

PCI 100

PARMI Conformal Coating Inspection



Key Features

- First scan-based precision conformal coating inspection system
- Coverage, contamination, and bubble inspection
- Capable of measuring panel and component thickness with height measuring laser sensor
- Capable of inspecting coating and coating thickness on tall components with Z-axis
- Precise coating thickness measurement

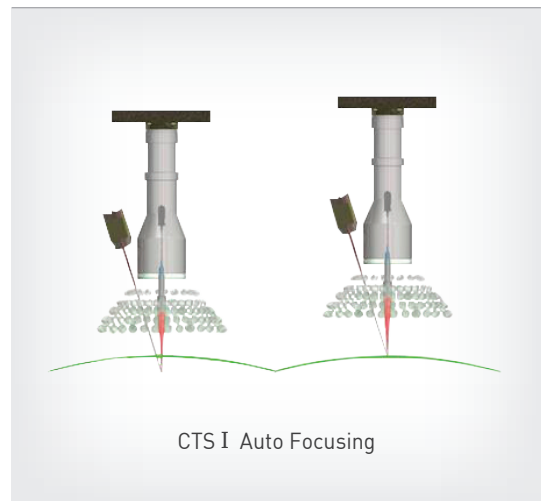
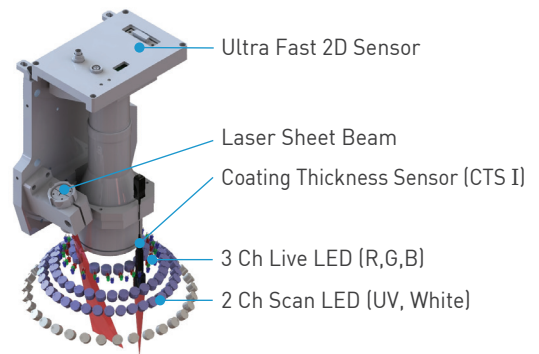
Scan Type Precision Conformal Coating Inspector

'PCI 100' is the first scan type high speed conformal coating inspection AOI machine with coverage and thickness measurement capability. Major inspecting applications are 1) Coating coverage inspection, 2) Contamination/Overspray detection, and 3) Bubble detection.

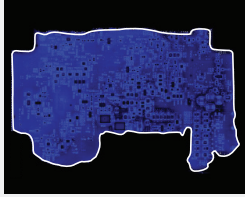
The machine's core technology is a vision unit (LSC) which consists of a high resolution camera, 2 channel LED illumination (UV & White light), a Laser module for height measurement, and an optional, CTS I sensor for coating thickness inspection. Camera image pixel resolution is 16.7 μ m and it utilizes a telecentric lens to get distortion free images. UV LED lighting is used for conformal coating inspection and white LED lighting is used for coating inspection area teaching, and bubble inspection. PARMi utilizes a very innovative simultaneous image acquiring technique from both UV LED and White LED lighting, so all inspections will be completed in a single scan.

The vision unit's working distance is guaranteed up to 80mm from the PCB surface, so coating and coating thickness inspection is possible even if there are tall thru-hole components on the panel. To inspect coating on tall components, the vision unit will obtain a focused clear image by moving its Z-axis. Then, a laser module which is internally installed in the vision unit will be used for auto-focusing of the coating thickness sensor. So the measurement reliability will be improved by first finding the measurement target height with the laser module, and then secondly moving in the Z-axis to locate the coating thickness sensor at the precise focal distance to the component being inspected.

Unlike the Field of View (FOV) inspection method, 'PCI 100' acquires the image by scanning the entire board. So programming will be simplified by designating coating/clear areas with the mouse on the scanned board image. Also, via hole and auto masking functions make the programming process much faster.

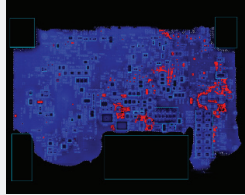


Coating Inspection



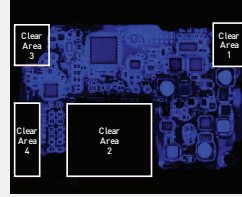
Step 1.
Designate "Coating Area"

Step 2.
Find "Uncoated Area"



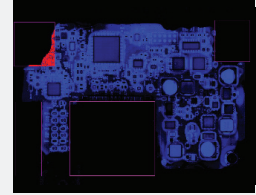
- Blue : Coated Area
- Black : Uncoated Area
- Red : Coating NG

Clear Inspection



Step 1.
Designate "Clear Area"

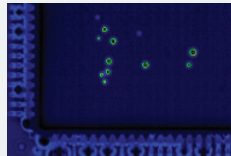
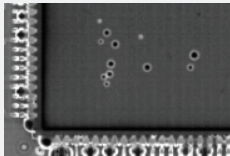
Step 2.
Find "Coated Area"



- Blue : Coated Area
- Black : Uncoated Area
- Red : Clear NG

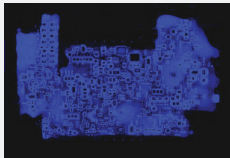
Bubble Inspection

- Bubble : Bright ring & Dark inside

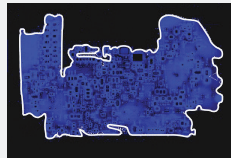


Easy Teaching

- Auto coating or clear ROI creation : Using golden sample

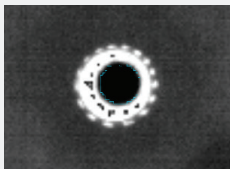


Golden Sample

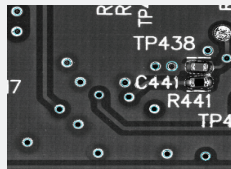


Automatic ROI Creation

Auto Hole Masking



Define Hole



Auto Hole Finding

Specifications

| Model | PCI 100 | PCI 100 L |
|---|--|---------------------|
| Vision Module : LSC | | |
| Camera | 4M Image Sensor / Telecentric Lens | |
| Illumination | UV LED + White LED | |
| Scan Speed (sq.cm/sec) | 80 | |
| Scan Width (mm) | 38 | |
| X-Y Resolution (μm) | 16.7 × 16.7 | |
| Panel Dimension | | |
| Min. Size (mm) | 50 × 50 | |
| Max. Size (mm) | 410 × 350 | 510 × 510 |
| Thickness (mm) | 0.4 ~ 5 | |
| Max. Weight (kg) | 2 | |
| Top/Bottom Edge Clearance (mm) | 2.5 / 3.3 | |
| Top/Bottom Clearance (mm) | 50 / 50 (Optional 60 / 60) | |
| System Dimension | | |
| W×D×H (mm) | 850 × 1,205 × 1,525 | 950 × 1,205 × 1,525 |
| Weight (kg) | 700 | 820 |
| Conveyor Height (mm) | 860 ~ 970 | |
| Conveyor Speed Range (mm/sec) | 300 ~ 800 | |
| Panel Flow Direction | Left to Right, Right to Left (Factory Setting) | |
| Conveyor Width Adjusting | Auto | |
| Computer & Console | | |
| CPU | i7-7800X or above | |
| Operating System | Windows 7 or above | |
| Display | 22" Monitor | |
| Software | | |
| Inspection Program | AOIworks | |
| Offline Teaching | AOIworks Offline | |
| SPC&Process Monitoring | SPCworksAOI, xNetHub | |
| Verification Program | Veriworks | |
| System Diagnosis | AOIManager, AOI DBManager | |
| Barcode(1D/2D) Recognition | Built in AOIworks | |
| (Option) Coating Thickness Sensor : CTS I | | |
| Coating Thickness (μm) | 50 ~ 700 | |
| Working Distance (mm) | 80 | |

※ Specifications in this catalog are subjected to change without notice for quality improvement. Rev.2

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