I.C.T DIP Online AOI AI-4026 (Before THT Soldering)
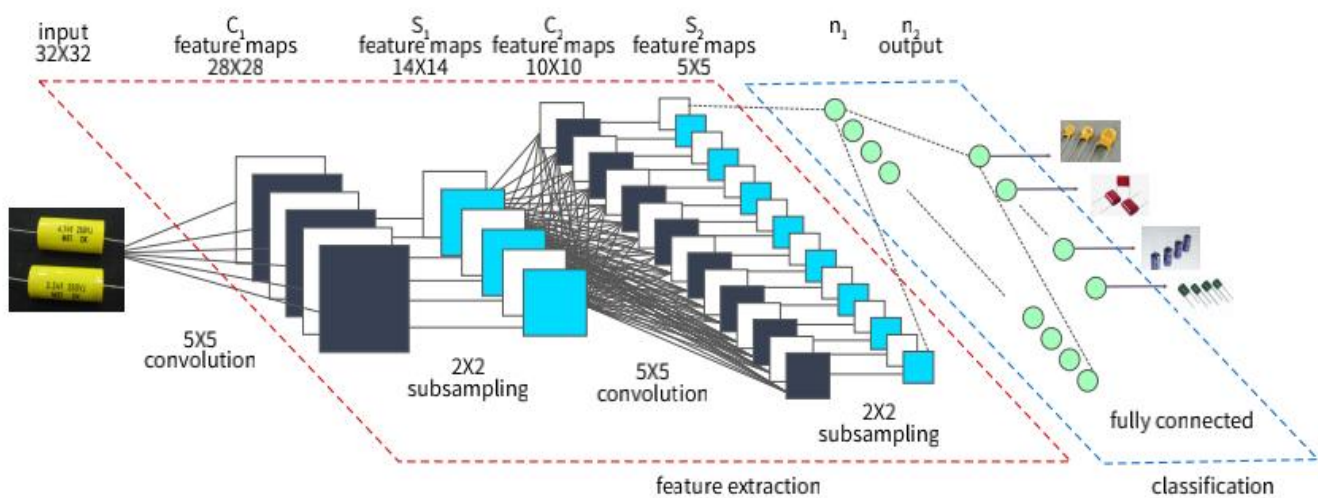

Introduction:

I.C.T DIP AOI captures board image in real time by high precision color industrial camera. Adopt Convolution Neural Network (CNN) algorithm to process images. Judge defects of components intelligently.

Features:

1. On-line PCBA AOI for plug-in before soldering.

2. High inspection rate and low false alarm rate, automatically check color ring resistor, capacitor, diode, socket, etc.

3. Defect type: wrong part, missing part, reverse polarity and other defects of DIP element.

4. Spanning erection without change of production line.

5. Simplified programming flow, very simple interface. Support batch modifying parameters with one-key.

6. Centralized control. Interconnection between multiple equipment.

7. Real-time inspection without stopping the board.

8. Easy to move, adjustable height and width.

9. Locate defects quickly and can control production line.

10. PCBA dimensions: Maximum 400*300mm (20MP) / Maximum 520*380mm (31MP) Multiple selectable options.

11. Data is traceable. Support SPC alarm, LOG automatic collecting and storage function, NG warning/alarm function, Remote programming & debugging.
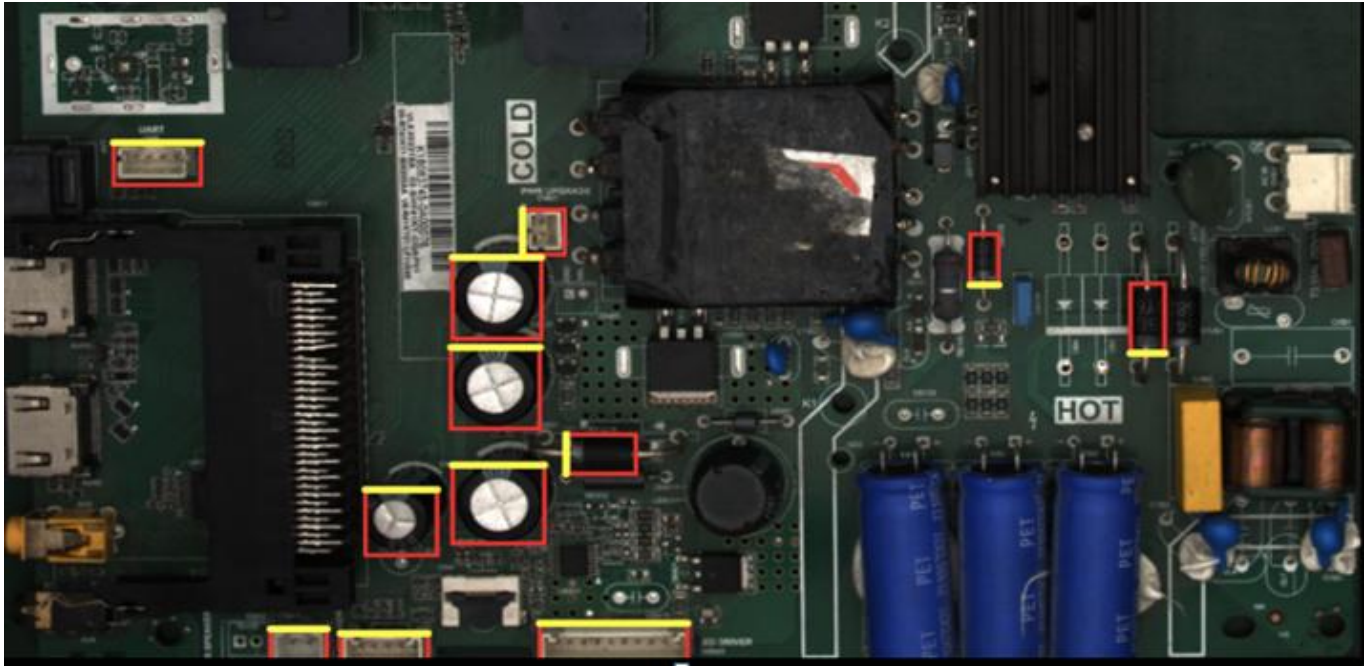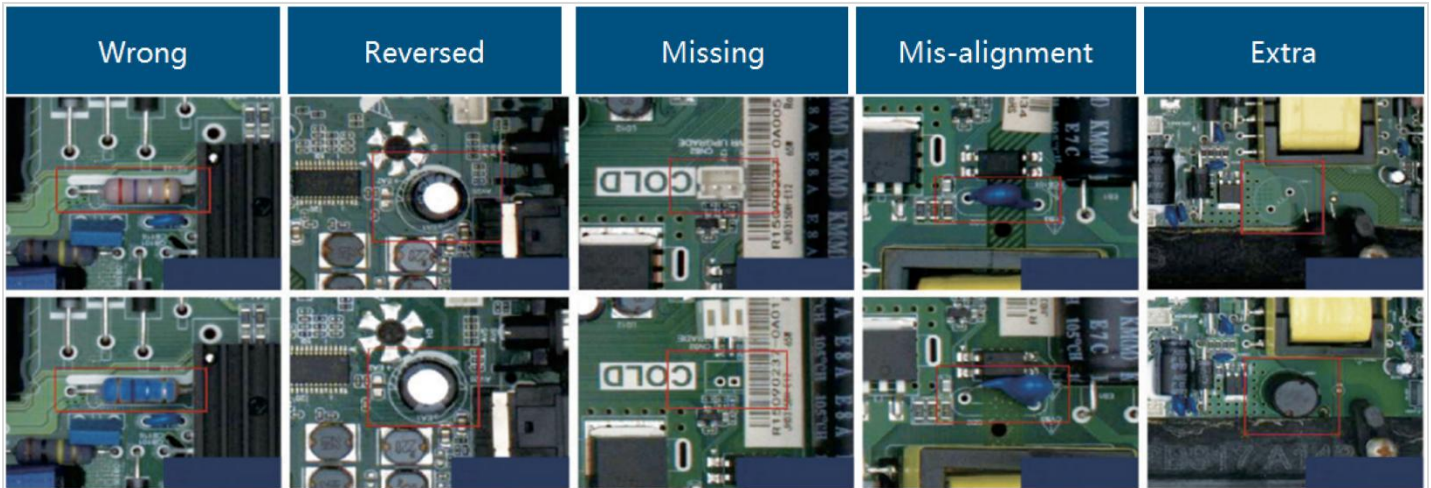
Advantage:

Deep Learning Algorithm

I.C.T AOI by applying deep learning algorithm, big data optimization and intelligent minimalist programming in industrial inspection, I.C.T

enables intelligent judgment by one-click automatic identification of components and solder joints, thus addressing the two major pain points of traditional algorithms, namely, long programming time and high false alarm rate.
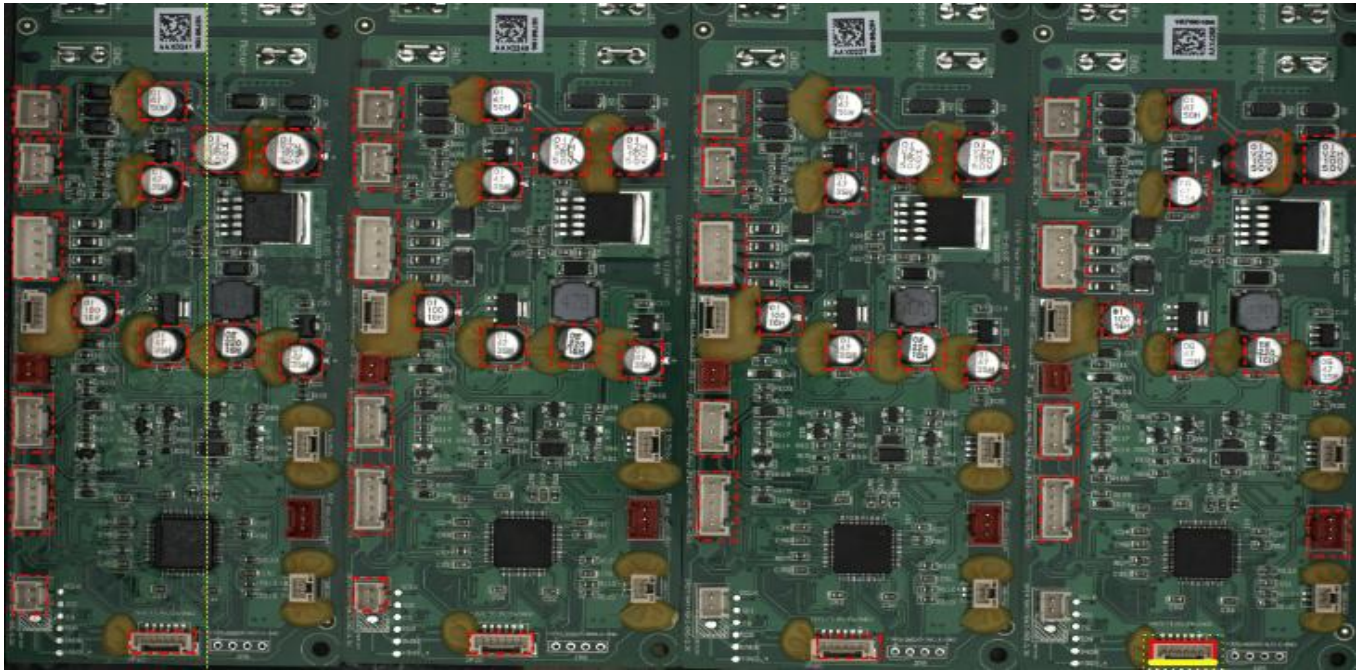

Flexible procedures

1. Intelligent algorithm: Automatically check color ring resistor, capacitor, diode, socket, etc.

2. Online/Offline programming: Optimize and adjust equipment parameters without stopping production line.

3. Easily operate: 10-20min programming time and 10-15min debugging time.

4. Quick operation: Short changeover time. Files of existing formats can be called directly.

5. Audible alarm: Prompt item number, wrong device and type.

Strong Intelligent Inspection Capability

1. Strong feature fuzzy identification capability, able to inspect defect of color ring resistor.

2. Effectively inspect polarity without being interfered by silkscreen on board and change of characters on device.

3. Super strong same color distinguishing ability, effectively identify missing parts and reverse polarity of black devices on black board, black feature on black devices, white socket and jumper on white board and thermistor on green board.
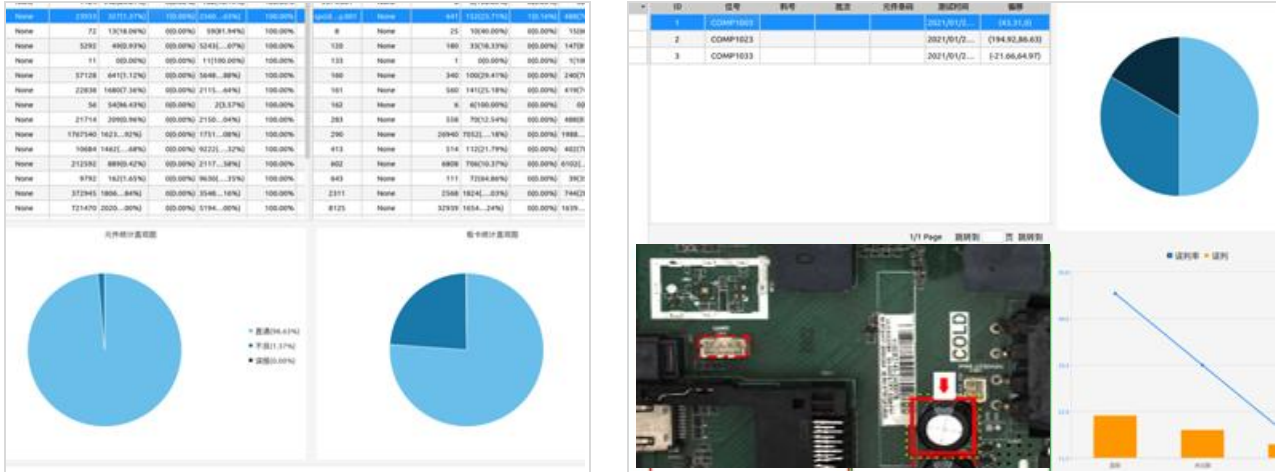
4. Excellent generalization ability.

Quick Inspection Speed

1. Flexibly respond to high capacity and situation with/without fixture.

2. Online inspection. Inspection time is not influenced by line speed (up to 1.8m/min).

3. Inspection results can be obtained immediately upon board coming out of inspection equipment.
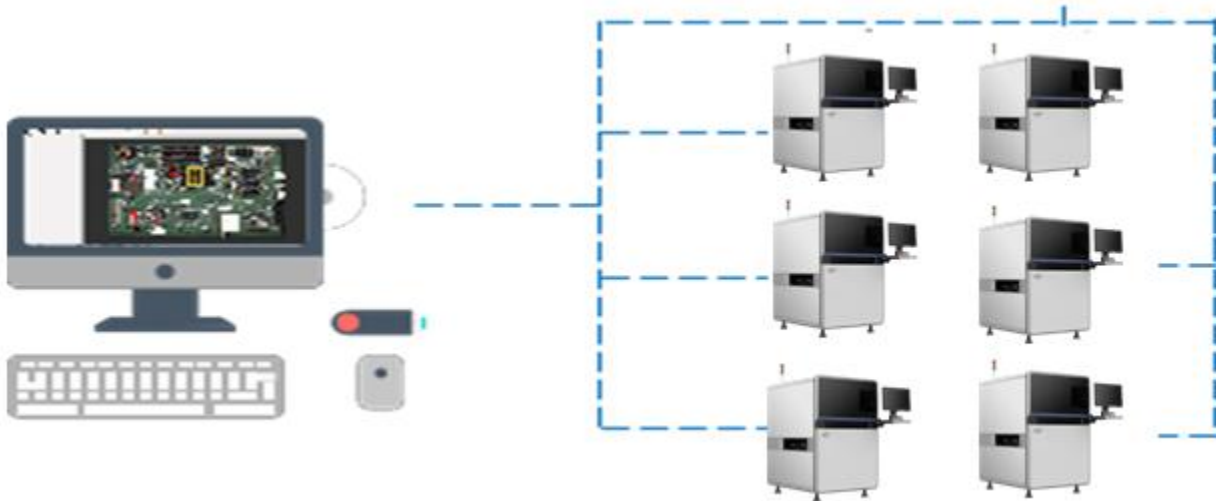

Multiple Inspection Modes

1. Support multi-in-1 board inspection.

2. Support mixed board inspection.

3. Support mixed material inspection.

4. Support rotation identification of multiple angles and multiple positions.

MES System Data Report

1. Camera automatically reads code (bar code and QR code).

2. Complete data, including overall statistic data and all inspection information of each board inspected.

3. Support one-key export, which is convenient for traceback. Data can be effectively applied in MES system.

Centralized Management and flexible Service

1. Support remote programming, debugging and management. Save changeover time. Support one-to-many judgment.

2. Remote regulation, centralized management. Reduce suspension of work. Enhance production efficiency.

3. Remote off-line programming, which will not affected inspection.

4. Remote support. Quick response and maintenance.

5. Multi-judgment work station realizes one-to-many judgment.

Option:

Production Line Control Box	NG Board Tracker
Production Line Control Box	**NG Board LED Tracker**
Automatic/manual control of production line start and pause, forward and reverse, ensure timely repair of defects.	Quick locate position of NG board by LED lights to enhance repair efficiency.

Materials List:

No.	Item	Brand	Original
1	Industrial computer	Spectech	China
2	Coupling	AirTAC	China
3	Camera	iRAYPLE	China
4	Camera lens	Coolens	China
5	PLC	Inovance	China
6	Cervo motor	Inovance	China
7	Stepper motor	Leadshine	China
8	Photoelectric Sensors	Baumer	Germany
9	Photoelectric Sensors	F&C/Panasonic	Taiwan/Japan
10	Relay	Panasonic	Japan
11	Light source	JL	China
12	Rail	HIWIN	China
13	Screw	TBI/HIWIN	China
14	Light source controller	OPT	China
15	Leakage protector	Schneider	France
16	Contactor	Schneider	France
17	Safety door switch	SICK	Germany
18	Cylinder	AirTAC	Taiwan

Specification:

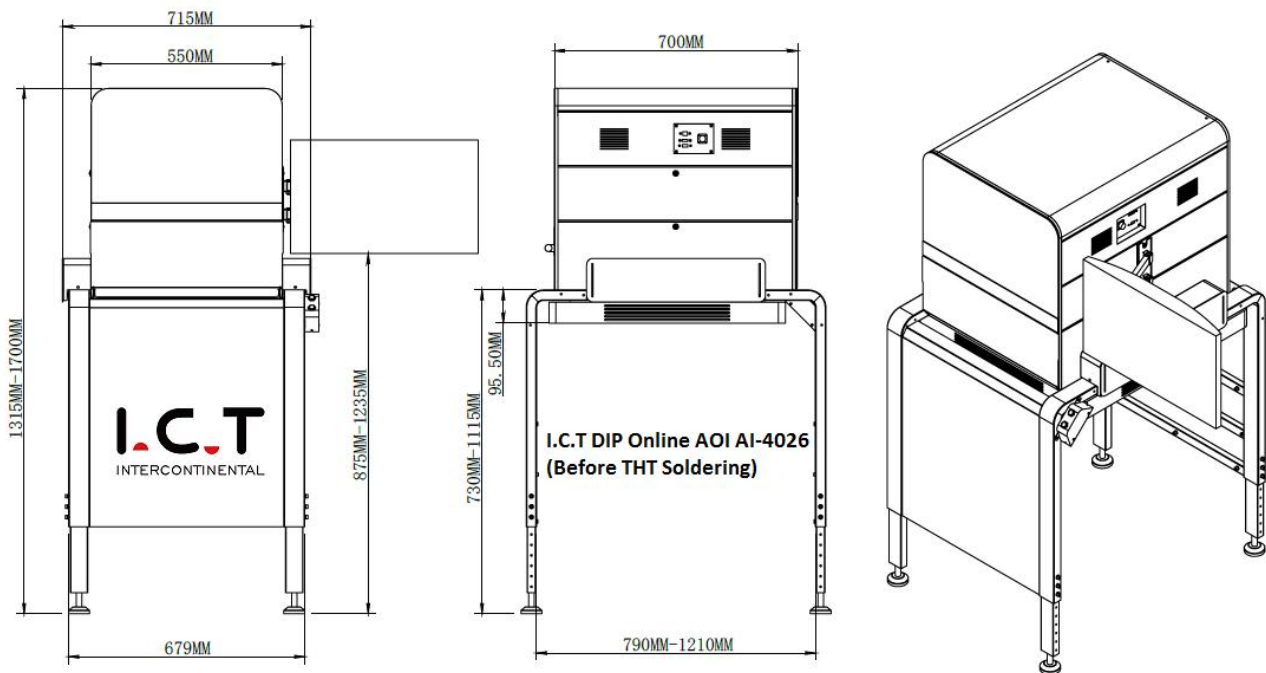| Model	I.C.T DIP Online AOI AI-4026(Before THT Soldering)	I.C.T DIP Online AOI AI-4026L(Before THT Soldering)
FOV	400*300mm	520*380mm
Resolution	75um	80um
Camera	20M	31M
Light	W light source	W+Strip light, 4 sides
Inspection Algorithm	CNN, Color contrast, Outline recognition, Offset inspection, Template matching, Character comparison, OCR, etc.	
Inspection Item	Component: Absent, Reversed, Mis alignment, Broken, Extra, Foreignmaterial, Stained, etc. Other: NG tracking bar(optional), Control box(optional), Mixed material inspection, Panel inspection.	
Mixing PCB Inspection	Support calling program automatically.	
PCB Size	50*50mm~400*300mm	50*50mm~520*380mm
Operation System	Ubuntu 18.04 LTS 64bit Remote control, remote assistance, CAD file import and user-defined model training	
PC	CPU: Intel i5 Display card: NVIDIA GTX1050Ti Memory: 8G DDR, 256G SSD+2T Mechanical Hard Disk Network: 1000M Wired Network Card	CPU: Intel i7 Display card: NVIDIA GTX1050Ti Memory: 8G DDR, 256G SSD+2T Mechanical Hard Disk Network: 1000M Wired Network Card
Display	23.8 inch FHD display	
Data Output	Autogenerated statistic analysis SPC	
Special Function	Automatic search of elements and quick programming	

Power	AC220 50/60Hz, 5A
Rated Power	200W
Compressed Air	0.5~0.6Mpa
Communication	SMEMA
Weight	100KG
Dimension	L715*W790~1210*H1315~1700mm

Standard Accessories:

No.	Item	Quantity
1	Power cable	1pcs
2	SMEMA line	2pcs
3	Memory card	1pcs
4	Card reader	1pcs
5	Wireless network card	1pcs
6	Grayscale board	1set
7	Allen wrench	1set
8	Open end wrench	1pcs
9	System disk	1pcs
10	Electromagnetic sensor	1pcs
11	Air ducts	1pcs
12	Belt	1pcs

* I.C.T keeps working on quality and performance, specifications and appearance may be updated without particular notice.

Dimension:

Thanks for choosing I.C.T.

I.C.T looks forward to win-win cooperation.