Compact Model

3D AOI

AUTOMATED OPTICAL INSPECTION

TR7700QC SII SERIES

- High-Performance 3D Inspection of Components and Solder Joints
- Industry-leading Inspection Speed up to 57 cm²/sec
- User-Friendly Programming and Flexible Algorithms

Real Time SPC Trends

40 mm
3D Height Range up to 40 mm

Smart Factory Ready

TRI innovation

*Optional feature.

TR7700QC SII si

Core Features 3D AOI Solution

The TR7700QC SII 3D AOI is equipped with essential inspection functionalities for multiple electronics manufacturing industry applications. The Smart 3D AOI features user-friendly programming for easy setup, flexible inspection algorithms, and compliance with the latest Smart Factory standards.

- High Speed up to 57 cm²/s
- Tall Component Inspection
- AI-powered Inspection
- Flexible Algorithms
- Foreign Material Detection
- Board Warpage Control

Smart Programming

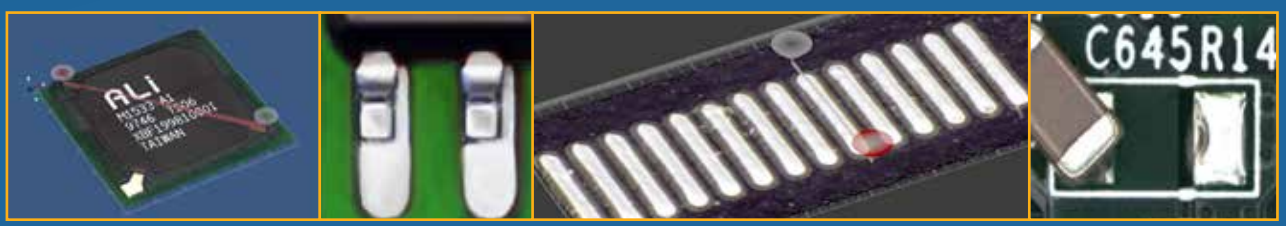
Realize seamless programming, improve your production efficiency and quickly setup your production line Inspection with TRI's Smart Programming. The user-friendly programming promotes ease of use and maintenance to achieve precise and accurate inspection results.

Scan Board → Setup Inspection → Inspect Board

Full Coverage Defect Detection

The 3D AOI system is powered by IPC-610-compliant algorithms that 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.

SOT Inspection | ECU Connector | True 3D Inspection | Character Recognition



IC Inspection | Lead Inspection | Solder Joint Inspection | Chip Shift

ERIES

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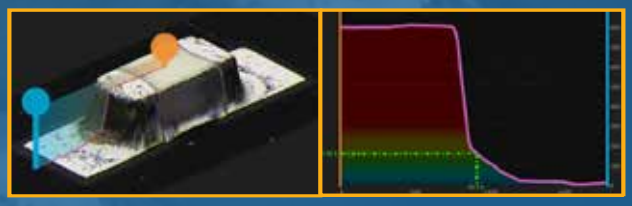
Accurate Height Measurements

The TR7700QC SII can accurately measure the solder and component height. The 3D AOI also features the Multi-Step Function, which enables efficient inspection of components with different heights, up to 40 mm.



3D Height Profile

Tall Component 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.

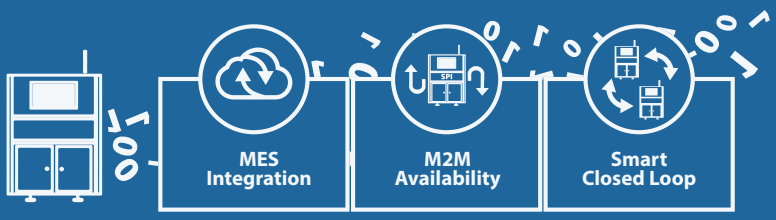
Foreign Material Detection

Minimize false calls and perform no escape inspections with TRI's Foreign Material Detection feature. TRI's Optical Inspection solutions utilize auto-learning of PCB designs to detect and identify additional components, solder balls, fibers, and other foreign objects, effectively eliminating these defects.

Foreign Object Detection

Smart Factory Ready

TRI's Inspection Solutions promote full traceability and data exchange by generating Big Data for your MES Applications, which is essential for optimizing your production's yield rate, enabling the Connected Factory. TRI's solutions comply with Industry 4.0 standards like the IPC-Hermes-9852, the IPC-DPMX, and the Connected Factory Exchange (IPC-CFX).



Yield Management System 4.0

YMS 4.0 Yield Management System

Yield Management System 4.0 (YMS 4.0) by TRI is a centralized monitoring software that improves production line yield rates. It provides real-time visibility, remote control, and alarms of the inspection machines in the production line.

Defect Image Analyzer

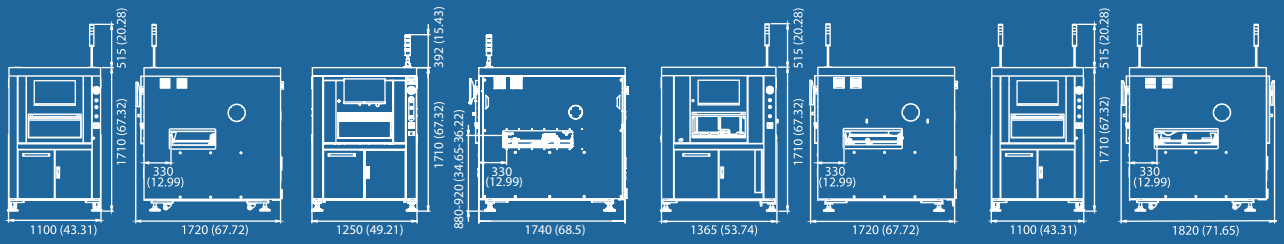
IPC CFX QPL LISTED

Specifications — TR7700QC SII SERIES

Model		TR7700QC SII	TR7700MQC SII	TR7700L QC SII	TR7700QC SII DL
Imaging System	High Speed Camera	12 MP			
	Optical Resolution	10 µm / 12 µm / 15 µm			
	Inspection Speed	10 µm: 25 cm²/sec, 12 µm: 37 cm²/sec, 15 µm: 57 cm²/sec			
	Max. 3D Height Range	40 mm (1.57 in.)			
	3D Technology	Quad Digital Fringe Projectors			
	Lighting	Multi-phase True Color LED			
Pre-/Post-Reflow Inspection Functions	Component Defects	Missing, Tombstoning, Billboarding, Polarity, Rotation, Shift, Wrong Marking (OCV), Defective, Upside Down, Extra Component, Foreign Material, Lifted Component			
	Solder Joint Defects	Solder Fillet Height, Solder Volume %, Excess Solder, Insufficient Solder, Bridging, Through-hole Pins, Lifted Lead, Golden Finger Scratch/ Contamination			
X-Y-Z Axis Control		Ballscrew + AC Servo with Motion Controller			
X-Y-Z Axis Resolution		1 µm			
Inspect Performance (on Calibration Target)	Height Repeatability	3σ<1 µm			
	Height Accuracy	+/- 2 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.)	660 x 690 mm (25.98 x 27.17 in.)	765 x 610 mm (30.12 x 24.02 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.)
PCB Thickness		0.6 - 5 mm (0.02 - 0.20 in.)			
PCB Transport Height [1]		880 - 920 mm (34.65 -36.22 in.)			
Max PCB Weight		3 kg (6.61 lb). Optional: 5 kg (11.02 lb)		3 kg (6.61 lb). Optional: 5 kg (11.02 lb) / 12 kg (26.46 lb)	3 kg (6.61 lb). Optional: 5 kg (11.02 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 (0.16 in.) / 5 mm (0.20 in.)			
Weight		910 kg (2,006.21 lb)	992 kg (2,186.99 lb)	1025 kg (2,259.74 lb)	960 kg (2,116.44 lb)
Power Requirement		200 – 240 VAC, single phase, 50 / 60 Hz, 3 kVA			
Communication Standard		SMEMA, SECS/GEM, IPC-CFX-2591, IPC-HERMES-9852			
Air Requirement		72 psi – 87 psi (5 – 6 bar)			
Optional		Barcode Scanner, Repair Station, Offline Editor, OCR, Yield Management System (YMS 4.0), Support Pin, AI Solutions (Requires GPU Upgrade)			

(1) Optional: 940-965 mm (SMEMA compatible)

Unit: mm (in.)



TR7700QC SII **TR7700MQC SII** **TR7700L QC SII** **TR7700QC SII DL**

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