AUTOMATED OPTICAL INSPECTION

VCTA TB-820

In-line double-sided THT AOI with two synchronous vision systems

Top and bottom inspected at once | 5MP cameras, 12MP option | PCBs up to 510 × 460 mm (TB820L) | Barcode on both sides | MES and central control



OVERVIEW

The **VCTA TB-820** is an in-line AOI for THT (DIP) assemblies with two synchronous vision systems: it inspects the top and bottom side of the PCB at the same time and outputs the results together. It can also inspect one side only, as the process requires.

The camera reads the barcode on either side of the PCB, and the information can be shared between the A and B side. Mutually exclusive light sources keep the upper and lower images free from interference.

Graphic programming, offline programming and debugging, SPC statistics and central control of all AOI machines in the workshop support quality and process improvement. Two sizes: TB820 and TB820L for larger boards.

KEY FEATURES

Two synchronous vision systems
top and bottom side inspected at the same time, results output together

5MP industrial cameras
high-resolution industrial telecentric lens; 12MP on either or both sides as an option

A/B side data sharing
barcode read on the TOP or BOT side, information selectable and shared

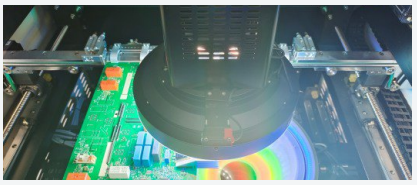
Light source interlock
mutual exclusion of the light sources avoids interference between the upper and lower images

More than 30 algorithms
vector image algorithms: OCR/OCV, colour extraction (RGB and HSV), template matching, colour distance and more

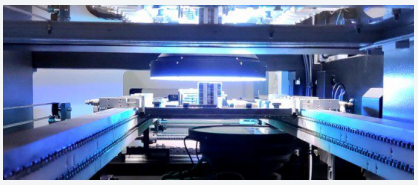
Multi-level user management
program modifications and testers are traceable

Repair station link
NG adaptable, defects checked and corrected at the repair station; MES support

Central control
central information control, remote control of multiple AOI machines of the same type



Camera over the PCB



Inspection area



Inspection software

TECHNICAL SPECIFICATIONS

	TB820	TB820L
Camera / Lens	standard top and bottom 5MP, option 12MP on either or both sides; high-resolution industrial telecentric lens	
Resolution	standard 20 µm; option 25 µm (high depth of field), 15 µm, 12 µm (recommended for 12MP)	
FOV	48.96 × 40.96 mm (5MP, 20 µm); 36.72 × 30.72 mm (5MP, 15 µm); 50 × 45 mm (12MP, 15 µm); 40 × 30 mm (12MP, 10 µm)	
Lighting	ring tower structure, high-intensity RGBW flash lighting	
Per-Image Time	220 to 450 ms	
Inspection Capability	01005 and 0.3 mm pitch	
Inspection Items	missing, misaligned, skewed, tombstone, billboard, overturned, polarity, wrong, damaged, insufficient, pasting open, stain	
PCB Size	50 × 50 to 400 × 330 mm	50 × 50 to 510 × 460 mm
PCB Thickness / Weight	0.5 to 5.0 mm; anti-static belt ≤ 5 kg, chain conveyor ≤ 15 kg	
PCB Warp Tolerance	±2 mm	
Component Clearance	top ≤ 50 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 / Y; positioning < 10 µm; 500 mm/s standard, 800 mm/s max.	
Software / Network	Microsoft Windows 10, graphic programming (Chinese / English); TCP/IP, MES, central control of multiple AOI machines	
Computer / Display	Intel quad-core i7, 32 GB RAM, 2 TB HDD / 22-inch TFT	
Dimensions (L × W × H)	1077 × 1243 × 1675 mm	1187 × 1419 × 1675 mm
Weight	approx. 1250 kg	approx. 1360 kg
Power Supply	AC 220 V ±10%, single phase, 50/60 Hz, 1800 W	
Air Supply / Environment	0.5 MPa, 70 cm³/min; 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.