MAKΣR-RAY

In-line Dual Sided AOI
AIS50X Series-Multi

Application | behind Wave Soldering, behind reflow and before packaging

✓ More accurate inspection by AI intelligent algorithm ✓ Faster inspection with Dual Side

✓ Simple opearation by smart minimalist programming ✓ Multi-function apply in multiple lines

Core Functions

AI intelligent programming
One-click frame selection, auto identify components/solder joints, intelligent adjust parameter, lead to simpler and easier programming

Dual-sided simultaneous inspection
Shot asynchronously for dual side, real-time calculate, auto paths plan, speed up inspection

Support Mixed PCB inspection
Support mixed PCB and multi-in-1 board inspection by AI positioning algorithm

Support both online/offline programming
Online/remote offline programming, without stopping the production line

Fuzzy feature inspection
Intelligently inspect fuzzy features such as color ring resistor, same-color feature materials, silk screen interference on surface

AI training tool
Model self-training for special components, reduce false positive rate by continuous learning to improve inspection accuracy.
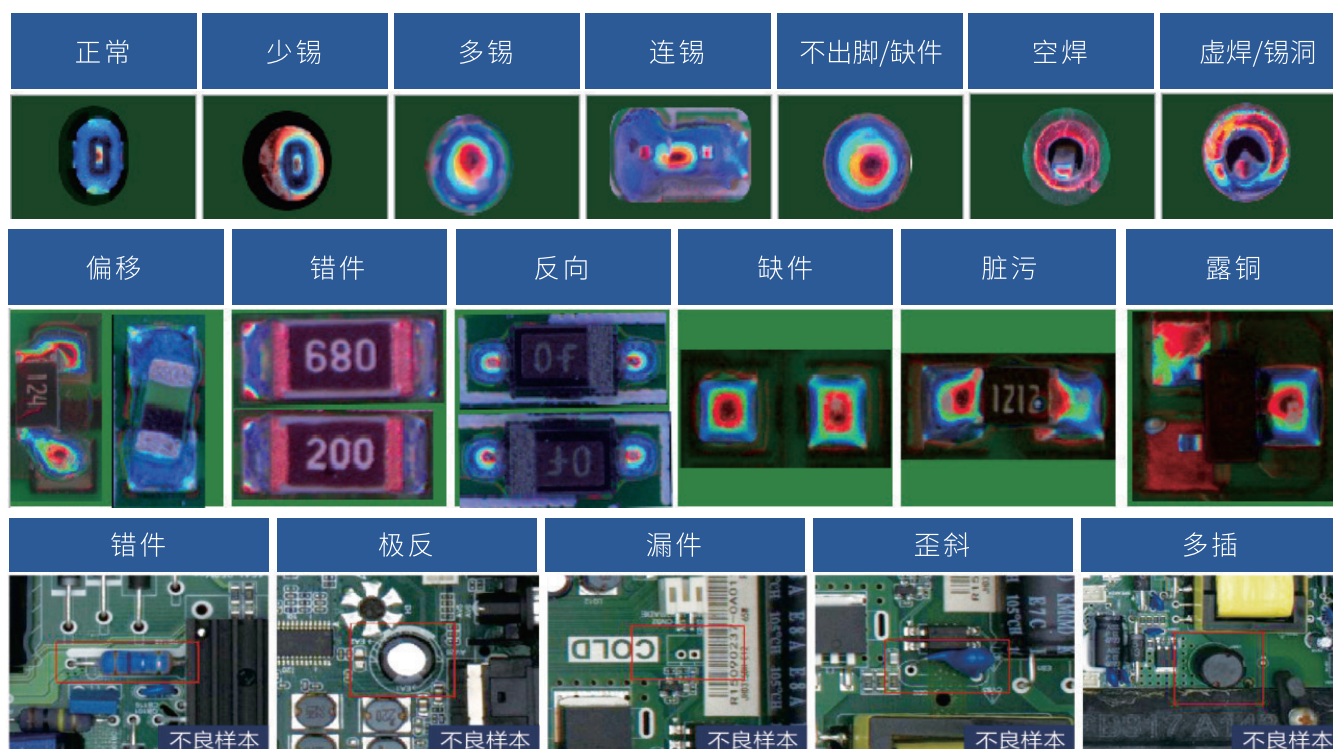
Multi-function
Multi-purpose, inspect component defects of SMD, THT , solder joint, etc

SPC data analysis
Real-time data recording and analysis, providing evidence for process improvement, and real-time trace data

Detectable defects include

正常	少锡	多锡	连锡	不出脚/缺件	空焊	虚焊/锡洞

偏移	错件	反向	缺件	脏污	露铜

错件	极反	漏件	歪斜	多插

The main parameters

Category	Item	AIS501
PCBA specification	Size	3 section track：50x50mm~350*460mm Single section track: 430*460mm
	Thickness	0.5mm-6mm
	Height of elements	Top:75mm, Bottom: 75mm
	Processing edge	3mm
Optical specification	Camera	5MP color
	Optical source	RGB+W
	Resolution & FOV	21.5um@52.6*44mm
Inspection-related function	Components	Absent, reversed, mis-alignment, broken, extra,foreign matter，stained, etc.
	Solder	Insufficient solder,excessive solder,bridging,no foot,solder void,etc.
	Other function	Bar code Recognition / QR code Recognition/ OCR
	Mixing boards inspection	Yes,Support calling program automatically
	Algorithm	CNN,color contrast,outline recognition,Offset inspection,template matching,character comparison,OCR ,etc.
	Speed	0.23sec/FOV
Software system	Operating system	Ubuntu 18.04 LTS 64bit
	Function	Remote control & assistance, CAD file import and user-defined model training
	Communication method	Standard SMEMA interface
	Data output	Autogenerated statistic analysis SPC
	Special function	Automatic search of elements and quick programming
Hardware specification	Industrial control host	CPU: intel i5 Display card: NVIDIA GTX1050Ti Memory: 32G DDR, 240G SSD+2T Mechanical Hard Disk Network: 1000M Wired Network Card
	Display	23.8 inch FHD display