Zenith brings a revolution to SMT process control, based on the world’s best full 3D measurement & inspection by visualizing, identifying and eliminating root cause of defects.
The Zenith AOI system measures the true profilometric shape of components, solder joints, patterns and even foreign materials on assembled PCBs, overcoming the shortcomings and vulnerabilities of 2D AOI.

8 Way Projection Technology

Zenith 3D based inspection technology provides solutions for conventional inspection problems.

- Multi-Frequency Moiré Technology
  Using Koh Young's patented Multi-Frequency height measurement technology, heights of various components can be accurately measured.

KSMART Library Manager 2.0

Using Koh Young’s patented Multi-Frequency height measurement technology, heights of various components can be accurately measured.

Quick and Easy Data Sharing

Performance of Zenith UHS is not interrupted by line and machine differences, and PCB environment such as color and material. The Inspection program shared by KSMART Library Manager 2.0 does not need additional fine tuning and can be applied directly.

Maximization of Data Utilization

Inspection Program Management Automation

- Good/NG Decision making based on height and volume measurement data
- Perfect detection of 3D coplanarity without additional option items such as a side camera
- True process optimization by process feedback based on a reliable inspection result
- 3D measurement data from 3D SPI, Pre-Reflow 3D AOI, Post-Reflow 3D AOI enables quantified Good/NG judgments, which are used for process optimization

Measurement and Inspection of All kinds of Defects

- 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.
Measurement based Inspection

The AOI system measures the true profilometric shape of components, solder joints, patterns and even foreign materials on assembled PCBs, overcoming the shortcomings and vulnerabilities of 2D AOI.

- Quantified inspection condition setting based on 3D measurement data
- Removal of uncertainties of production control by inspection result quantification
- Easy inspection condition setting and modification based on quantified inspection result
- Inspection condition recommendation by component
- Easy component addition/deletion/copy/location modification using JOB manager

- Specular Reflection
- Tall Obstacles Problem
- Measurement Range Problem
- Shadow Problem

KSMART Library Manager 2.0

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- 8 Way Projection Technology

Fast and Intuitive Programming: Inspection Condition Setting

Quick and Easy Data Sharing

JOB files containing quantified inspection conditions, OCV/OOCR images and nonstandard components are shared with all installed KY AOI systems by KSMART Library Manager 2.0.

Maximization of Data Utilization

Performance of Zenith UHS is not interrupted by line and machine differences, and PCB environment such as color and material. The inspection program shared by KSMART Library Manager 2.0 does not need additional fine tuning and can be applied directly.

- Performance of Zenith UHS
- Component condition recommendation
- Component Crack Inspection
- 3D Polarity Inspection

Measurement and Inspection of All kinds of Defects

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Measurement and Inspection of All kinds of Defects

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Perfect PCB Warp Compensation Solution

- Warp problems of big-sized PCB and FPCB after reflow seriously affect production quality.
  - Minimization of False Call
    - Koh Young’s Warp Compensation provides a revolutionary solution to PCB warpage

KSMART Link

- Process control data provided by Koh Young’s full 3D SPI and AOI are stored and shared in real time
- Software tool that monitors and analyzes defects and root cause of defects

SPC Pro

- SPC Pro provides various process analysis tools such as yield rate, NG analysis, PPM analysis, Gage R&R, Offset analysis, and more
- Able to set by order according to user’s wish through Scenario
Koh Young’s full 3D SPI and AOI are designed to identify and eliminate root cause of defects. The system analyzes defects and root causes using a variety of tools, including:

- PPM analysis
- Gage R&R analysis
- Offset analysis

SPC Pro provides various process analysis tools such as:

- Yield rate
- NG analysis

SPC Pro is a software tool that monitors and controls the process, based on the world’s best full 3D SMT process control system. It brings a revolution to SMT process monitoring.

### Specifications

**Machine Weight**
- Max.: 600 kg (1,322 lbs)
- Min.: 70 kg (154.3 lbs)

**Max. PCB Size**
- 330x330mm (13 x 13 inch)

**Max. PCB Weight**
- 144.5 mm (5.69 inch)

**Max. PCB Thickness**
- 126.5 mm (4.98 inch)

**Max. PCB Height**
- 144.5 mm (5.69 inch)

**Operating System**
- Intel i7-3970X (6 Core)
- 32GB RAM
- Windows 7 Ultimate 64 bit

**Conveyor Type**
- Front/Rear Fixed
- Automatic Review Station
- Foreign Material Inspection
- Warp Compensation
- KO SMART Remote Monitoring System

**PCB Handling**
- Single: 510x580mm (20 x 22.8 inch)
- Dual: 510x320mm (20 x 12.6 inch)

**Illumination**
- IR-RGB LED Dome Styled Illumination
- 4 Megapixel High Speed Camera
- ±3% Accuracy (on KY Calibration Target)

**Camera**
- 5.10 x 5.10mm (20 x 20 inch)
- 5.0 x 5.0mm (20 x 20 inch)
- 0.4 ~ 5.0 mm

**Software**
- KO SMART Library Manager 2.0
- KO SMART Remote Monitoring System
- Review Station
- KO SMART Bulk Reader
- KO SMART Library Manager 2.0
- KYCON Auto Component Calibration, Auto Illustration Generation, Auto Height Calculation
- 3-way (Front/Front, Rear/Rear, Front/Rear)

**Power Supply**
- 850W (1874 lbs)
- 0.02 ~ 0.31 inch

**Field of View (FOV)**
- Single: 510x580mm (20 x 22.8 inch)
- Dual: 510x320mm (20 x 12.6 inch)

**Camera Resolution**
- 4 Megapixel

**Processing Speed**
- 200 ~ 240VAC, 50/60Hz Single Phase, 5 Kgf/cm²

**Infrared (IR) Range**
- 30 × 30mm (1.18 × 1.18 inch)

**Height Accuracy**
- 18.3 ~ 30.4 cm

**Footprint**
- 800 × 850 × 985 mm (31.5 × 33.5 × 38.7 inch)

**Weight**
- 850 KG (1874 lbs)

**Dimensions**
- 800 x 850 x 580 mm (31.5 x 33.5 x 22.8 inch)

*Note: Some specifications are subject to change without notice.*