TR7500 SIII 3D SERIES

- High Performance Multi-angle 3D PCBA Inspection
- High Defect Coverage Using Hybrid 2D+3D Inspection
- Dual Laser True 3D Profile Measurement
- Accurate Bare Silicon Package Inspection

AUTOMATED OPTICAL INSPECTION
**TR7500 SIII 3D - High Performance and Total Inspection Coverage**

The TR7500 SIII 3D AOI combines the best of 2D and 3D technologies with new generation software in a high performance system for PCB assembly inspection. Built on TRI’s high-speed dynamic imaging technology, TR7500 SIII 3D is the ideal AOI for the industry’s largest PCBs.

**Complete Coverage at Full Speed**

High resolution images from five multi-angle color cameras and true 3D profile measurement eliminate blind spots even on complex automotive and smartphone assemblies. TR7500 SIII 3D inspection range covers everything from basic SMT components to large thru-hole capacitors, switches, connectors and hidden solder joints.

**Wide Range 3D Inspection**

Military grade blue laser sensors go beyond other 3D technology boundaries. Their height measurement range ensures that components up to 20 mm high can be inspected with maximum precision. Laser sensors are an effective solution for polished bare silicon chips and wafer level packages. They also eliminate problems with black components on low contrast background.

**Complete 3D PCB Assembly Inspection**

Interactive 3D models help operators quickly review found defects, such as lifted components, IC leads, connectors, switches and other mounted devices for enhanced post-reflow inspection.

**Reveal Hidden Defects in Clear Angle View Images**

Angle view images reveal soldering issues from another perspective, not available in single camera systems, and help eliminate an important source of defects.
From CAD to Inspection in Minutes
TRI’s intuitive software and smart component libraries streamline new product introduction in a few simple steps.

Load CAD ➔ Scan Map + Alignment ➔ Fiducial Mark + Library ➔ Inspect/ Fine Tune

TRI AOI programming flow in a few simple steps

Intuitive Inspection Results
Reviewing defects on TR7500 SIII 3D is a breeze with intuitive height profile visualization.

Easy to identify defects shown in specialized display modes

Yield Management System 4.0
YMS 4.0 provides a M2M centralized inspection monitoring and remote access fine tuning throughout the SMT line. Built-in support for SPI, AOI, AXI and ICT systems helps track Alarms and SPC data to simplify production quality monitoring. YMS 4.0 is TRI’s Industry 4.0 closed loop software to assure your production line inspection quality and efficiency.

The Yield Management System allows operators to aggregate information from individual TRI inspection systems for statistical analysis of production line defect rates, reviewing and fine-tuning inspection results, and identifying component defect trends and emerging production issues.

• Inspection results and data integration
• Real time SPC and production yield management
• Quality reports and closed loop tracking
• Support defect component analysis and improvements
• Knowledge Management (KM)
• Productivity and Quality Management
**SPECIFICATIONS**

**Optical & Imaging System**
- Top View Camera: 4 Mpix high speed color camera
- 4 Angled View Cameras: 1.3 or 6.5 Mpix (factory setting)
- 3D Laser Sensor: Dual 3D laser sensors
- Lighting: Multi-phase RGB+W LED
- Optical Resolution*: 10 μm/15 μm
- Laser Resolution*: 10 μm (optional)/20 μm/50 μm
- Imaging Method: Dynamic imaging with true 3D profile measurement
- 3D Inspection Range: 20 mm
  - * Factory setting

**Imaging/Inspection Speed**
- Mode: 2D, 2D+3D
- 15 μm (cm²/sec): 120
- 15 μm (cm²/sec): 40 - 60*
- 10 μm (cm²/sec): 60
- 10 μm (cm²/sec): 27 - 39*
  - * Depending on board size and laser resolution

**Pre-/Post-Reflow Inspection Functions**
- Imaging/Inspection Speed: 2D, 2D+3D
- Imaging Method: Dynamic imaging with true 3D profile measurement
- Laser Resolution*: 10 μm (optional)/20 μm/50 μm
- Imaging Method: Dynamic imaging with true 3D profile measurement
- 3D Inspection Range: 20 mm
  - * Factory setting

**PCB & Conveyor System**
- PCB Size: 50 x 50 – 510 x 460 mm*
  - (1.97 x 1.97 – 20.1 x 18.1 in.)
- PCB Thickness: 0.6 – 5 mm
- PCB Transport Height: 880 – 920 mm (34.6 – 36.2 in.)
- Max. PCB Weight: 3 kg (6.61 lbs)
- PCB Thickness: 0.6 – 5 mm
- PCB Carrier/Fixing: Step motor driven conveyor & pneumatic clamping
- Clearance: 15 mm (0.59 in.) / 25 mm (0.98 in.) / 48 mm (1.89 in.) optional**
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**Dimensions**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>TR7500 SIII 3D</th>
<th>TR7500L SIII 3D</th>
<th>TR7500 SIII 3D DL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>1100 (43.3)</td>
<td>1300 (51.2)</td>
<td>1100 (43.3)</td>
</tr>
<tr>
<td>Depth</td>
<td>1670 (65.7)</td>
<td>1630 (64.2)</td>
<td>1770 (69.7)</td>
</tr>
<tr>
<td>Height</td>
<td>1550 (61.0)</td>
<td>1655 (65.2)</td>
<td>1550 (61.0)</td>
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<tr>
<td>Power Requirement</td>
<td>200 – 240 VAC, single phase, 50/60 Hz, 3 kVA</td>
<td>72 psi - 87 psi (5 - 6 bar)</td>
<td></td>
</tr>
<tr>
<td>Air Requirement</td>
<td>72 psi - 87 psi (5 - 6 bar)</td>
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</tbody>
</table>

**Options**
- Barcode Scanner, Offline Editor, OCR, Yield Management System (YMS 4.0), YMS Lite

**Specifications**

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