



3D Automatic Optical Inspection



PARMI

Pattern Recognition & Machine Intelligence

Xceed

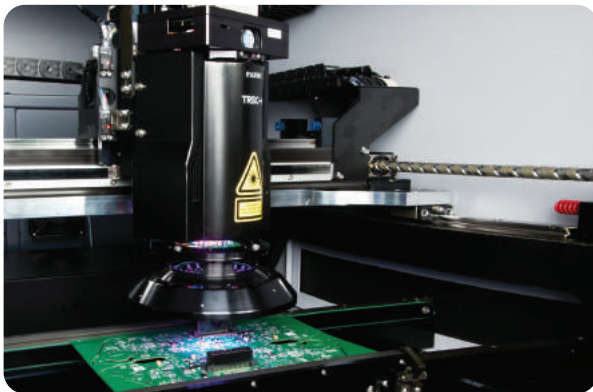
New Generation **3D AOI**

High Accuracy & High Speed



3D AOI Sensor Head (TRSC-1)

- 4 Mega Pixel Telecentric Lens Fast Speed CMOS camera
- RGB LED Lightings
- Extra light (3.8kg), Compact Size ($\frac{1}{3}$ compare to Camera Sensor)
- Easy Calibration and Maintenance

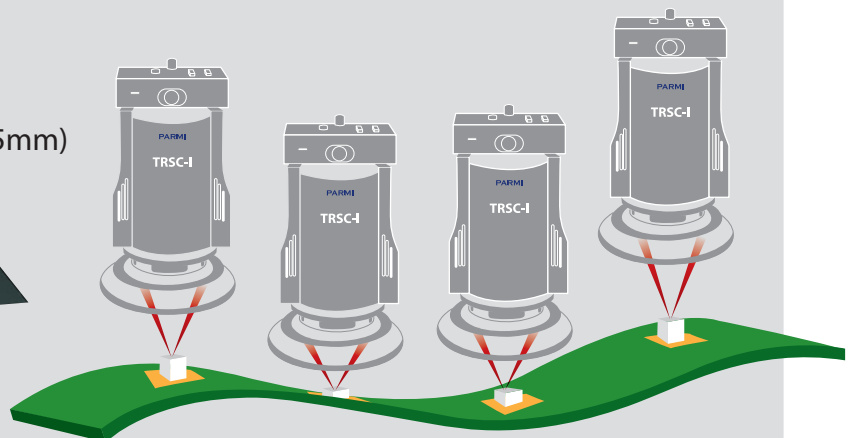
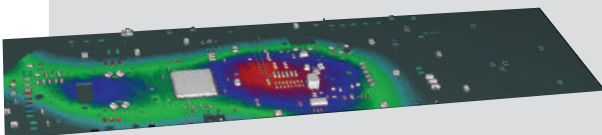


Laser Line Scan Method

- Accurate and Stable Measure with Laser Sheet Beam
- Soft Scan Motion by Applying Linear Scale
- Obtain 2D/3D Image to Inspect
- The Fastest Inspection Speed : 65cm²/sec @ 14x14μm
- Cycle time: For PCB 260mm(L) x 200mm(W)
@ 10 SEC (Including Loading & Unloading Time)

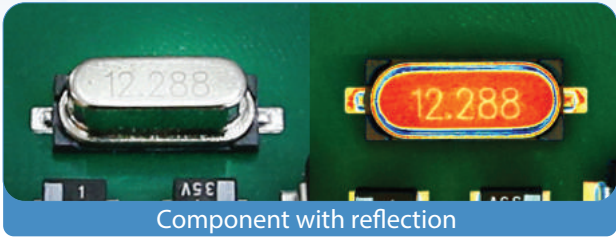
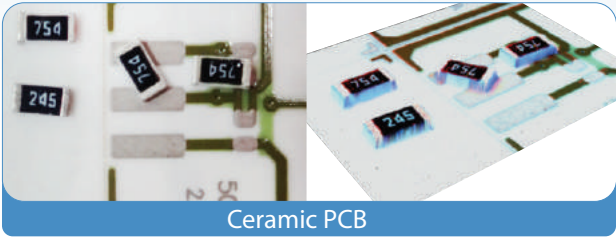
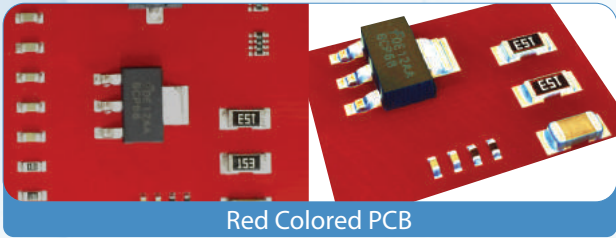
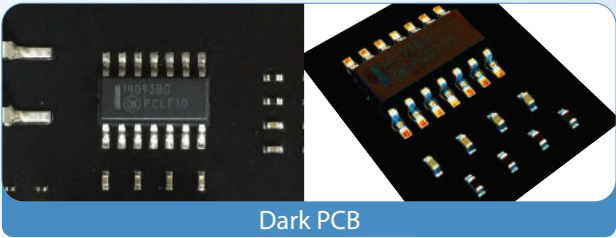
Warpage Tracking

- Real Time Z-axis control and take accurate measure on base
- Guarantee accuracy upto 10mm(±5mm) warpage



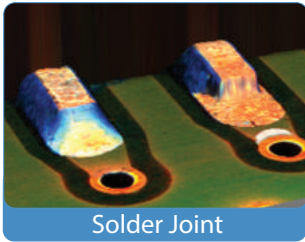
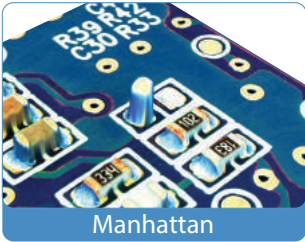
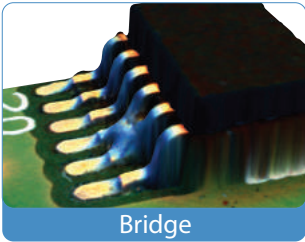
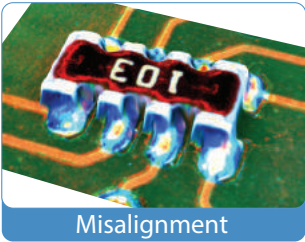
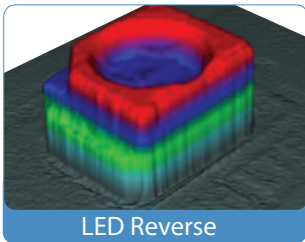
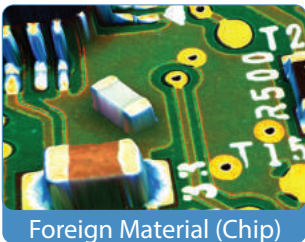
Smart Inspection

Inspection irrelevant to PCB texture, surface, and color



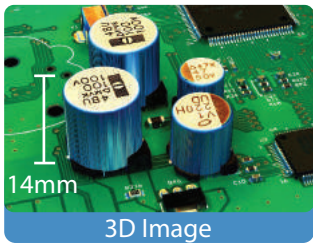
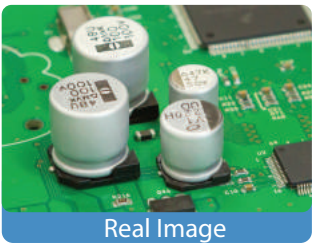
Real 3D Image

- Clear 3D Image with no Noise
- Detect every defect type



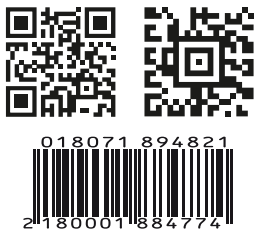
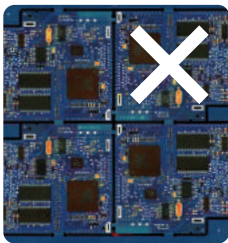
Eliminate Shadow Effect

- Apply Dual Laser Projection
- Inspect low component near high component



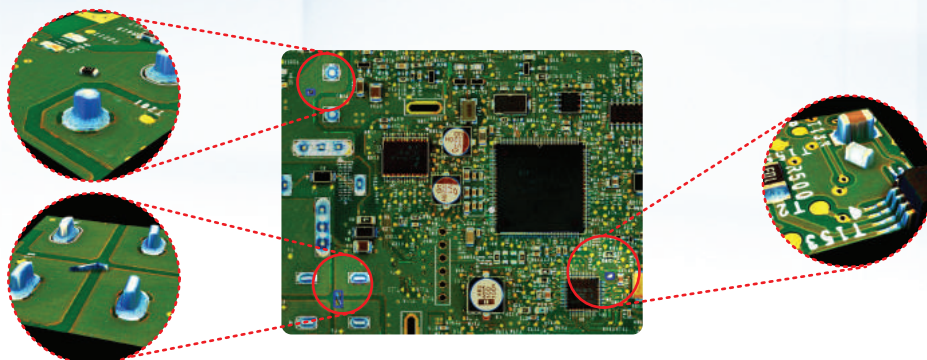
Barcode & Badmark Scan Recognition

- Increase Process Efficiency by having Barcord, Badmark Recognition and Inspection at the same time.
(1D, 2D, QR, Laser Marking, and Printing Barcode)



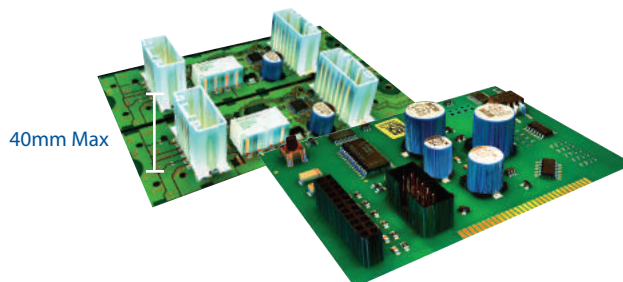
Foreign Material Inspection Solution

- Perform perfect inspection with 2D/3D Combination
- Foreign Material inspection outside Gerber Area (Foreign Material, Solder Ball, Other Foreign Material)
- No complicated teaching needed, No increase in Cycle Time



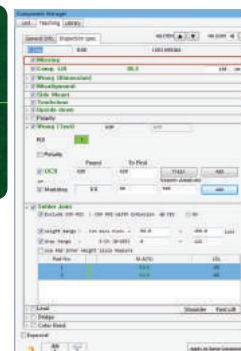
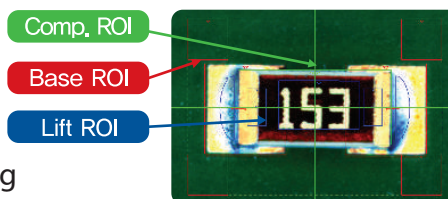
Inspect 40mm Max Height

- Inspect 40mm Max with Multi Scan
- Top Level in 3D Inspection Machine Industry



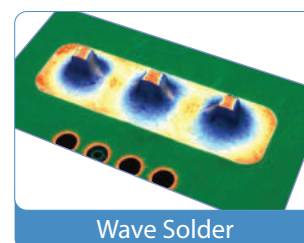
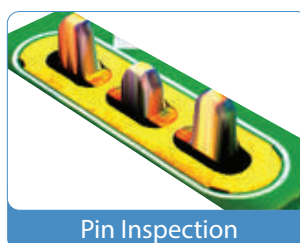
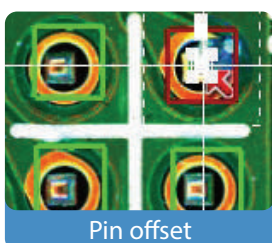
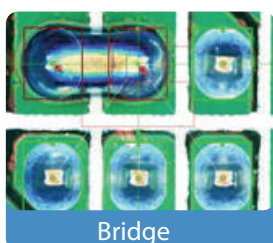
Maximize User Comfortability

- Fast and Easy Teaching Process
 - No need to set LED for each Component
 - 588 Components
 - Within 70min Teaching and Debugging
 - Component Type-Specific One Click Teaching
 - Basic Inspection Spec: (Missing, Lift, Size, Misalignment, Side Mount, Manhattan, Upside down)
- Teaching without Gerber Data
- Realize 95% or higher Non-adjusted Ratio



Through Hole Technology Process Response (Press Fit, Connector Pin, Wave Solder)

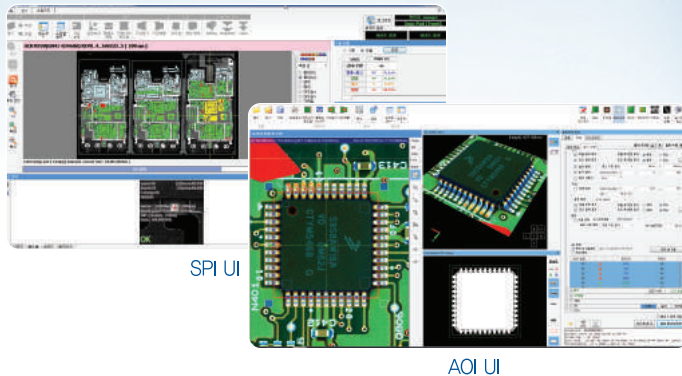
- Press Fit Inspection (Pin missing, Pin height, Pin offset)
- Wave Soldering Inspection (Missing, Solder, Bridge, Foreign Material etc.)



Easy Software

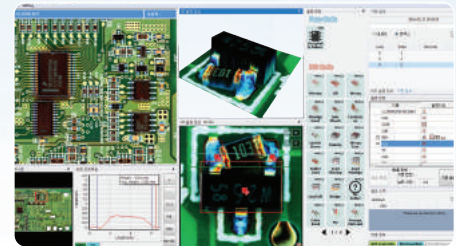
Friendly UI

- Same UI Configuration with SPI
- User-Specific UI Configuration with Docking Window
- Easy and Intuitive Method of Use



Veriworks

- Real Time Defect 2D/3D Image Analyzing Tool
- Provide Cross Section Profile Analyzing Tool
- Search Defect History with Barcode Scan



SPC

- Provide Information for Practical Statistical Process Analyzing
- Rapidly Monitor Mounter Accuracy
- Provide Variable and Statistical Information (Defect, Panel, Component, etc.)



xNet : Network Connectivity

- Analyze Defect Component with AOI and SPI's 2D/3D Image
- Run All Tasks in Web Browser (PC & Mobile Apps)
- One Screen Monitoring for All Machine Status (RMC)
- Manage Inspection Program Login Information
- Auto-Manage SPI & AOI S/W Version
- Analyze SPC Statistics
- Manage Component Library



Specifications



Model	Xceed	Xceed L	Xceed XL	Xceed XXL (LED)	Xceed D
TRSC-I 3D Sensor Camera					
Measuring Principle	Shadow Free Dual Laser Optical Triangulation				
Camera System	4 Mega Pixel				
Illumination	R.G.B LED Multi angle lighting				
Scan Speed (sq.cm/sec)	65 sq.cm/sec				
✓X-Y Resolution (μm)	14 x 14μm				
Lateral Length (mm)	32mm				
Height Resolution	0.4μm				
Performance					
Height Repeatability	[Less than 3mm : 3μm @ 3σ Limit] / [Higher than 3mm : 6μm @ 3σ Limit], On a certification target				
Height Accuracy	[Less than 3mm : 5μm @ 3σ Limit] / [Higher than 3mm : 25μm @ 3σ Limit], On a certification target				
Measurement					
Inspection Type	Dimension, Missing, Misalignment (X/Y/Rotation), Wrong (Body), Side Mount, Tombstone, Text (OCV/OCR), Wrong (Matching), Solder Joint, Lead Lift, Lead Missing, Lead Offset, Bridge, Color band, Pin, Coplanarity				
PCB Warpage	±5mm (2%)				
Barcode	1D/2D/QR Barcode Inspection using TRSC-I				
Max. Component Height	40mm				
Board Dimension					
Minimum Size (mm)	50 x 50				
✓Maximum Size (mm)	410 x 350	510 x 510	810 x 610	1,200 x 450	410 x 320
Board Thickness	0.4 ~ 5	0.4 ~ 5	0.4 ~ 10	0.4 ~ 10	0.4 ~ 5
Maximum Board Weight (kg)	2 kg	4 kg	6 kg	6 kg	2 kg
TOP/Bottom Edge Clearance (mm/ mm)	2.5 / 4.0	2.5 / 4.0	2.5 / 4.0	2.5 / 4.0	2.5 / 4.0
TOP side/Under side Clearance	41/50	41/50	41/50	41/50	41/30
System Dimension					
✓Dimensions (W x D x H)	850 x 1,205 x 1,525	950 x 1,365 x 1,525	1,310 x 1,540 x 1,525	1,720 x 1,350 x 1,525	850 x 1,580 x 1,510
Weight (kg)	750 kg	900 kg	1,100 kg	1,200 kg	950 kg
Conveyor Height (mm)	860 ~ 970				
Conveyor Speed Range	300 ~ 1000 mm/sec				
Flow Direction	L to R , R to L Factory Setting				
Conveyor Width Adjusting	Auto				
Computer & Console					
CPU	i7-5820K				
Operating System	MS-Windows 7 64 bit				
Display	23" LED				
Input	Mouse, Keyboard				
Enclosure	Conforms to CE regulations				
Supplies	AC 220V, 5 Kgf/sq.cm				
Software System					
Inspection Program	AOIworks				
Offline Teaching	AOIworks for Offline				
SPC & Process Monitoring	SPCworks for AOI				
Verification Stage	Veriworks				
System Diagnosis	AOI Manager				
Teaching	ePM-SPI				

※ Specifications in this catalog are subjected to change without notice for quality improvement



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