QX250i™ 2D AOI

High Value, Flexible Inspection for all Applications

QX250i™ 2D AOI

Ideal for Selective Solder and Pre-Reflow Applications

3 YEAR WARRANTY*

BEST PERFORMANCE FOR BEST VALUE

- **Top and Bottom High Resolution (12um) SIM with enhanced illumination enabling 50% productivity improvement.**
- **Production Ready in <13 minutes† with AI2**
- **01005 Inspection Capability**
- **Easy Wedge-in Replacement of Existing Conveyor**
- **Lowest False Call Rate and Zero Escapes**

†For pre-defined parts

*3 Year Warranty on standard parts only (excludes conveyor belts and other consumables); 1 year warranty on service

CYBEROPTICS®

INTELLIGENT SENSING TECHNOLOGY

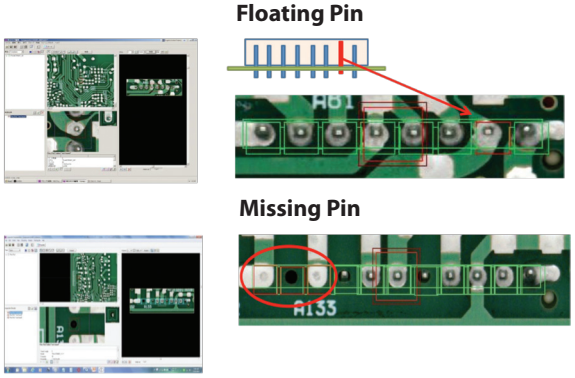
The SIM (Strobed Inspection Module) is the core engine behind every QX250i™ / QX200i™ system enabling 'on-the-fly' high performance inspection. Designed and manufactured exclusively by CyberOptics, the SIM is absolutely calibration-free and illuminates only when needed – reducing cost of ownership and power consumption.

SIM (Strobe Inspection Module)

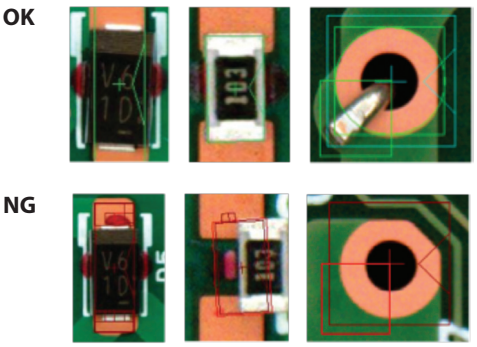
The dual top and bottom SIMs provide a single platform for the inspection and defect review process that shortens the production line and drives ~50% productivity improvement.

The SIM on the QX250i™ is designed with enhanced illumination – delivering the best 01005 and solder joint inspection performance ever. With an 80 Megapixel sensor and higher resolution (12 µm), you get crisp, perfect quality images for more accurate defect review. (The QX200i™ uses an 40 Megapixel sensor and to acheive a resolution of 17 µm.)

Selective Soldering Inspection

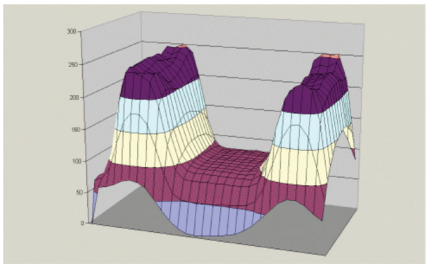


Pre-Reflow Inspection



INSPECT 'ANYTHING'

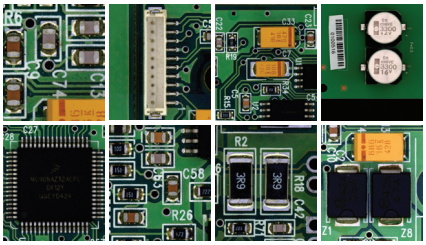
CyberOptics' AI² (Autonomous Image Interpretation) technology is a complete refactor of our proven Statistical Appearance Modeling techniques. AI² is all about keeping it simple - no parameters to adjust or algorithms to tune. And, you don't need to anticipate defects or pre-define variance either – AI² does it all for you.



AI² Software:
Unique Image Processing Technique

Just draw a box, show a few good examples and you are ready to inspect just about anything. Add more images to the model and watch false call rates get even lower.

Measurement Technique	Inspection Performance	Programming Simplicity
CyberOptics' AI² Software	Lowest False Call Rate | Reliable and Repeatable Discrimination | Robust ✓	No complicated algorithms | Faster Programming | Lesser Examples ✓
Algorithm Based	✓	
Pattern Matching		✓



Components Inspected/ Detected

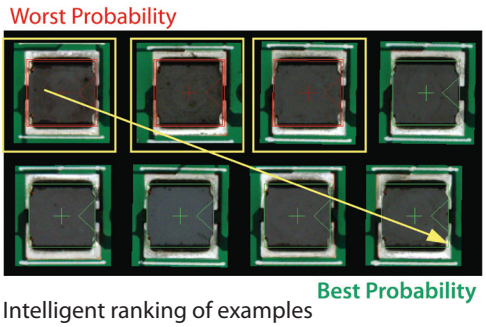
AI² – FASTER, SIMPLER AND SMARTER

With AI² technology, programming gets even faster – with a 90% reduction in examples required – so you get superior defect detection and low false call rates even with just **one example**. This means significantly lower tuning time and quality results with one panel inspection. Perfect for those high-mix or low volume applications!

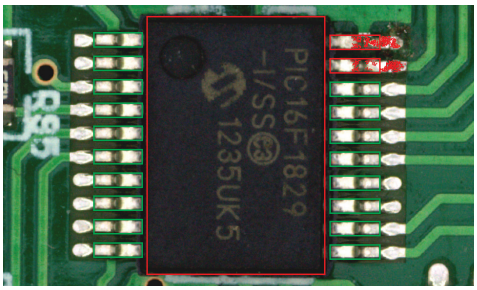
With its unique ability to 'ignore' bad examples in a model, AI² offers precise discrimination even with excessive variance and minimizes effects of outlier examples.

Plus, it is a lot simpler with full support for unsupervised and semi-automatic model training. And, examples are pre-sorted so you can select and clear the ones you don't need – very quickly.

The pixel marking feature highlights defective spots, so you can identify genuine defects instantly.

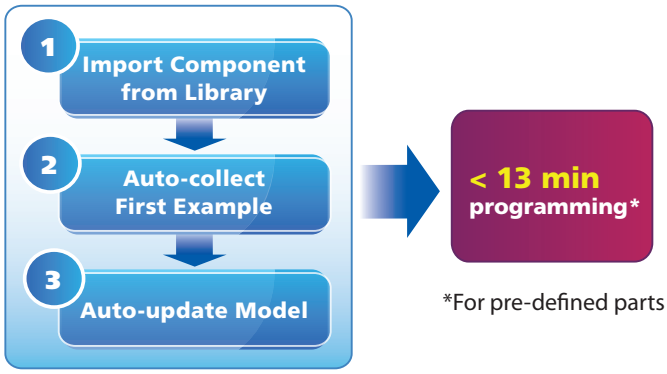


Intelligent ranking of examples


Active Pixel Marking

3-EASY-STEPS PROGRAMMING

Our latest software improvements take programming to a whole, new level – zero to production ready in **less than 13 minutes!** All this is made possible, with an all-new data-rich, pre-loaded library and automated scripts that collect examples and update models – all on their own.

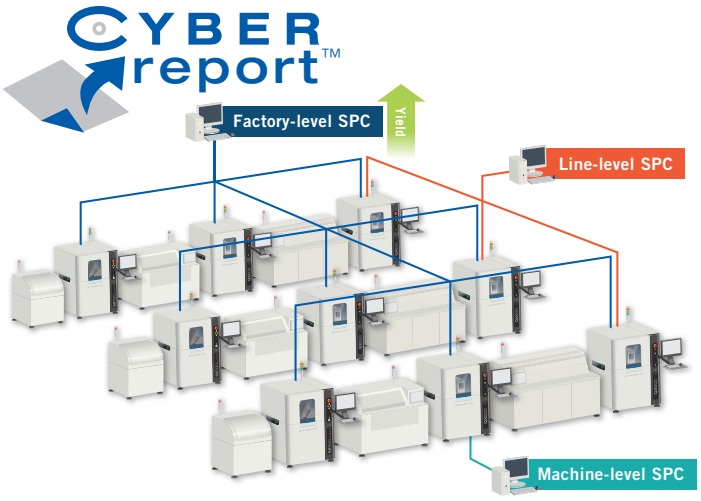


*For pre-defined parts

Simplified Programming Process

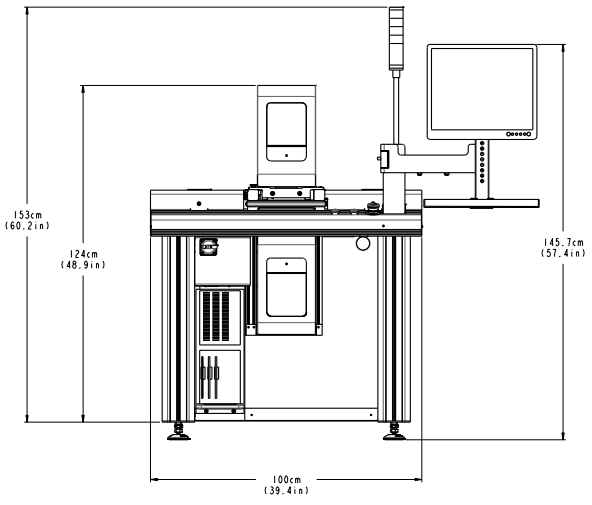
FAST, SCALABLE SPC SOLUTION

CyberReport™ offers full-fledged machine-level to factory-level SPC capability with powerful historical analysis and reporting tools delivering complete traceability for process verification and yield improvement. CyberReport™ is easy to setup and simple to use while providing fast charting with a compact database size.

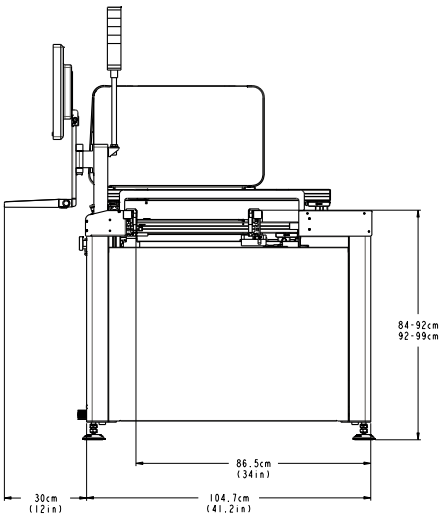


Inspection Capabilities	QX250i	QX200i
Typical Scanning Speed	110 cm^2/sec	150 cm^2/sec
Minimum Component Size	0402 mm (01005 in.)	
Board Length	Min. 50 mm (2 in.)/ Max. 405 mm (16 in.)	
Board Width	Min. 50 mm (2 in.)/ Max. 308 mm (12 in.)	
Component Height Clearance (max)	35 mm	30 mm
Board Edge Clearance (min)	3.0 mm (0.125 in.) – bottom side only	
Maximum Board Weight	3kg	
Maximum Board Warp	Up to +/-7 mm	
Component Types Inspected	Standard SMT (chips, J-lead, gull-wing, BGA, etc.), through-hole, odd-form, clips, connectors, header pins, and others	
Solder Joint Defects Categories	Solder bridge, opens, lifted leads, wettability, excess and in sufficient solder, debris, and others	
Other Items Detected	Gold-finger contamination, pin-in-hole, bent pins, debris, and many others	
Component Position Categories	Component X, Y position and Rotation	
Vision System		
Imagers	80 Megapixel Sensor on each SIM module	40 Megapixel Sensor on each SIM module
Image Transfer Protocol	PCIe	
Lighting	Strobe White Light (with dark/bright field)	
Resolution	12 µm pixel size	17 µm pixel size
Image Processing	Statistical Appearance Modeling (SAM™) Technology. Option: Autonomous Image Interpretation (AI^2) Technology	
Programming	Simple inline or offline	
CAD Import	Any column separated text file (Standard information required – ref. designator, XY, Angle, Part no.,)	
System Specifications		
Conveyor Height	Adjustable to 835 – 990 mm (33 – 39 in.)	
Machine Interface	SMEMA, RS232 and Ethernet	
Power Requirements	100-120V, 15 Amp max or 220-240V 10 Amp max, 50/69 Hz	
System Dimensions	100 x 104.7 x 124 cm	
Weight	249 kgs (548.951 lbs.)	
Machine Installation	<1 hour	
Options		
SPC Software, Offline Defect Rework Station, Sensor Alignment Target, Barcode Readers (1D/2D)		

FRONT



SIDE



Specifications subject to change without notice.

CYBEROPTICS®

For information about other CyberOptics' offices and global support network:
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