

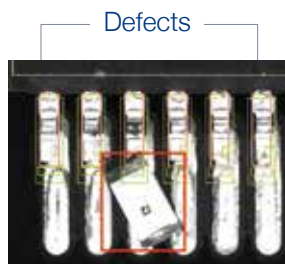
TR7700QI SERIES



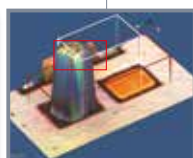
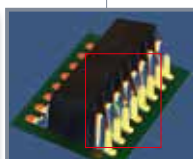
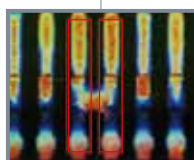
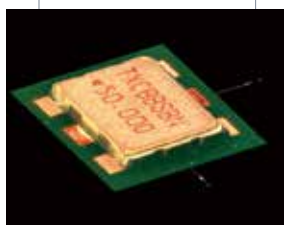
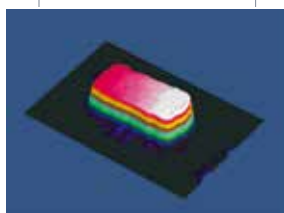
- High Accuracy Stop-and-Go 3D AOI
- Accurate 2D and 3D Coverage
- Quad Digital Fringe Pattern Technology
- High Resolution Angled Inspection

3D AUTOMATED
OPTICAL INSPECTION

TR7700QI FEATURES



Foreign Material



TR7700QI - The High Performance 3D AOI Solution

The TR7700QI Automated Optical Inspection combines the latest of 2D and 3D technologies based on digital quad fringe pattern projection to revolutionize PCB assembly inspection.

Maximum Precision with 4-way Projection

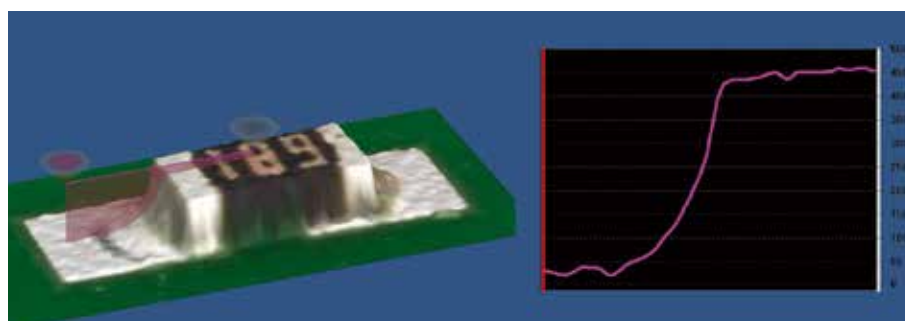
TR7700QI combines a high resolution orthogonal camera and quad multi-angle digital fringe pattern projection for best inspection coverage.

- **1** High Speed Top Camera
- **4**-way Adaptive Digital Fringe Projection
- **20** mm height inspection range



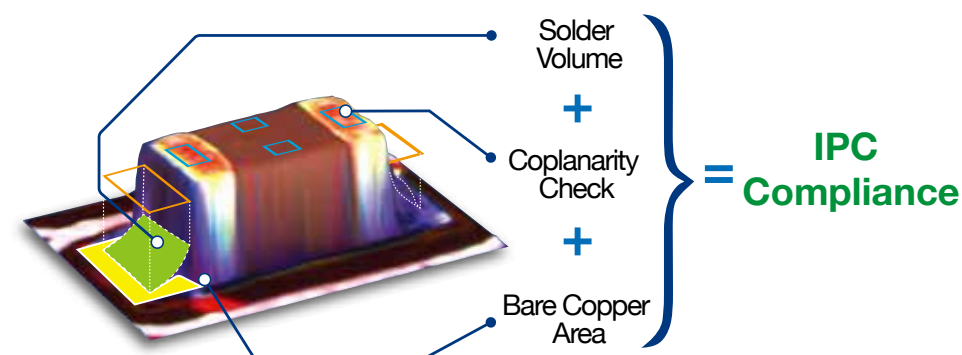
Complete 3D PCB Assembly Inspection

TR7700QI ensures all visible solder joints meet IPC specifications or your chosen criteria.



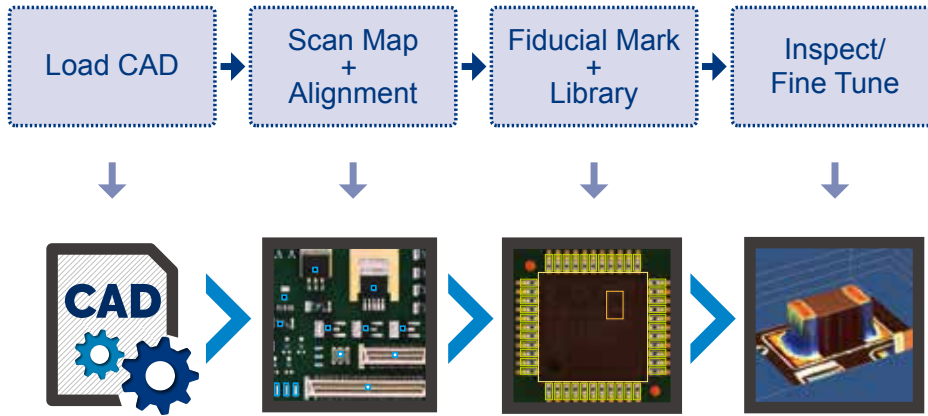
Three-Strategy Solder Inspection

TR7700QI analyzes several solder joint parameters to locate non-compliant soldering defects.



From CAD to Inspection in Minutes

TRI's Intuitive software and smart component libraries streamline new product introduction in a few simple steps.



TRI AOI programming flow in a few simple steps

Intuitive Inspection Results

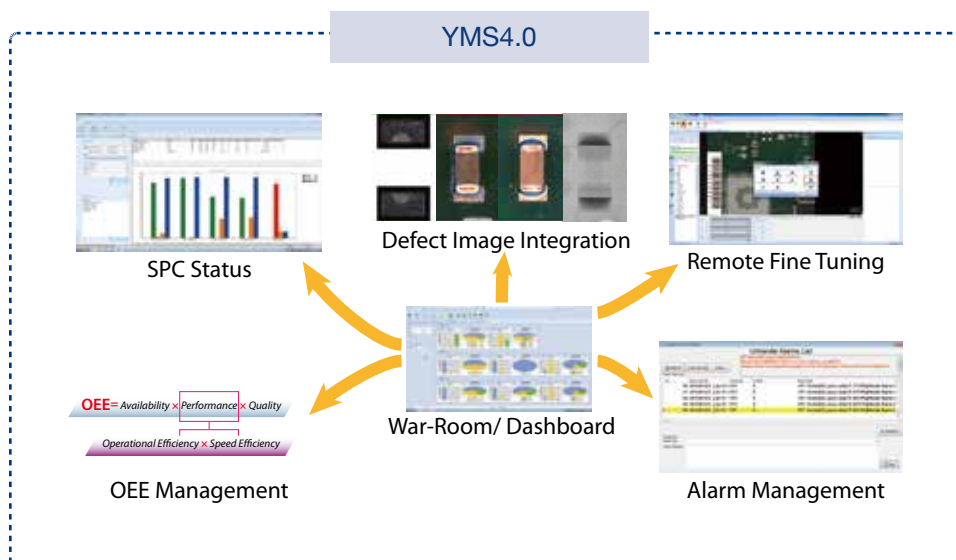
Reviewing defects on TR7700QI is a breeze with intuitive profile visualization.



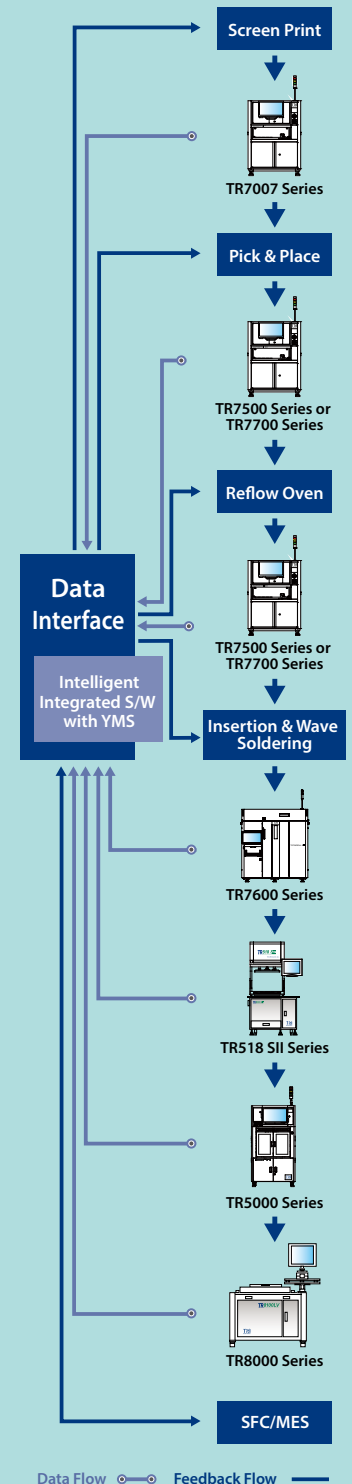
Easy to identify defects shown in specialized display modes

Industry 4.0 Production Line Integration

YMS 4.0 lets TRI inspection solutions interface and share inspection data with the shop floor system and other inspection machines. With the central console an operator can control, track, analyze and optimize the inspection process across the entire production line and obtain real actionable data to optimize production quality in the Industry 4.0 environment.



Yield Management System



- 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

Optical & Imaging System

Top View Camera	4 or 12 Mpix camera (factory setting)	
Lighting	Multi-phase True Color LED	
3D Projection	Quad Digital Fringe Projectors	
Optical Resolution	4 Mpix 15 μ m	12 Mpix 10 μ m
3D Height Range	0 - 20 mm	0 - 10 mm

Imaging Method Stop-and-Go

Imaging/Inspection Speed*

	4 Mpix 15 μ m	12 Mpix 10 μ m
Standard	21 cm ² /sec	14.5 cm ² /sec
CoaXPress	n/a	23 cm ² /sec

*Depending on component distribution

Pre-/Post-Reflow Inspection Functions

Component	Missing, Tombstoning, Billboarding, Polarity, Rotation, Shift, Wrong Marking (OCV), Defective, Upside Down, Extra Component, Foreign Material, Lifted Component
Solder Joint	Solder Fillet Height, Solder Volume %, Excess Solder, Insufficient Solder, Bridging, Through-hole Pins, Lifted Lead, Golden Finger Scratch/ Contamination

X-Y-Z Table & Control

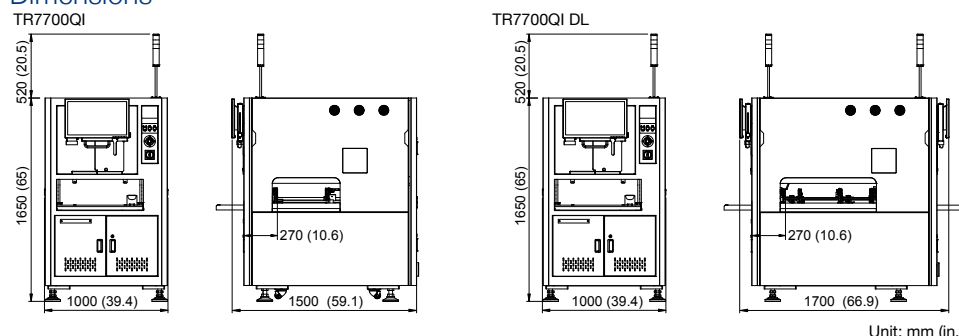
Ball screw + AC servo with motion controller

X-Y-Z Axis Resolution 1 μ m with linear encoder

PCB & Conveyor System

	TR7700QI		TR7700QI DL	
Top View Camera	4 Mpix	12 Mpix	4 Mpix	12 Mpix
Optical Resolution	15 μm	10 μm	15 μm	10 μm
Min. PCB Size	50 x 50 mm (1.97 x 1.97 in.)			
Max. PCB Size	510 x 460 mm (20.08 x 18.11 in.)		510 x 310 mm x 2 lanes (20.08 x 12.20 in. x 2 lanes) 510 x 590 mm x 1 lane (20.08 x 23.23 in. x 1 lane)	
PCB Thickness	0.6 - 5 mm			
PCB Transport Height	880 - 920 mm (34.65 - 36.22 in.)			
Max. PCB Weight	3 kg (6.61 lbs)			
PCB Carrier/Fixing	Step motor driven			
Clearance				
Top	40 mm (1.57 in.)	50 mm (1.97 in.)	40 mm (1.57 in.)	50 mm (1.97 in.)
Bottom	40 mm (1.57 in.) [100 mm (3.94 in.) optional]	40 mm (1.57 in.) [100 mm (3.94 in.) optional]	40 mm (1.57 in.) [100 mm (3.94 in.) optional]	40 mm (1.57 in.) [100 mm (3.94 in.) optional]
Edge	3 mm (0.12 in.) [5 mm (0.2 in.) optional]	3 mm (0.12 in.) [5 mm (0.2 in.) optional]	3 mm (0.12 in.) [5 mm (0.2 in.) optional]	3 mm (0.12 in.) [5 mm (0.2 in.) optional]

Dimensions



Unit: mm (in.)

	TR7700QI	TR7700QI DL
Weight	650 kg (1433 lbs)	685 kg (1510 lbs)
Power Requirement	200 - 240 VAC, 15 A, single phase, 50/60 Hz, 3 kVA	

Options

Barcode Scanner, Repair Station, Offline Editor, OCR, Yield Management System (YMS 4.0), YMS Lite, Support Pin, CoaXPress Module Upgrade

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TRI 德律 TRI INNOVATION

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