AUTOMATED OPTICAL INSPECTION

VCTA B-820

In-line 2D THT AOI with bottom camera, directly after wave soldering

Inspection from below | Seamless link to wave soldering | 5MP camera, 20 / 15 µm | PCBs up to 510 × 460 mm (B820L) | RGBW four-colour lighting



OVERVIEW

The **VCTA B-820** is an in-line 2D AOI that inspects THT assemblies from below. Its conveyor connects seamlessly to the wave soldering machine, so the solder joints are checked right after soldering, with little floor space.

A 5MP high-speed industrial camera with a high-resolution telecentric lens and a large self-developed RGBW light source inspect the wave-soldered pins, solder holes and bridges with a full vector algorithm.

It supports offline programming, inline debugging and central control, and connects to a laser-guided repair station, combining inspection and repair. Two sizes: B820 and B820L for larger boards.

KEY FEATURES

Bottom-up inspection
the image system inspects the PCB from below, joined directly to the wave soldering machine

5MP high-speed camera
distal 5MP camera with high-resolution telecentric lens, 20 µm (15 µm option)

RGBW light source
self-developed ultra-large multi-stage RGBW four-colour lighting, 360° without dead angles

Full vector algorithm
logic operation fusion for wave-soldered pins, solder holes and bridges; more than 30 algorithms

Fast transport
belt drive with double motor design: faster transport, carries heavier products

Repair station link
connects to the laser-guided repair station; NG adaptable, defects corrected at the repair station

Programming
offline programming and inline debugging, graphic programming in Chinese / English

Central control
central control and management, comprehensive judgement of the test information, MES support

INSPECTION ITEMS

- Solder paste printing: missing, overflow, insufficient, pasting open, stain
- Components: missing, shift, skewed, tombstone, billboard, overturned, reversed polarity, wrong, damaged
- Solder joints: overflow, insufficient, short solder, stain
- Wave soldering: overflow, insufficient, short, excess solder, solder void

TECHNICAL SPECIFICATIONS

	B820	B820L
Camera	distal high-speed 5MP camera, high-resolution telecentric lens	
Resolution	20 µm (15 µm option)	
FOV	48.96 × 40.96 mm (20 µm); 36.72 × 30.72 mm (15 µm)	
Lighting	ring tower structure, high-intensity RGBW flash lighting	
PCB Edges	≥ 3 mm	
Per-Image Time	< 300 ms	
Inspection Mode	from bottom to top, no-slot joint with the wave soldering machine	
Inspection Capability	0201 chip (20 µm); 01005 chip (15 µm)	
PCB Size	50 × 50 to 400 × 330 mm	50 × 50 to 510 × 460 mm
PCB Thickness	0.5 to 5.0 mm	
PCB Warp Tolerance	±2 mm	
Component Clearance	top ≤ 70 mm, bottom ≤ 50 mm	
PCB Conveyor	bottom-up clamping, automatic loading and unloading, automatic width adjustment, SMEMA; conveyor height 900 ± 200 mm (750 ± 20 mm option)	
XY Drive	AC servo, camera moves in X and Y; positioning < 10 µm; 500 mm/s	
Software	Microsoft Windows 10, graphic programming, Chinese / English	
Computer / Display	industrial computer, Intel quad-core i7, 16 GB RAM, 2 TB HDD / 22-inch TFT	
Network	MES support, standard port	
Dimensions (L × W × H)	1077 × 1243 × 1675 mm	1187 × 1419 × 1675 mm
Weight	approx. 980 kg	approx. 1125 kg
Power Supply	AC 220 V ±10%, single phase, 5 A, 50/60 Hz, 1000 W	
Air Supply	0.5 MPa, 70 cm^3/min	
Working Environment	10 to 40 °C, 30 to 80% RH	

Configuration, demo and quotation

InterElectronic supplies VCTA inspection systems in Hungary and Central Europe: application advice, installation, training and service.

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Specifications according to VCTA (ZhenHuaXing Technology, Shenzhen). Subject to change without notice.