

# Conformal Coating Inspection SERIES



- Industry Leading Speed UV-Active Coating Inspection
- Smart Programming with Auto-Learning Functionality
- Accurate Coating Area Measurement

CONFORMAL COATING AUTOMATED  
OPTICAL INSPECTION

# CONFORMAL COATING INS

TRI Conformal Coating Inspection (CI) solutions combine a specialized optical design with multi-phase lighting to inspect UV-active Conformal Coatings and identify most typical coating defects.

## Reveal Typical Defects

TRI's CI software easily detects most common coating issues, including cracks, bubble/voids, insufficient/excess coating and loss of adhesion.

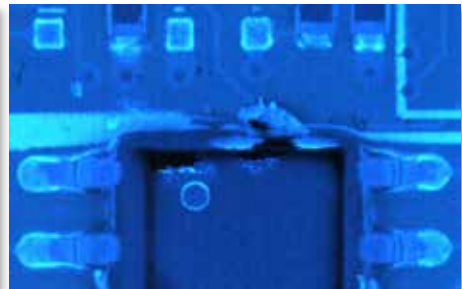
### CCI - Defect Detection in UV-active Material



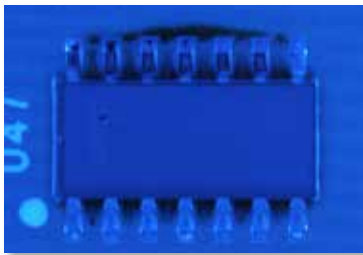
Bubble / Void



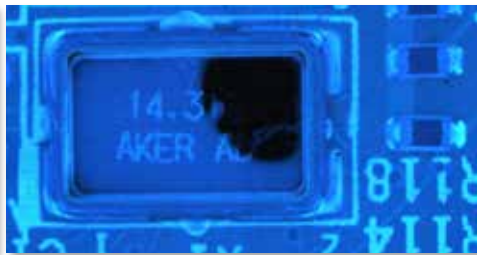
Contamination



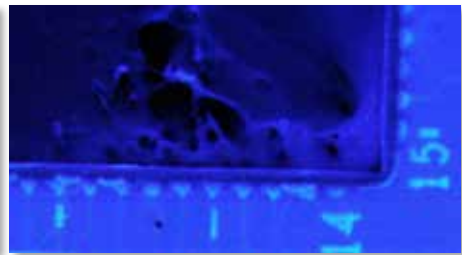
Crack



Insufficient Coating



Missing Coating

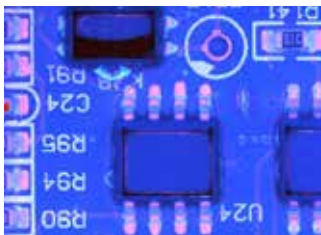


Smear

## Multi-phase Lighting Design

Advanced lighting and optical design combines multiple lighting types for maximum inspection accuracy.

### Multi-phase FOV Images: W/R + UV



UV+Red Light



Red Light



White Light

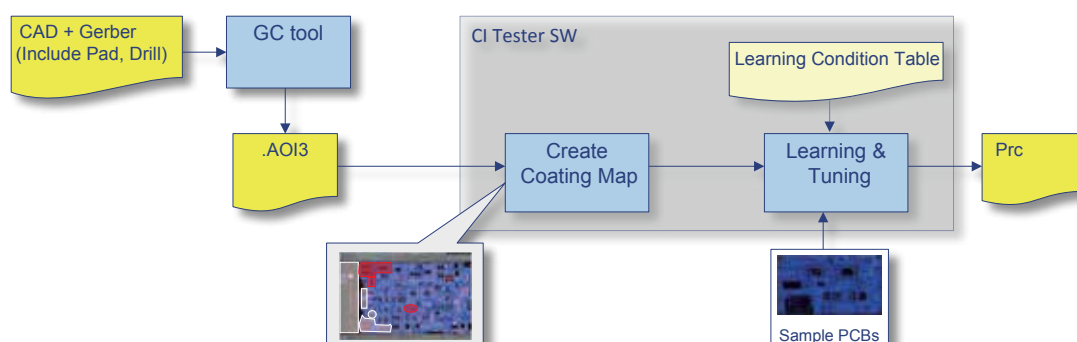


UV Light

## Smart Software UI

Smart software easily converts CAD data and creates coating maps for rapid deployment. Learning from sample PCBs, the system rapidly improves accuracy and reduces false calls.

### Program Development Flow



# SPECTION FEATURES

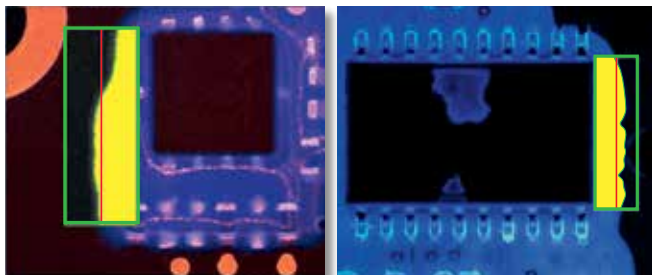
## User Interface

Intuitive editing tools enable "what you see is what you get" style programming of conformal coating inspection in a few simple steps.



## Excess Coating Measurement

Reliably measure coating distance from key areas on the PCB, and prevent undesirable coating spills near PCB connectors, sensitive components and designated mounting holes.



Spill Measurement

## Yield Management System 4.0

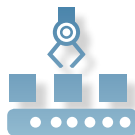
YMS 4.0 provides a M2M centralized inspection monitoring and remote access fine tuning throughout the SMT line. Built-in support for SPI, AOI, AXI and ICT systems helps track Alarms and SPC data to simplify production quality monitoring. YMS 4.0 is TRI's Industry 4.0 closed loop software to assure your production line Inspection quality and efficiency.



INCREASE  
EFFICIENCY



REDUCE  
MANPOWER



LEANER  
PRODUCTION LINE

The Yield Management System allows operators to aggregate information from individual TRI inspection systems for statistical analysis of production line defect rates, reviewing and fine-tuning inspection results, and identifying component defect trends and emerging production issues.



PRODUCTION  
ANALYSIS

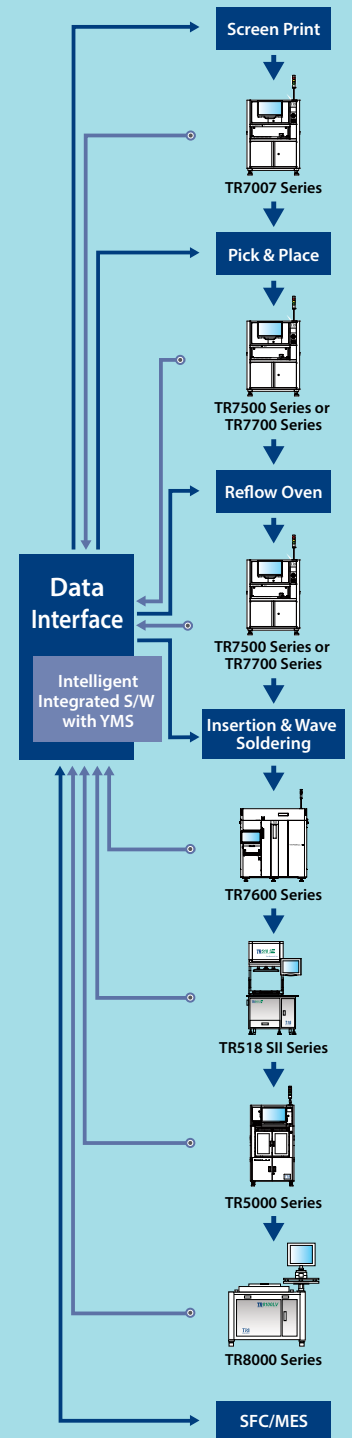


CENTRALIZED  
INSPECTION CENTER



REAL TIME SPC  
TREND

## Yield Management System



Data Flow Feedback Flow

- 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

	TR7500 SIII CI	TR7700 SII Plus CI	
Top View Camera	4 Mpix high speed color camera		
4 Angled View Cameras	1.3 Mpix	N/A	
Lighting	Multi-phase W/R + UV		
Optical Resolution	15 μm	10 μm	15 μm
Inspection Speed	60 cm <sup>2</sup> /sec	60 cm <sup>2</sup> /sec	120 cm <sup>2</sup> /sec
Imaging Method	Dynamic Imaging		

## Conformal Coating Inspection Functions

Missing Coating, Insufficient Coating, Crack, Bubble/Void, Splash/Smear/Contamination, Spill Measurement

## X-Y Table & Control

Ballscrew + AC servo with motion controller

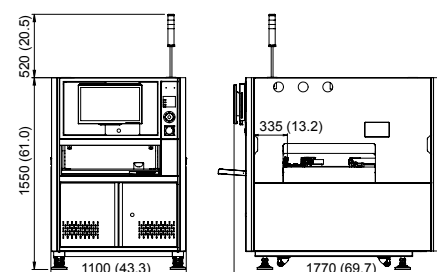
X-Y Axis Resolution 1  $\mu$ m

## PCB & Conveyor System

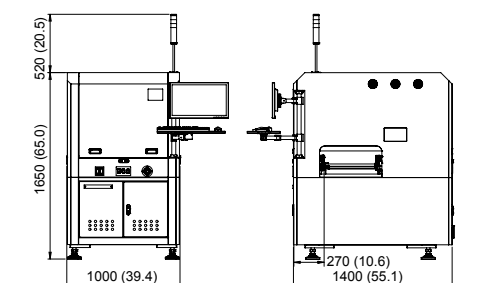
	TR7500 SIII CI	TR7700 SII Plus CI
Min. PCB Size	50 x 50 mm (1.97 x 1.97 in.)	
Max. PCB Size	510 x 460 mm (20.1 x 18.1 in.)	
PCB Thickness	0.6 - 5 mm (0.02 - 0.23 in.)	
PCB Transport Height	880 - 920 mm (34.6 - 36.2 in.)	
Max. PCB Weight	3 kg (6.61 lbs)	
PCB Carrier/Fixing	Step motor driven conveyor & pneumatic clamping	
Clearance		
Top	50 mm (1.97 in.)	50 mm (1.97 in.)
Bottom	40 mm (1.58 in.)	40 mm (1.58 in.) optional: 100 mm (3.94 in.)
Edge	3 mm (0.12 in.) optional: 5 mm (0.2 in.)	3 mm (0.12 in.) optional: 5 mm (0.2 in.)

## Dimensions

TR7500 SIII CI



TR7700 SII Plus CI



Unit: mm (in.)

	TR7500 SIII CI	TR7700 SII Plus CI
Weight	1030 kg (2270 lbs)	600 kg (1323 lbs)
Power Requirement	200 - 240 VAC, single phase, 50/60 Hz, 3 kVA	
Air Requirement	72 psi - 87 psi (5 - 6 bar)	

## Options

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

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