

Xceed^{BSI} *Bottom Side Inspection*



Bottom Side Inspector optimized for THT Process

'Xceed BSI' is a 2D & 3D AOI machine that inspects the bottom side of the PCB without flipping the board after wave or selective soldering. Since it is not necessary to flip the PCB, it eliminates unnecessary handling of the PCB and minimizes the footprint of the line. The main uses of the machine are to inspect the condition of the pins and solder joints after soldering of THD components. 'Xceed BSI' can also be used for general SMD components inspection on the bottom side of the PCB.

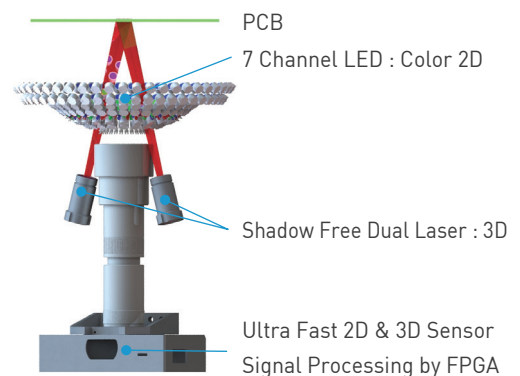
Solder joints generally have specular properties such as mirror surfaces. PARMi's 3D sensor uses a highly focused laser beam to accurately measure the mirror-like solder joints. In other words, based on actual data, not predictions or estimates, it accurately detects true defects without false calls. Main inspection items are older fillet shape (Area, Height), pin position and height. Separately, foreign material and contamination existing on the PCB are inspected without increasing the cycle time. In addition, our exclusive dual laser technology provides the capability to inspect components and pins up to 35mm high with the same precision as small components.

'Xceed BSI' utilizes the same software environment and algorithms as the standard Xceed machine. All programming can be performed in a consistent manner with the SMD inspection processes by using the same teaching, operation and inspection, verification, and SPC (Statistical Process Control) programs.

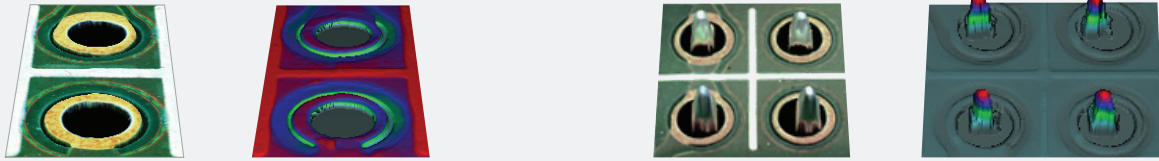
The precise sensor head driven by a linear motor minimizes the vibration of the machine, and the robust conveyor safely handles very heavy products. All hardware including the laser sensor are selected, engineered, and built for durability to ensure long MTBF and to minimize maintenance of the machine.

Key Features

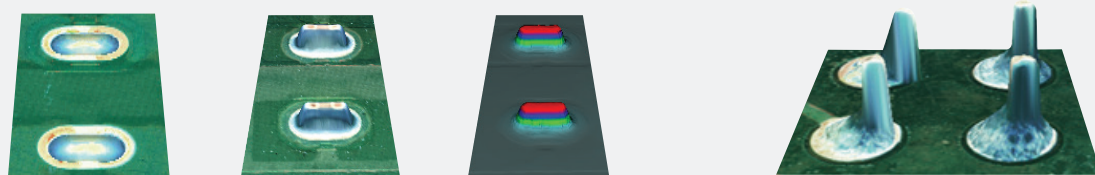
- 3D AOI for bottom side inspection
- Space saving by eliminating the need for PCB flip unit
- Primary inspection functions:
Wave or selective soldering including THD pin position and height, and solder joint inspection (Insufficient, Excessive, Bridging, etc.)
- Full inspection of mixed technology PCBs (SMD & THD)
- 100% inspection of PCB warp and foreign material with no cycle time penalty
- Perfect inspection of mirror-like solder joints by highly focused laser sheet beam



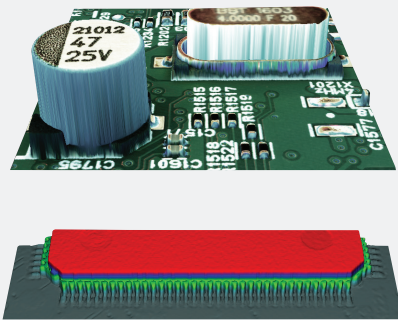
Pin Inspection before Soldering



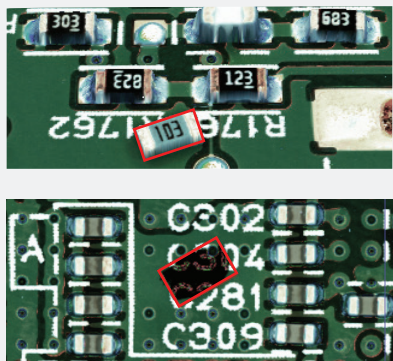
Solder Joint and Pin Inspection after Soldering



General SMD



Foreign material / Contamination



Specifications

Model	Xceed BSI
Vision Module : TRSC- I	
Measuring Principle	Shadow Free Dual Laser Optical Triangulation
Camera	4M Image Sensor / Telecentric Lens
Illumination	R.G.B LED 3 Stage Lightings
Scan Speed (sq.cm/sec)	85
Scan Width (mm)	37
X-Y Resolution (μm)	16.7 × 16.7
Height Resolution (μm)	0.5
Performance	
Height Repeatability	3 sigma < 3μm
Height Accuracy	5μm
Measurement	
PCB Warpage (mm)	±5 (2%)
Max. Component Height (mm)	35
Panel Dimension	
Min. Size (mm)	50 × 50
Max. Size (mm)	410 × 410
Thickness (mm)	1 ~ 12
Max. Weight (kg)	10
Top/Bottom Edge Clearance (mm)	4 / 4.1
Top/Bottom Clearance (mm)	100 / 59
System Dimension	
WxDxH (mm)	1,030 × 1,405 × 1,573
Weight (kg)	700
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	24" Monitor
Software	
Inspection Program	AOIworks
Teaching Program	ePM (Gerber, BOM, Cad)
SPC&Process Monitoring	SPCworksAOI, xNetHub
Verification Program	Veriworks
System Diagnosis	AOIManager, AOIDBManager
Barcode(1D/2D) Recognition	Built in AOIworks
[Option] Offline Teaching Program	AOIworks Offline

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

Rev.2

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