towards much tighter production control to achieve the increased efficiencies and lower costs required to reach grid parity and ultimately power plant parity. ZYGO continues to be a key player in the three proceeding industries and is leveraging this expertise offering the metrology insight to develop and control your photovoltaic processes.

Thin Film Processes
TCO: Surface Roughness and Film Thickness
The Transparent Conductive Oxide or TCO forms the foundation of a-Si, tandem, and triple junction cells. ZYGO’s unique capability to simultaneously measure both TCO surface roughness and thickness, without special preparation, to sub-micron image resolution and sub-nanometer height/thickness resolution, lets you keep your process under control.

Laser Scribe: Depth, Width, Profile, and Debris
Cell efficiency depends on the laser scribed electrode pattern. ZYGO’s noncontact profiler lets you see and quantify laser scribe performance. Etch depth and 3D trench profile and laser shot to shot variations and surface debris, not seen on stylus profilers, are rapidly quantified on your production panels without fear of yield loss due to damage.

Gantry Level Noncontact Profiler Systems
ZYGO’s extensive experience supplying gantry level systems to the Flat Panel Display industry means these systems are production ready. From 1.0 meter by 1.0 meter to greater than 2.0 meter x 2.0 meter systems, ZYGO can match your requirements.

Whether at incoming inspection or during on-line process control, ZYGO’s noncontact gantry stage optical profilers rapidly give you the process insight you need.
ZYGO Worldwide Support

For over 35 years, the world’s leading technology companies have relied on Zygo Corporation. With an installed base of over 10,000 interferometer based metrology products in critical production, quality control, and R&D applications, ZYGO has earned a reputation for the highest quality, reliability, and uncompromised performance. Recognized as a valued partner for its innovation and responsiveness, Zygo Corporation works closely with customers to realize the competitive advantages its products and technology offer. With over 550 dedicated employees in offices around the world, ZYGO has the infrastructure necessary to meet the production challenges of today and tomorrow.

ZYGO Worldwide Support

ZYGO’s worldwide sale, service and engineering organization is set up to directly support your production and development.

How It Works

The NewView 3DPV-TF is based on scanning white light interferometry. Interferometry is a traditional technique in which a pattern of bright and dark lines (fringes) result from an optical path difference between a reference and a sample beam, both beams are created by the instrument itself. In the NewView 3DPV a precision translation stage, CCD camera and patented acquisition algorithms generate a three dimensional surface map of the sample surface, and the 3-Dimensional thickness map of transparent films to sub-nanometer height resolution and micron level image resolution.