

TR7700QE SERIES

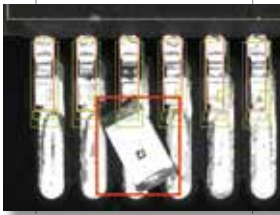


- High Precision Stop-and-Go 3D AOI
- Up to 40mm 3D Height Inspection Range
- Dual Driven Accurate Hardware Platform
- Quad Digital Fringe Pattern Technology

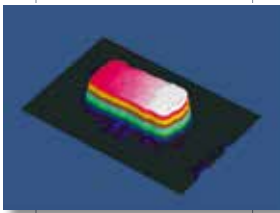
**AUTOMATED
OPTICAL INSPECTION**

TR7700QE FEATURES

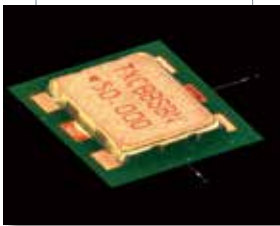
Defects



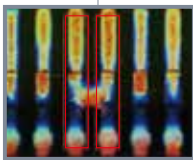
Foreign Material



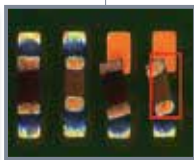
Lifted Components



Metal-cased Reflective Components



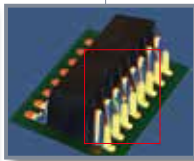
Bridging



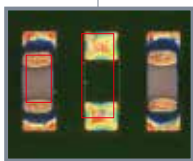
Skew



No Solder



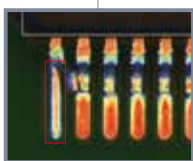
Lifted Lead



Missing



Tombstoning



Bent Pin



Upside Down

TR7700QE - The High Performance 3D AOI Solution

The TR7700QE Automated Optical Inspection combines the latest 2D and 3D technologies based on digital quad fringe pattern projection to revolutionize PCB assembly inspection. Save up to 50% of cycle time with the optional CoaXPress imaging upgrade!

Maximum Precision with 4-way Projection

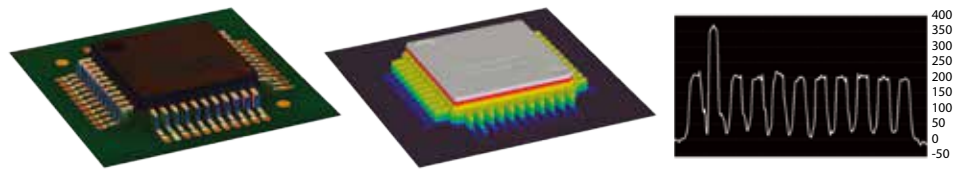
TR7700QE combines a high resolution orthogonal camera and quad multi-angle digital fringe pattern projection for best inspection coverage.

- **1** High Speed Top Camera
- **4**-way Adaptive Digital Fringe Projection
- **40** mm Height Inspection Range
- **Optional High Speed CoaXPress Upgrade**



Intuitive Inspection Results

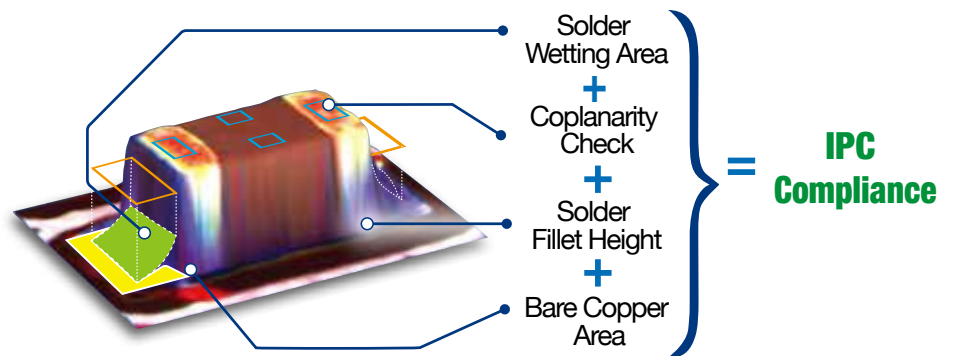
Reviewing defects on TR7700QE is a breeze with intuitive height profile visualization.



Easy to identify defects shown in specialized display modes

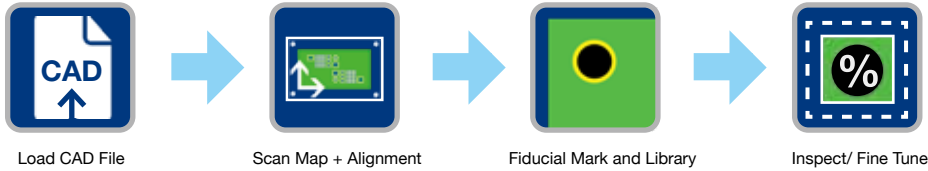
Four-Strategy Solder Inspection

TR7700QE analyzes several solder joint parameters to locate non-compliant soldering defects.



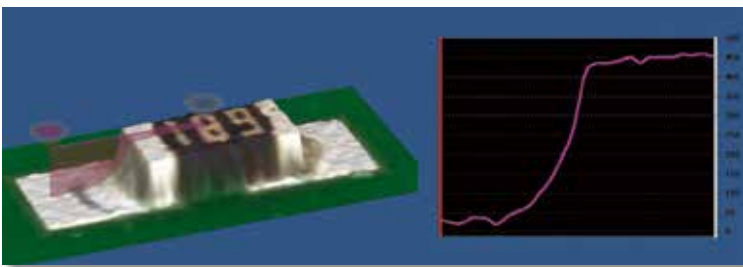
Smart Inspection Library

Ready to Inspect in minutes, quickly setup your production line Inspection with TRI's preloaded Smart Inspection Library.



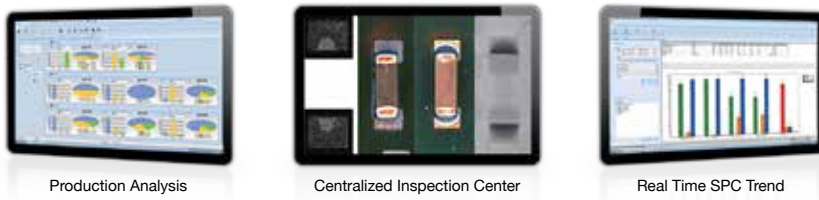
Complete 3D PCB Assembly Inspection

TR7700QE ensures all visible solder joints meet IPC specifications or your chosen criteria.



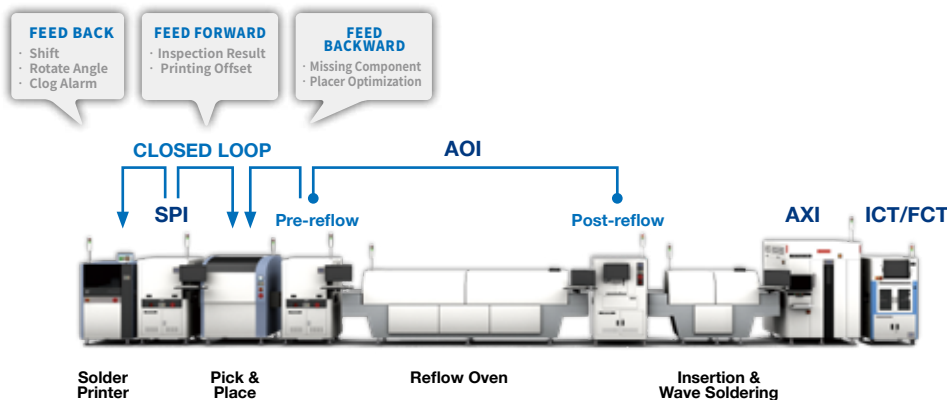
Advanced SPC

TRI's AOI software provides Real-time Monitoring and Statistical Process Control of production for Yield Improvement and quickly Reducing Rework Costs.

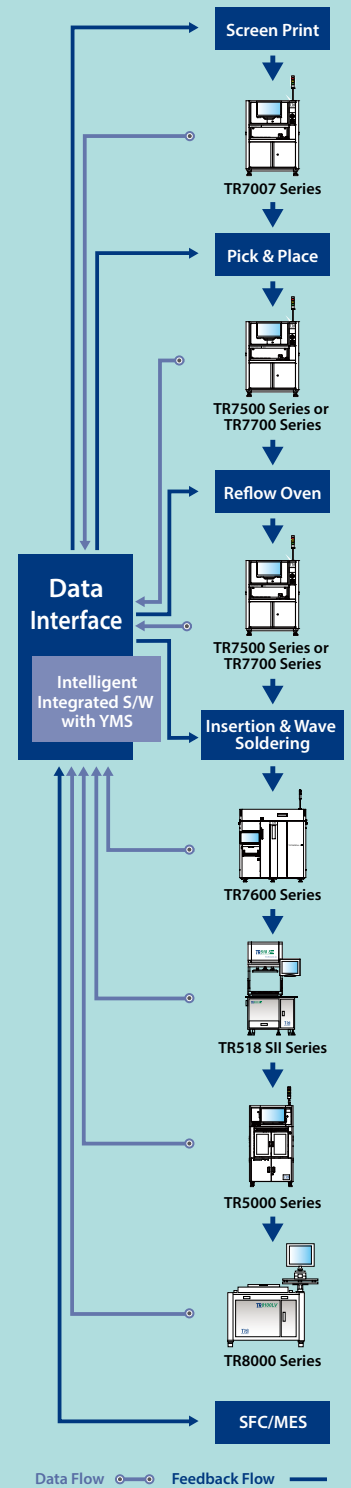


Smart Factory Solution

Improve the production's print and placement performance with TRI's Feedback and Forward Ready capabilities. Enjoy the benefits of YMS 4.0, TRI's Industry 4.0 Solution for Smart Factories. YMS 4.0 assures your Closed Loop process integration and optimization from Solder Inspection to MDA Testing.



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	12 MP camera	
Lighting	Multi-phase true color LED, Coaxial lighting	
3D Projection	Quad Digital Fringe Projectors	
Optical Resolution	10 μm	15 μm
3D Height Range	0 - 40 mm*	
Imaging Method	Stop-and-Go	

* Requires Z axis control. The default 3D height is 0 - 20mm

Imaging/Inspection Speed*

	10 μm	15 μm
Standard	13.5 cm^2/sec	30 cm^2/sec
CoaXPress	23 cm^2/sec	50 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*

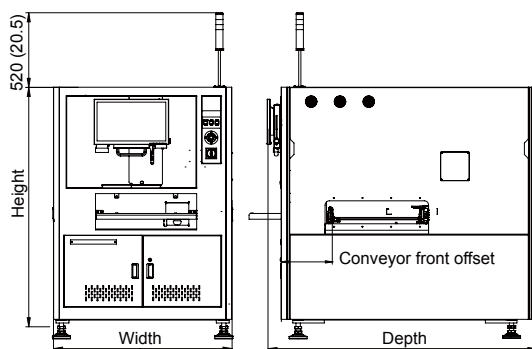
X Axis	Ballscrew + AC servo with motion controller (Linear motor optional)
Y Axis	Dual driven ballscrew + AC servo with motion controller
Z Axis	Ballscrew + AC servo with motion controller
X-Y-Z Axis Resolution	1 μm

* Z Axis is optional

PCB & Conveyor System

	TR7700QE	TR7700L QE	TR7700QE DL
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 610 mm (25.98 x 24.02 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 lanes)
PCB Thickness	0.6 - 5 mm (24 - 196 mils)		
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	50 mm (1.97 in.)		
Bottom	40 mm (1.57 in.)		
Edge	3 mm (0.12 in.). Optional: 5 mm (0.2 in.)		

Dimensions



	TR7700QE	TR7700L QE	TR7700QE DL
Width	1100 mm (43.3)	1250 mm (49.2)	1100 mm (43.3)
Depth	1730 mm (68.1)	1880 mm (74.0)	1830 mm (72.0)
Height	1750 mm (68.9)		
Conveyor front offset	355 mm (14)		
Weight	920 kg (2028 lbs)	1170 kg (2579 lbs)	950 kg (2094 lbs)
Power Requirement	200 - 240 VAC, single phase, 50/60 Hz, 3 kVA		
Air Requirement	72 psi - 87 psi (5 - 6 bar)*		72 psi - 87 psi (5 - 6 bar)

* The TR7700QE & TR7700L QE require compressed air only if compressed air type stopper set is installed

Unit : mm (in.)

Options

Barcode Scanner, Repair Station, Offline Editor, OCR, Yield Management System (YMS 4.0), Support Pin, 3D Laser Module, CoaXPress Module Upgrade, Linear Encoder Module (for TR7700QE & TR7700QE DL)

Headquarters

7F., No.45, Dexing West Rd.,
Shilin Dist., Taipei City
11158, Taiwan
TEL: +886-2-2832-8918
FAX: +886-2-2831-0598
E-Mail: sales@tri.com.tw
http://www.tri.com.tw

Linkou, Taiwan

No.256, Huaya 2nd Rd.,
Guishan Dist., Taoyuan
City 33383, Taiwan
TEL: +886-2-2832-8918
FAX: +886-3-328-6579

Hsinchu, Taiwan

7F., No.47, Guangming 6th
Rd., Zhubei City, Hsinchu
County 30268, Taiwan
TEL: +886-2-2832-8918
FAX: +886-3-553-9786

Shenzhen, China

5F.3, Guangxia Rd.,
Shang-mei-lin Area,
Fu-Tian Dist., Shenzhen,
Guangdong, 518049, China
TEL: +86-755-83112668
FAX: +86-755-83108177
E-mail: shenzhen@cn.tri.com.tw

Suzhou, China

B Unit, Building 4, 78 Xinglin St.,
Suzhou Industrial Park,
215123, China
TEL: +86-512-68250001
FAX: +86-512-68096639
E-mail: suzhou@cn.tri.com.tw

Shanghai, China

Room 6C, Building 14,
470 Guiping Rd., Xuhui Dist.,
Shanghai, 200233, China
TEL: +86-21-54270101
FAX: +86-21-64957923
E-mail: shanghai@cn.tri.com.tw

USA

832 Jury Court, Suite 4,
San Jose, CA 95112 U.S.A
TEL: +1-408-567-9898
FAX: +1-408-567-9288
E-mail: triusa@tri.com.tw

Europe

Gugelstr. 32
90443 Nuremberg
Germany
TEL: +49-9119-401-7827
FAX: +49-9119-400-6181
E-mail: trieurope@tri.com.tw

Japan

4-26-10 Ishiwara, Sumida-ku,
Tokyo, 130-0011 Japan
TEL: +81-3-6273-0518
FAX: +81-3-6273-0519
E-mail: trijp@tri.com.tw

Korea

No.207 Daewoo-Technopia,
768-1 Wonsi-Dong, Danwon-Gu,
Ansan City, Gyeonggi-Do, Korea
TEL: +82-31-470-8858
FAX: +82-31-470-8859
E-mail: trik@tri.com.tw

Malaysia

C11-1, Ground Floor, Lorong
Bayan Indah 3 Bay Avenue,
11900 Bayan Lepas Penang,
Malaysia
TEL: +604-6461171
E-mail: trimy@tri.com.tw

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