

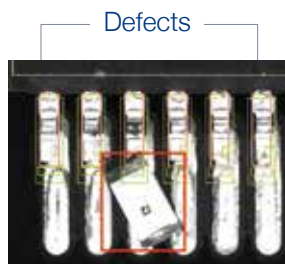
TR7700QE SERIES



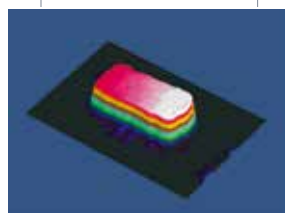
- High Accuracy Stop-and-Go 3D AOI
- Accurate 2D and 3D Coverage
- Quad Digital Fringe Pattern Technology
- Up to 20 mm 3D Height Inspection Range

**AUTOMATED
OPTICAL INSPECTION**

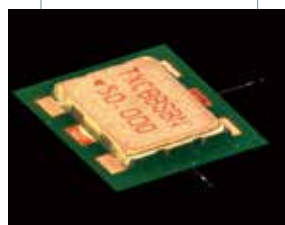
TR7700QE FEATURES



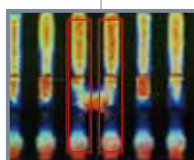
Foreign Material



Lifted Components



Metal-cased Reflective Components



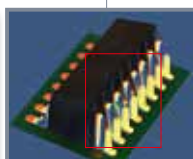
Bridging



Skew



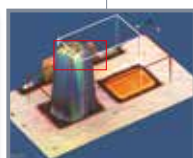
No Solder



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

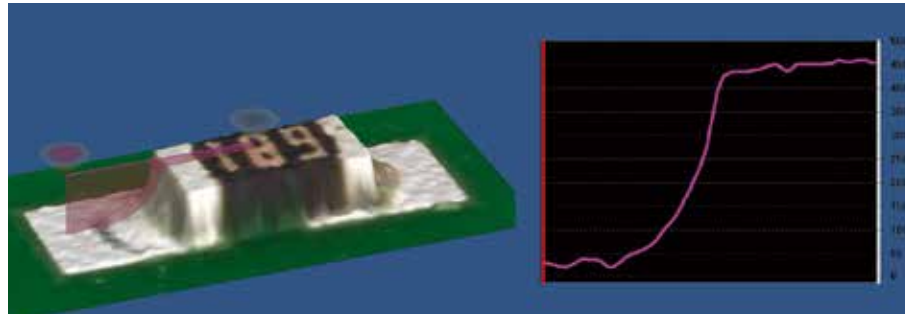
TR7700QE combines a high resolution orthogonal camera and quad multi-angle digital fringe pattern projection for best inspection coverage.

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



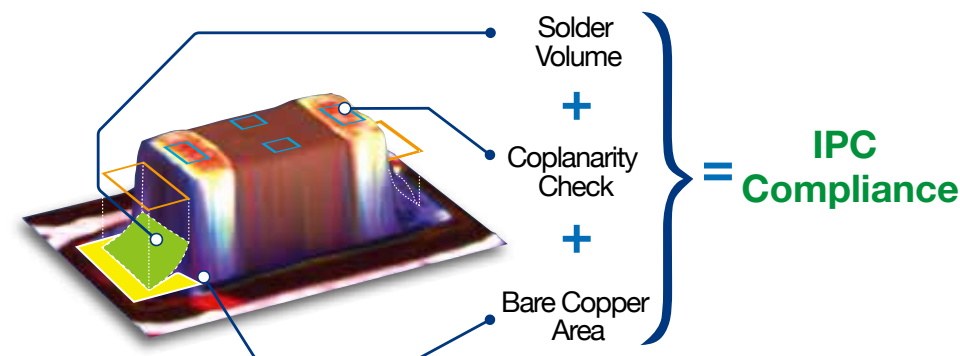
Complete 3D PCB Assembly Inspection

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



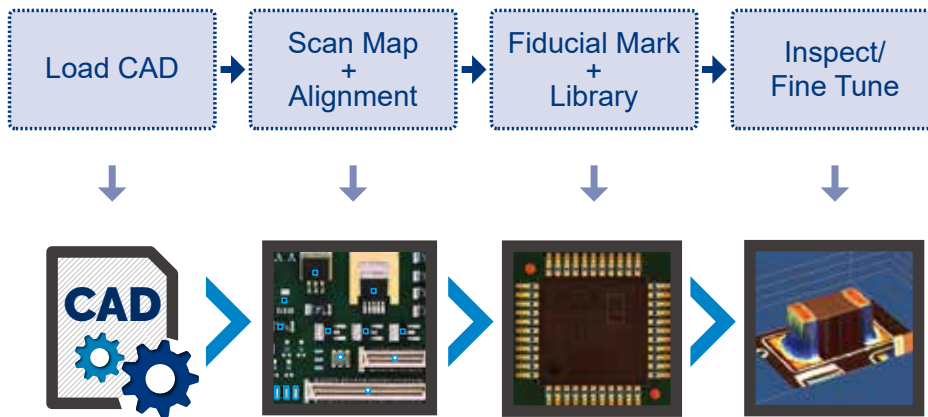
Three-Strategy Solder Inspection

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



From CAD to Inspection in Minutes

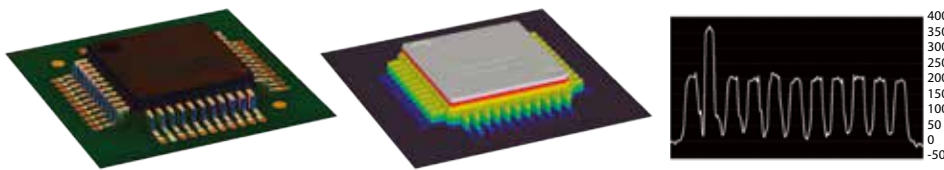
TRI's intuitive software and smart component libraries streamline new product introduction in a few simple steps.



TRI AOI programming flow in a few simple steps

Intuitive Inspection Results

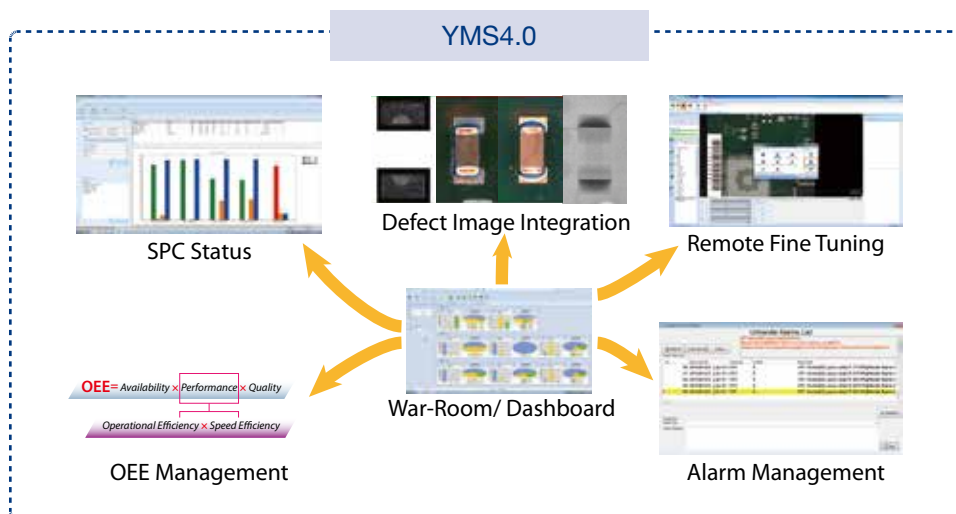
Reviewing defects on TR7700QE is a breeze with intuitive height profile visualization.



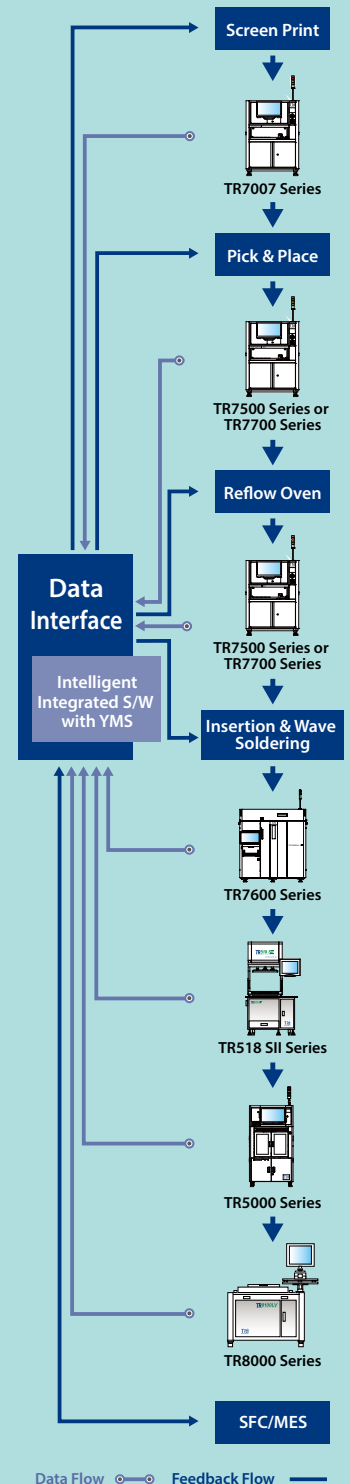
Easy to identify defects shown in specialized display modes

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 | 12 Mpix camera | |
| Lighting | Multi-phase true color LED, Coaxial lighting | |
| 3D Projection | Quad Digital Fringe Projectors | |
| Optical Resolution | 10 μ m | 15 μ m |
| 3D Height Range | 0 - 10 mm | 0 - 20 mm |
| Imaging Method | Stop-and-Go | |

Imaging/Inspection Speed*

| | | |
|-----------|---------------------------|-------------------------|
| | 10 μ m | 15 μ m |
| 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 μ m |

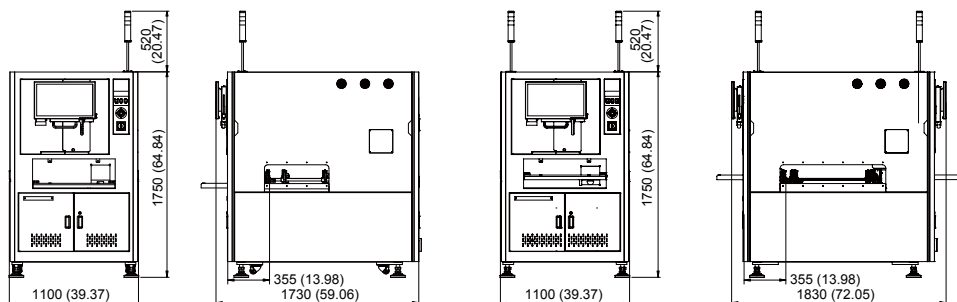
PCB & Conveyor System

| | | |
|----------------------|---|---|
| | TR7700QE | 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.) | 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.) [5 mm (0.2 in.) optional] | |

Dimensions

TR7700QE

TR7700QE DL



| | | |
|-------------------|--|-------------------|
| | TR7700QE | TR7700QE DL |
| Weight | 920 kg (2028 lbs) | 950 kg (2094 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, 3D Laser, CoaXPress Module Upgrade

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TRI 德律 TRI INNOVATION

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