True 3D Smart Factory Solutions
Powered by the AI Platform

ZENITH UHS
Ultra High-Speed

World Fastest True 3D Automated Optical Inspection

- Ultra High Inspection Speed
- Perfect True 3D Inspection Performance
- 3D Data based SMT Process Control System

KOH YOUNG TECHNOLOGY
INTELLIGENT INSPECTION

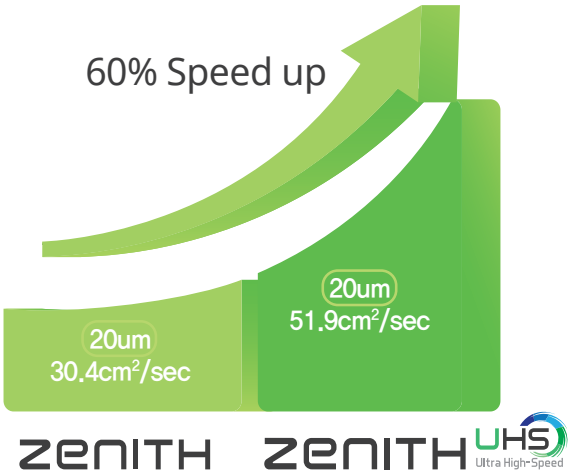
ZENITH UHS Ultra High-Speed

World Fastest True 3D Automated Optical Inspection

Zenith UHS'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

World-Fastest True 3D Inspection Performance

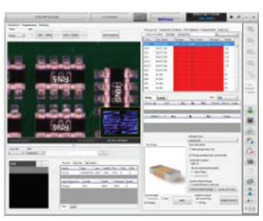
Measurement and Inspection of All kinds of Defects without Sacrificing Accuracy and Speed



- Detecting all kinds of defects including Missing, Offset, Rotation, Polarity, Upside down, OCV/OCR, Solder filet, Billboarding, Lifted Lead, Lifted Body, Tombstone, Bridging and more.
- The ultimate solution for achieving high-yield in all industries.

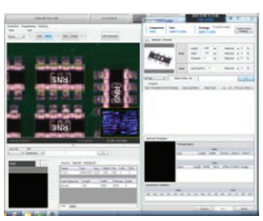
Template Management for Fast and Intuitive Programming

Zenith UHS'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

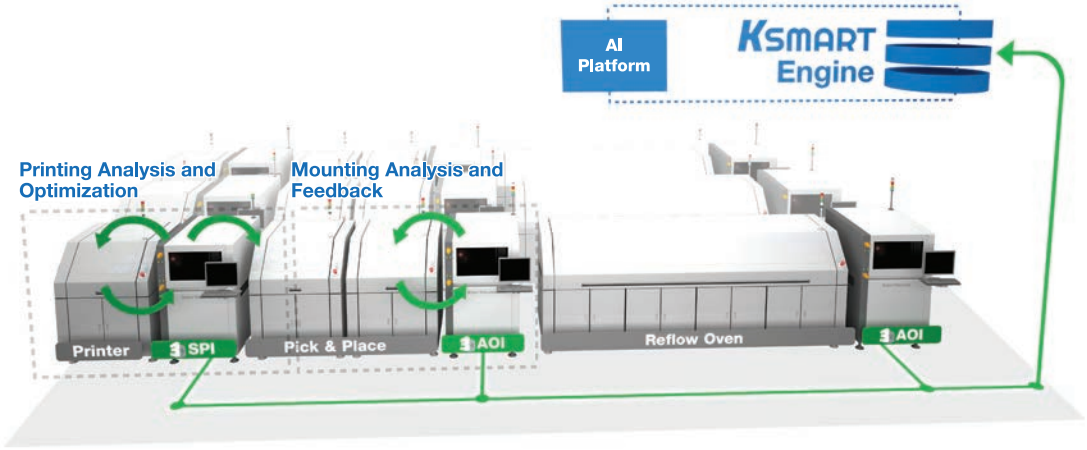


- Step3.
Apply the selected package

- 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

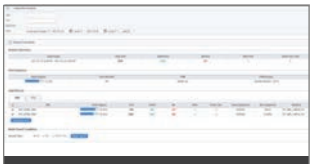
Optional

SPC Statistical Process Control

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

OPO @KSMART

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

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

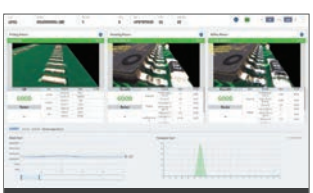
Link@KSMART

Optional

LINK @KSMART

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 & 8 Way Projection
Specular Problem Solution	
Shadowed Area between Tall Components	
Small (01005 inch) Component Insepction	• Multi-Frequency Moiré Technology
Wide Measurement Range + Accuracy (Measurement Range Problem)	
Real Time PCB Warp Compensation	• Warp Compensation (Pad Referencing + Multi-Frequency Moiré Technology)
Dark Component & White Body Component Location	• True 3D Measurement
Component Body, Lead Coplanarity Inspection	
Solder Joint Profile Inspection	
3D Polarity Inspection	
Component Crack Inspection	

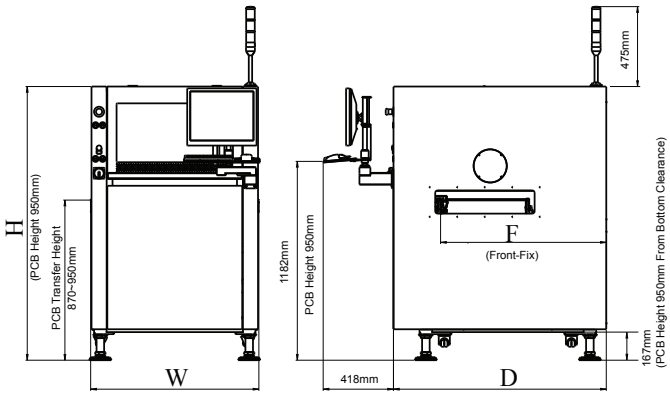
Inspection Items	Inspection Task	• Missing, Offset, Rotation, 3D Polarity, Upside down, OCV/OCR, Coplanarity, Solder fillet, Lifted lead, Billboarding, tombstone, Bridging, Dimension	
Inspection Perfor-mance	Camera Resolution	15μm	20μm
	FOV Size	42×42mm (1.65×1.65 inches)	56×56mm (2.20×2.20 inches)
	Full 3D Inspection Speed	27.6~51.9 cm^2/sec (Inspection speed varies by PCB, and inspection condition.)	
	Height Accuracy (on KY Calibration Target)	• ±3%	
	Camera	• 8M Pixel High Speed Camera	
	Illumination	• IR-RGB LED Dome Styled Illumination	
	Max. Measurement Height	• 5mm / 25mm (optional)	
PCB Handling	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 • Review Station	
	Operator User-friendliness	• Library Manager@KSMART • KYCal: Auto Camera Calibration, Auto Illumination Calibration, Auto Height Calibration	
	Operating System	• Intel i7-3970X (6Core), 32GB, Window 7 Ultimate 64bit	

Add-on Solutions

- 1D & 2D Handy Barcode Reader
- 1D & 2D Inline Barcode Reader
- Offline Programming Station
- Offline SPC Pro Station
- SPC@KSMART
- OPO@KSMART
- Foreign Material Inspection
- Review Station
- Up to 25mm Height Inspection
- Standard Calibration Target

※ 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	310 X 330 mm (12.2 x 12.9 inches)	Single Mode: 310 x 580 mm (12.2 x 22.8 inches) Dual Mode: 310 x 325.5 mm (12.2 x 12.8 inches)	490 x 510 mm (19.2 x 20.0 inches)	Single Mode: 490 x 580 mm (19.2 x 22.8 inches) Dual Mode: 490 x 320 mm (19.2 x 12.5 inches)	830 x 690 mm (32.6 x 27.1 inches)	Single Mode: 830 x 580 mm (32.6 x 22.8 inches) Dual Mode: 830 x 320 mm (32.6 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 ~ 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 Side 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)



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