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ALD7700S SERIES
Inline AOI based on i3D technology
LEADING THE WAY FOR INSPECTION SOLUTIONS

- i3D technology
- High-speed camera with telecentric lens
- Extremely low FA rate, high FPY, and no escapes
- 100% inspection coverage
- Ideal for inspecting 0201 and 01005 components, 0.3 mm pitch
- Debug-free OCR algorithms
- Fast and accurate inspection
- Shadow-free, warpage-free solution, insensitive to board color
- Fast programming, intuitive user interface
- Effective quality verification
- Process control for defect prevention
- High MTBF, low maintenance cost

The ALD7700S series includes the high speed inline AOI system utilizing state-of-art i3D technology powered by a high-speed telecentric camera and a newly designed G5 multidirectional LED lighting module. While further enhancing all the features of the previous models and preserving their advantages, ALD7700S system introduces a number of new features and improvements, which take the level of performance and ease-of-use to new heights. These new features includes a new and powerful debug-free OCR function, which is capable of reading the full range of component marks on a variety of materials without requiring additional study or adjustment.

The system is designed to inspect the most complicated and challenging PCB assemblies with no escapes, and at a very low false alarm rate. High-level technical skills are not required for the development of a top-quality program; easy, transparent and straight-forward programming allows achieving the best performance within a short time.

Similarly to all ALD models, the ALD7700S boasts a vast range of capabilities, and is designed to overcome all PCB inspection challenges, including shadows, various component colors, transparency, board warpage and many more. The system also provides support for offline programming and debugging. Integrated barcode reading, various traceability options, software process controls and additional features are also available. The repair station delivers a clear image of the defect as well as an image of a good sample, to allow quick verification and to prevent operator errors.

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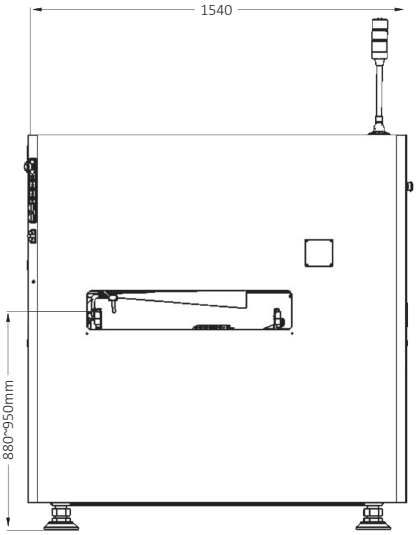

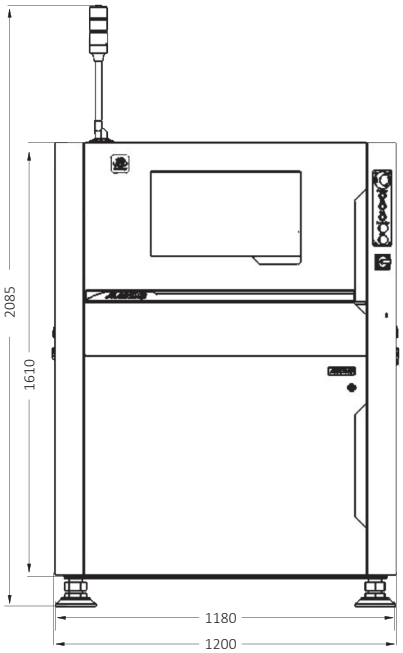

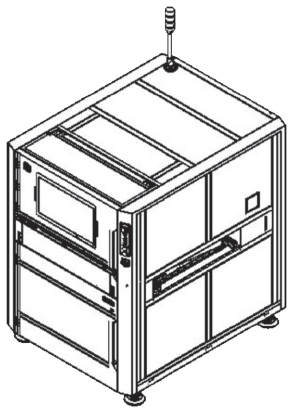

System footprint dimensions are shown for model ALD7730S. For other models please refer to the specification table

Functional Specifications	
Inspection method	i3D technology
Camera	12M pixel high-speed camera telecentric lens
Lighting system	Multi-directional LED lighting module
Program creation	CAD file import, central library, part number links, auto programming
Applications	Post reflow, pre-reflow (including 2D paste inspection), wave soldering
Operating system	Windows 10 professional, 64 bit
Inspection Board Specifications	
PCB type	All colors and all pad finishes
PCB size range	Min 50x50mm, Max450 x710mm(ALD7710S) 620x710(ALD7710S 2-stage) 650x710mm(ALD7730S) 820x700mm (ALD7730 2-stage) 1500 x 450 mm(ALD7750S) 450 x 330/610mm(ALD7710D) 650 x 330/610mm(ALD7730D)
PCB warpage	<5mm, warpage-free technology
PCB thickness range	0.2mm to 5mm
Clamping system edge clearance	Top 3mm, Botom 3mm
PCB weight	Up to 3kg
Underside/Topside clearance	60/40mm (ALD7710S, ALD7730S), 65/40mm (ALD7750S), 40/40mm (ALD7710D, ALD7730D)
Min component size	01005, 0.3 mm pitch
Inspection Performance	
Resolution/range/speed	15μ, FOV: 61.44 x 45mm (7μ, FOV 28.62 x 21mm - option), Test speed 230 ms/FOV
Inspection coverage	100% inspection coverage, all components are inspected for all types of the defects: missing, misalignment, billboard, up -side-down, tombstone, damaged, wrong component, lifted leads, open, insufficient/excessive solder, shorts, wrong component, polarity, solder balls, etc...
Shadow effect	Shadow-free technology
Component color	Component color and transparency do not affect system performance, but can be used for wrong component inspection
OCV/OCR	Standard on each machine
Double side check	Identifies and automatically changes side
Features and Options	
Special features	Supports auto-change program, multi-boards (include bad mark) and multi-program inspection modes
Barcode system	Auto read barcode with camera - 1D and 2D; External reader reads back side barcode(option)
Server mode	Central server multiple machines data handling
Remote control	Remote control through TCP/IP for verification, system operation and program adjustment
Additional Options	SPC, repair station, Offline program, External barcode scanner Pin Support Applications - Site Dashboard, First Article Inspection, Package Link
Hardware	
Conveyor	Automatic clamp, auto load and unload, automatic width adjustment
Conveyor direction/time	Left to Right or Right to Left in/out time 4 sec
X/Y driver	Screw and AC servo driver, Accuracy <10μ; Approved by CTQ PCB fix, camera moves X/Y
Display	23.6 inch TFT LCD
Power Supply	AC230V 50/60Hz <1.5KVA
Compressed air	0.4-0.8 MPA
Equipment communication	SMEMA
Operational conditions	10~35˚C, 35～80% RH (no dew)
Dimensions and Weight	
Weight	980kg (ALD7710S), 1050kg (ALD7730S)
Dimensions	1000x1540x1610mm (ALD7710S), 1000x1540x1610mm (ALD7710D), 1200x1540x1610mm (ALD7730S, ALD7730D), 2100x1210x1550 mm (ALD7750S)
Conveyor height	870-970 mm

Above specifications are subject to change without notice. Images used in the brochure are for illustrative purposes only

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