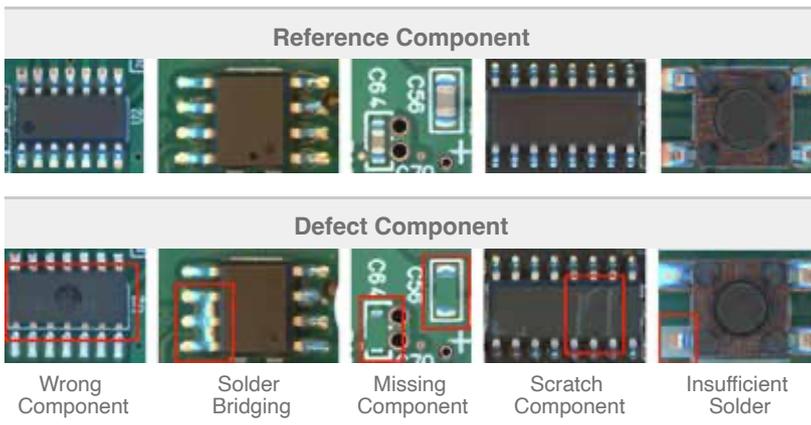# DAOAI

DaoAI **P Series**

2D PCBA AI AOI

The DaoAI P-Series powered by Visual Foundation Models, it automatically identifies components, extracts features, and generates defect-judgment thresholds — enabling comprehensive inspection of component bodies, polarity, and pins. for PCBA inspection.

Reference Component

Defect Component

| Wrong Component | Solder Bridging | Missing Component | Scratch Component | Insufficient Solder |

1 ### Visual AI: No Overkill, No Missed Defects

Compared with rule-based or grayscale rule algorithms, Visual AI overcomes missed detections caused by similar colors between the PCB and components. It significantly improves detection accuracy for defects such as missing parts and scratches.

AI Locates Component and Pin

Framing for Rotated
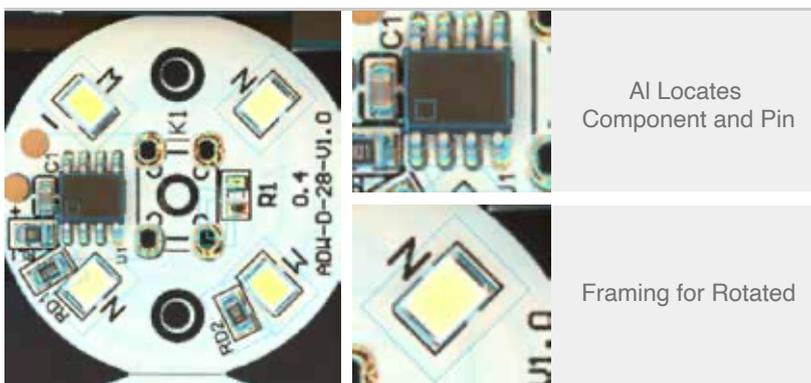
2 ### Complete Modeling in 5 Minutes with AI

No CAD or libraries — one golden sample covers capacitors, resistors, IC pins, and all defect types.

3 ### AI Auto-Detects Components and Generates Bounding Boxes

AI detects component positions without coordinate data and auto-generates bounding boxes, greatly reducing programming time.
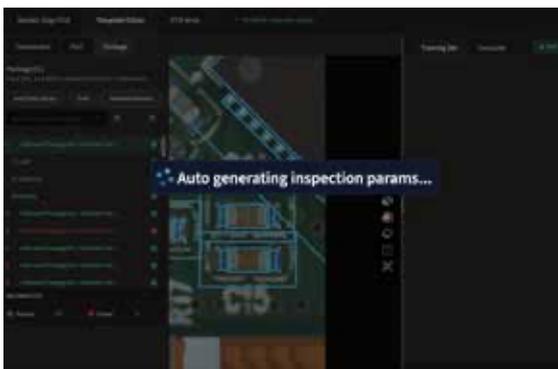
4 ### AI-Generated Inspection Thresholds

AI learns color distribution from good parts and auto-generates thresholds — easier for operators, faster for any production process.

Auto generating inspection params...

5 ### Reduces False Alarms Through Feedback Learning

When an operator confirms a false alarm, the AI learns the true characteristics as training samples, preventing similar features from being misjudged again and progressively reducing false alarms.

DaoAI P1/P2

Offline 2D PCBA AOI

Spec/Model		P1	P2
Optical Spec	Imaging	5MP	12MP
	Resolution	15μm	10μm
	lighting	Multispectral ultra-high-speed RGB six-channel lighting	
	Lens	Dual telecentric optical lenses	
	Speed	0.238 sec/FOV	
Conveyor & PCB Size	PCB Size	0.5×50mm - 470×330mm	
	PCB Thickness	0.5mm - 5mm	
	Maximum PCB Warpage	Top25mm; Bottom 110mm	
	Positioning Accuracy	±3mm	
	Maximum Component Height	2.5mm	
Hardware Spec	X/Y Axis Repeatability	+/-0.01mm	
	X/Y Axis Travel Speed	900mm/s	
	PCB Clamping	Auto Clamping	
	Graphic Card	Nvidia 3060	
	Machine Dimensions	860×1040×1318mm	
Inspection Capability	Component Inspection	Missing components, Reversed components, Position offset, Polarity errors, Wrong components, Component damage, Bent leads, Foreign materials on PCB, Contaminated or solder-stained gold fingers, Glue overflow	
	Solder Joint Inspection	Excess solder / insufficient solder, Tombstoning, Solder bridging, Cold solder / poor wetting, Lifted leads, Solder balls, Post-wave soldering defects (including through-hole components)	
	Process Coverage	Supports inspection of solder paste, red-glue (SMT adhesive), and post-wave soldering PCB assembly quality.	
Additional Functions	Marking Function	PCB Fiducial Mark, Panel Mark, Break-off Tab Mark Recognition	
	Programming Function	Support CAD Data Import, Automated bounding box and inspection parameter setup	
	Human-Machine Interaction	Automatic Component Library Indexing	
	Logging Function	Statistical Process Control (SPC) and Data Reporting	
	Accessibility	Voice-Controlled Operation	

DaoAI P3/P3D

Inline 2D PCBA AOI

Spec/Model		P3	P3D
Conveyor & PCB Size	Conveyor	Single Track	Dual Track
	Conveyor Height	900±25mm	
	PCB Size	50×50mm - 500×325mm (Customizable for Larger Sizes)	
	PCB Thickness	0.3mm - 6mm	
	Clear Height	Top≤30mm Bottom≤20mm	
	Minimum Testable Component	0201 components and ICs with 0.3 mm pitch or above (optional upgrade to 01005 components)	
	Board Weight	≤3KG	
Optical Spec	Camera	20-Megapixel High-Speed Industrial Camera (Available in Other Configurations)	
	Resolution	10μm (Available in Other Configurations)	
	Lighting	High-Brightness RGB Coaxial Multi-Angle Ring LED	
	Lens	Telecentric Optical Lens	
	Depth of Field (DOF)	8-10mm	
Hardware Configuration	PCB Flow Direction	L→R / R→L	
	PCB Clamping	Dual-Sided Automatic Opening/Closing Clamps	
	PC Configuration	Intel i7 CPU / Nvidia 3060 / 16 GB RAM / 120 GB SSD / 1 TB HDD	
	Graphic Card	Nvidia 3060	
	Machine Dimensions	900mmx950mmx1600mm	
Inspection Capability	Component Inspection	Missing components, Reversed components, Position offset, Polarity errors, Wrong components, Component damage, Bent leads, Foreign materials on PCB,Contaminated or solder-stained gold fingers, Glue overflow	
	Solder Joint Inspection	Excess solder / insufficient solder, Tombstoning, Solder bridging, Cold solder /poor wetting, Lifted leads, Solder balls, Post-wave soldering defects(including through-hole components)	
	Process Coverage	Supports inspection of solder paste, red-glue (SMT adhesive), and post-wave soldering PCB assembly quality.	
Additional Functions	Marking Function	PCB Fiducial Mark, Panel Mark, Break-off Tab Mark Recognition	
	Programming Function	Support CAD Data Import, Automated bounding box and inspection parameter setup Automatic Component Library Indexing	
	Logging Function	Statistical Process Control (SPC) and Data Reporting	
	Optional Features	Offline Programming, Remote Real-Time Debugging, Remote Monitoring, External Barcode Scanner	