

True  Smart Factory Solutions
Powered by the AI Platform

ZENITH LiTE

World-Class True 3D Automated Optical Inspection



Perfect True 3D
Inspection Performance



Perfect PCB
Warp Compensation



Quick and Simple
Inspection Condition
Setting



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World-Class True 3D Automated Optical Inspection

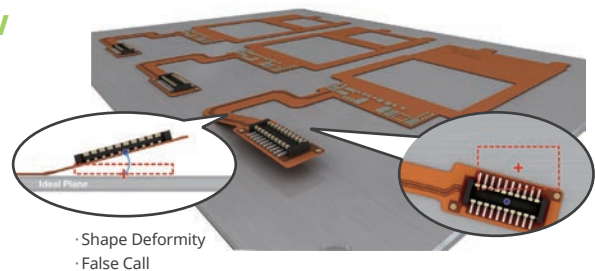
Zenith LiTE's patented AOI system effectively measures true profilometric component shapes, foreign materials, patterns, and solder joints on assembled PCBs to overcome the vulnerabilities and shortcomings of 2D AOI's



Perfect PCB Warp Compensation Solution

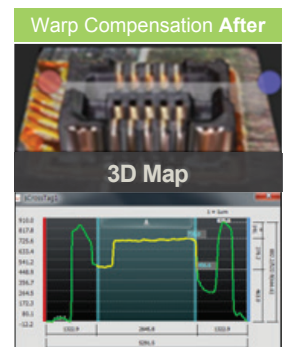
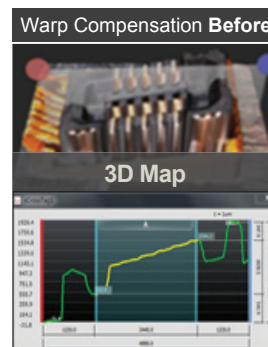
o PCB Environment after Reflow

- FPCB
- Slope
- Height Differences
- Local Board Warp/Rotation/Shrinkage/Expansion



o Minimization of False Call

- Koh Young's Warp Compensation provides a revolutionary solution to PCB warpage.



Template Management for Fast and Intuitive Programming

Zenith LiTE's intuitive interface makes setup easy, reducing programming time in package registration and setting of inspection conditions. The evaluation benchmark can then be easily managed by an operator, simplifying and speeding up programming, while also making identification universal.



- Step1.
For a Non-registered package



- Step2.
Choose a Package registration
 - package type
 - component type



- Step3.
Apply the selected package

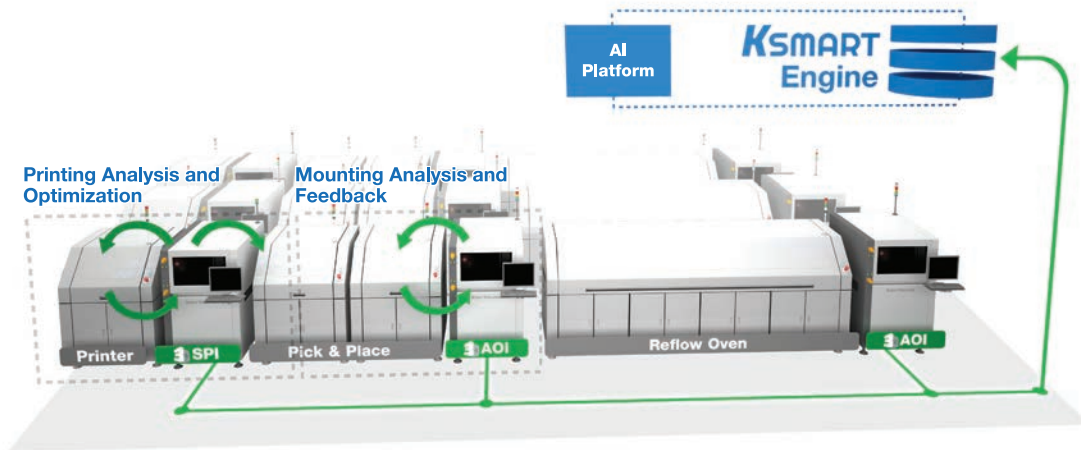


- Step4.
Select a relevant template registered on the server

Approx.
2 Times
Faster



KSMART: Cutting-Edge Process Optimization Tools for Smart Factory Realization

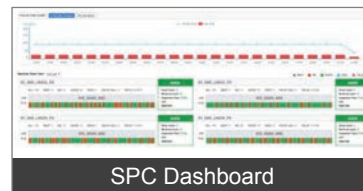


SPC@KSMART

Optional ☒

◦ Reliable 3D Data-based Statistical Process Control

The SPC@KSMART module helps operators perform critical process analyses and accelerate root cause analysis for increased equipment uptime, all from an intuitive graphical interface.



SPC Dashboard



Inspection Analysis



OPO (Offline Program Optimizer)@KSMART

Optional ☒

◦ Job Fine-tuning with Minimum Downtime

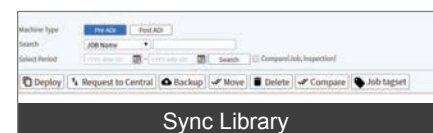
The Offline Program Optimizer makes program creation, debugging and updates seamless, allowing operators to automatically deploy modified inspection conditions and fine tune processes starting from the next PCB without stopping the production line or altering the production schedule.



LM (Library Manager) @KSMART

◦ Job and User Level Management

The KSMART Library Manager simultaneously enhances job and user level management, storing job files and inspection conditions in a centralized database and distributing the data to multiple AOIs in real-time.



Sync Library

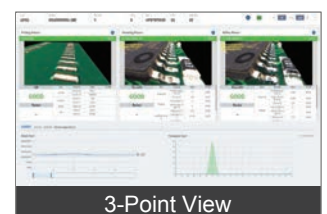


Link@KSMART

Optional ☒

◦ 3D data-based SPI-AOI communication solution

Merging images, trends, charts and inspection results including detailed analysis from Koh Young's 3D SPI and 3D AOI Systems for total line communication and process analysis, and tracing the root cause of defects by storing and communicating inspection information.



3-Point View

Must-check Requirements of 3D AOI System

| Requirements | | Solutions | |
|---|--|---|-------------------------------|
| Shadow Problem Solution | | • 3D Shadow Free Moiré Technology & 4 Way Projection | |
| Specular Problem Solution | | | |
| Shadowed Area between Tall Components | | | |
| Small (01005 inch) Component Insepection | | • Multi-Frequency Moiré Technology | |
| Wide Measurement Range + Accuracy (Measurement Range Problem) | | • Warp Compensation (Pad Referencing + Multi-Frequency Moiré Technology) | |
| Real time PCB Warp Compensation | | | |
| Dark component & White Body Component Location | | | |
| Component Body, Lead Coplanarity Inspection | | | |
| Solder Joint Profile Inspection | | • True 3D Measurement | |
| 3D Polarity Inspection | | | |
| Component Crack Inspection | | | |
| Inspection Items | Inspection Task | • Missing, Offset, Rotation, 3D Polarity, Upside down, OCV, Coplanarity, Solder fillet, Lifted lead, Billboarding, Tombstone, Bridging, Dimension | |
| Inspection Performance | Camera Resolution | 15μm | 20μm |
| | FOV Size | 30×30mm (1.18×1.18 inches) | 40×40mm (1.57×1.57 inches) |
| | Full 3D Inspection Speed | 22.9~33.6 cm²/sec (Inspection speed varies by PCB, and inspection condition.) | |
| | Height Accuracy (on KY Calibration Target) | • ±3% | |
| | Camera | • 4M Pixel High Speed Camera | |
| | Illumination | • IR-RGB LED Dome Styled Illumination | |
| PCB Handling | Max. Measurement Height | • 4mm | |
| | Conveyor Width Adjustment | • Automatic | |
| | Conveyor Fix Type | • Front / Rear Fixed (factory setting) | |
| Software | Supported Input Format | • Gerber data (274X, 274D), ODB++, Placement file, Mounter JOB file, Allegro, Zuken, Mentor (optional) | |
| | Programming S/W | • ePM-AOI, AOI GUI | |
| | Operating System | • AOI GUI | |
| | Statistical Process Control Tool | • SPC@KSMART | |
| | Operator User-friendliness | • Review Station | |
| | Operating System | • Remote Monitoring System | |
| Add-on Solutions | | • Library Manager@KSMART | |
| | | • KYCal: Auto Camera Calibration, Auto Illumination Calibration, Auto Height Calibration | |
| | | • Intel i7-3970X (6Core), 32GB, Window 7 Ultimate 64bit | |
| Add-on Solutions | • 1D & 2D Handy Barcode Reader | • Offline SPC Pro Station | • Foreign Material Inspection |
| | • 1D & 2D Inline Barcode Reader | • Standard Calibration Target | • Review Station |
| | • Offline Programming Station | • Remote Monitoring System | |
| Add-on Solutions | • SPC@KSMART | • OPO@KSMART | |

※ Above specifications are subject to change without notice.

| | M | | L | | XL | |
|--------------------------|--|---|--------------------------------------|--|--------------------------------------|--|
| | Single Lane | Dual Lane | Single Lane | Dual Lane | Single Lane | Dual Lane |
| Max. PCB Size (X x Y) | 330 X 330mm (12.9 x 12.9 inches) | Single Mode: 330 x 580 mm (12.9 x 22.8 inches) Dual Mode: 330 x 325.5mm (12.9 x 12.8 inches) | 510 x 510 mm (20.0 x 20.0 inches) | Single Mode: 510 x 580 mm (20.0 x 22.8 inches) Dual Mode: 510 x 320 mm (20.0 x 12.5 inches) | 850 x 690 mm (33.4 x 27.1 inches) | Single Mode: 850 x 580 mm (33.4 x 22.8 inches) Dual Mode: 850 x 320 mm (33.4 x 12.5 inches) |
| Min. PCB Size | 50 x 50 mm (1.9 x 1.9 inches) | | | | 70 x 70 mm (2.7 x 2.7 inches) | |
| PCB Thickness | 0.4 ~ 4 mm (0.01 ~ 0.15 inches) | | 0.4 ~ 5 mm (0.01 x 0.19 inches) | | 0.6 ~ 8 mm (0.02 ~ 0.31 inches) | |
| Max. PCB Weight | Standard: 2 kg (4.4 lbs), Heavy weight option: 5 kg (11.0 lbs) | | | | 10 kg (22.0 lbs) | |
| Machine Weight | 550 kg (1212.5 lbs) | 600 kg (1322.7 lbs) | 600 kg (1322.7 lbs) | 700 kg (1543.2 lbs) | 850 kg (1873.9 lbs) | 900 kg (1984.1 lbs) |
| Bottom Clearance | 50 mm (1.9 inches) | | | | | |
| Supplies | 200~240VAC, 50/60Hz Single Phase, 5Kgf/cm ² (0.45MPa) | | | | | |
| W | 820 mm (32.2 inches) | 820 mm (32.2 inches) | 1000 mm (39.3 inches) | 1000 mm (39.3 inches) | 1350 mm (53.1 inches) | 1350 mm (53.1 inches) |
| D | 1265 mm (49.8 inches) | 1445 mm (56.8 inches) | 1265 mm (49.8 inches) | 1445 mm (56.8 inches) | 1445 mm (56.8 inches) | 1445 mm (56.8 inches) |
| H | 1627 mm (64.0 inches) | 1627 mm (64.0 inches) | 1627 mm (64.0 inches) | 1627 mm (64.0 inches) | 1627 mm (64.0 inches) | 1627 mm (64.0 inches) |

