

Multi-Camera
Model

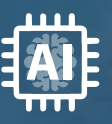
3DAOI

AUTOMATED OPTICAL INSPECTION

TR7500QE Plus SERIES

 Multi-Angle Side View for Full Coverage Defect Inspection

 Metrology-grade Inspection High Precision Platform

 Powered by Flexible Algorithms, Smart Programming and AI Technology

 3D Height Range up to 40 mm

12/10 MP / μm Multi-Angle Inspection

 Real-Time SPC Trends

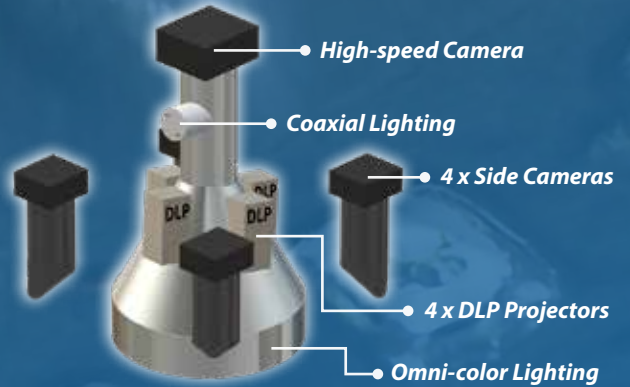


TR7500QE Plus



High Performance Multi-Camera 3D AOI

The TR7500QE Plus is the next generation Multi camera side view 3D AOI. The cost-effective 3D AOI platform is equipped with innovative AI-powered algorithms and increased mechanical capabilities that offer high accuracy inspection.



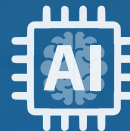
Optical Sensors

Smart Programming

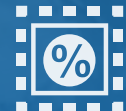
Realize seamless programming, improve your production efficiency and quickly setup your production line Inspection with TRI's Smart Programming. The Smart Inspection Programming promotes ease of use and maintenance to achieve precise and accurate inspection results.



Scan Board



Setup Inspection



Inspect Board

Smart Inspection

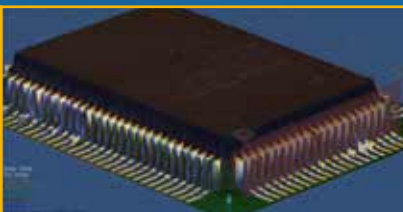
Achieve True 3D Profile Measurement Using Multiphase lighting, 3D Laser Module, and 3D Depth from Focus (DFF) Technology. Powered by IPC-610 compliant algorithms, the 3D AOI system is able to inspect the most intricate solder joint defects, including THT components. Interactive 3D models help operators quickly review found defects, such as lifted BGA components, IC leads, connectors, switches and other mounted devices for enhanced post-reflow inspection.



True 3D Inspection



Highly Reflective Surface



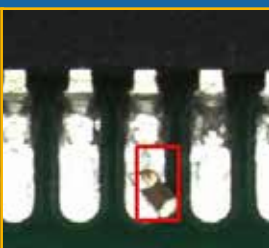
Lifted Lead Profile



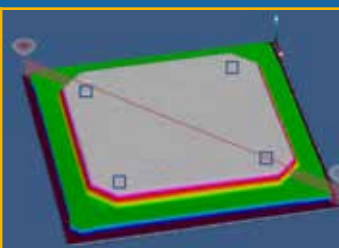
3D Pin Height Inspection



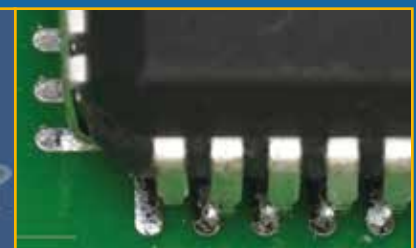
0402mm Inspection



Foreign Material Inspection



BGA Package Inspection



Inner Solder Bridge Inspection

SERIES

Multi-Angle Inspection

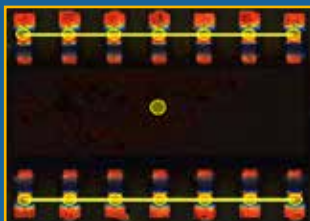
Multiple-camera AOI systems include 4 side-view cameras for front, rear, left, and right viewing angles in addition to the views from the top camera. Multiple viewing angles minimize human mistakes by detecting concealed defects usually concealed from the top camera view. The Side View cameras allow the platform to inspect inner layer bridges, hidden lifted leads and other out of sight defects.



Lifted Lead on Connectors

Metrology Inspection

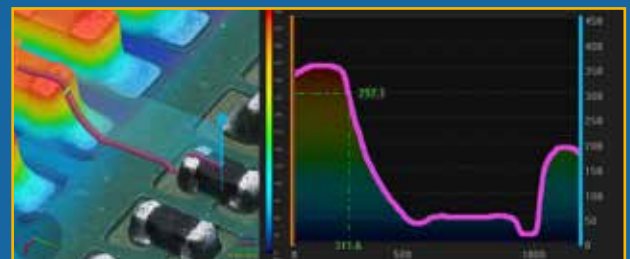
Metrology enables big data and improves data traceability, ultimately improving the yield rate. Easily create formulas with dimensional measurements, inspection parameters, and real measurement values.



IC Metrology

Depth From Focus 3D Inspection

3D Depth from Focus (DFF) technology ensures all visible solder joints meet IPC specification or your chosen criteria. DFF is a revolutionary 3D sensing technique that searches for the optimal focus position, supporting 0.5 / 1 μ m ultra-high resolution inspection.



0603mm & 0402mm Inspection

AI-Powered Inspection

Boost your production's intelligence with TRI's AI-powered Inspection solutions. TRI offers an array of specialized defect detection AI algorithms, AI Training Tools, AI Servers and a Smart Repair Station.

/ AI Station /

Performs AI-powered Inspection, Supports multiple AOI at the same time, reducing AI hardware cost, by sharing the GPU resources.



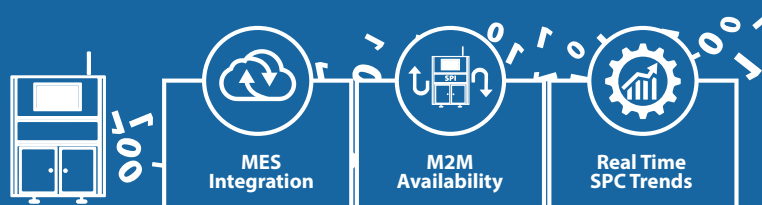
/ AI Verify Host /

The AI Verify Host is a Smart Repair Station that reduces the need for manual re-inspection and lowers operational costs.



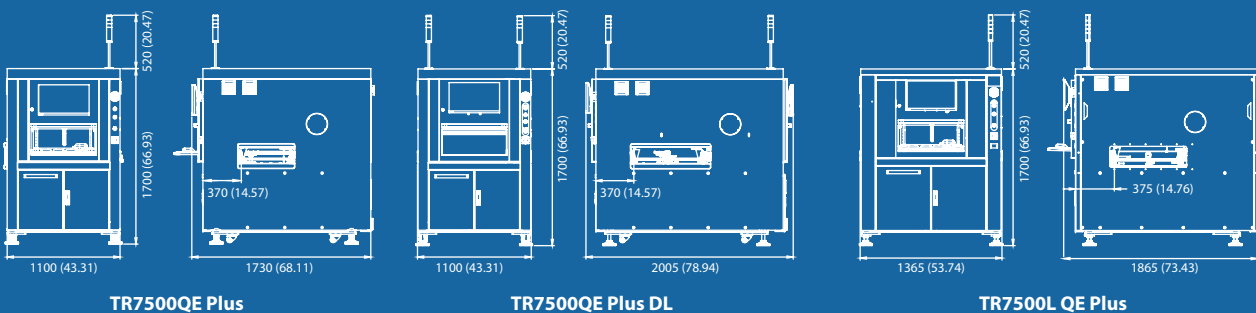
Smart Factory Ready

TRI's Smart Factory Solutions promote full traceability and data exchange, by generating Big Data for your MES Applications, essential for optimizing your production your yield rate, enabling the Connected Factory.



Model	TR7500QE Plus	TR7500QE Plus DL	TR7500L QE Plus
Imaging System	Top Camera 12 MP High Speed Camera Side view Cameras 4 Angled Cameras Optical Resolution 10 μm / 12 μm / 15 μm 10 μm / 15 μm Inspection Speed 10 μm: 25 cm ² /sec, 12 μm: 37 cm ² /sec, 15 μm: 57 cm ² /sec Imaging Method Stop-and-Go 3D Technology Digital Fringe Pattern Projectors Lighting Multi-Phase True Color LED, Coaxial Lighting Max. 3D Height Range 40 mm		
Pre-/Post-Reflow Inspection Functions	Component Defects Missing, Tombstoning, Billboarding, Polarity, Rotation, Shift, Wrong Marking (OCV), Defective, Upside Down, Extra Component, Foreign Material Solder Joint Defects Solder Fillet Height, Solder Volume %, Excess Solder, Insufficient Solder, Bridging, Through-hole Pins, Lifted Lead, Golden Finger Scratch/ Contamination		
X-Axis Control	Ballscrew + AC Servo with Motion Controller (Linear Motor Optional)		
Y-Axis Control	Dual Driven Ballscrew + AC Servo with Motion Controller		
Z-Axis Control	Ballscrew + AC Servo with Motion Controller		
X-Y-Z Axis Resolution	1 μm		
Min PCB Size	50 x 50 mm (1.97 x 1.97 in.)		
Max PCB Size	510 x 510 mm (20.08 x 20.08 in.)	510 x 310 mm x 2 lanes (20.08 x 12.20 in.) 510 x 590 mm x 1 lane (20.08 x 23.23 in.)	765 x 610 mm (30.12 x 24.02 in.)
PCB Thickness	0.5 - 6 mm (0.02 - 0.24 in.)		
PCB Transport Height	880 - 920 mm (34.65 - 36.22 in.) Optional: 940 - 965 mm (SMEMA compatible)		880 - 920 mm (34.65 - 36.22 in.) Optional: 930 - 970 mm (SMEMA compatible)
Max PCB Weight	3 kg (6.61 lbs.) Option: 5 kg (11 lbs)		3 kg (6.61 lb) Optional: 5 kg (11.02 lb) / 12 kg (26.46 lb)
PCB Carrier / Fixing	Step Motor Driven		
Clearance	Top	50 mm (1.97 in.)	
	Bottom	40 mm (1.57 in.)	
	Edge	3 mm (0.12 in.) Optional: 4 mm (0.16in.) / 5 mm (0.20 in.)	3 mm (0.12 in.) Optional: 5 mm (0.20 in.)
Weight	920 kg (2028.25 lb)	1040 kg (2,292.81 lb)	1035 kg (2,281.78 lb)
Power Requirement	200 - 240 VAC, Single Phase, 50 / 60 Hz, 3 kVA		
Air Requirement	72 psi - 87 psi (5 - 6 bar)		
Optional Features	Features Barcode Scanner, Repair Station, Offline Editor, OCR, Yield Management System (YMS 4.0), AI Solutions (GPU Upgrade as Needed), Metrology Module (AOM) 3D Technologies 3D Laser Module or DFF Module		

Unit: mm (in.)



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TRI 德律 TRI INNOVATION

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