



# QX250i<sup>TM</sup>

## 2D AOI

Automated Optical Inspection

[www.nordson.com/TestInspect](http://www.nordson.com/TestInspect)

 **Nordson**  
TEST & INSPECTION

# Nordson TEST & INSPECTION

Founded in 1954, Nordson Corporation is a market leading industrial technology company with annual revenues of over \$2.1 billion and more than 7,500 employees worldwide.

Nordson TEST & INSPECTION offers its SMT & Semiconductor customers a robust product portfolio, including Acoustic, Optical and both Manual and Automated X-ray Inspection systems, X-ray Component Counting systems and Semiconductor measurement sensors.

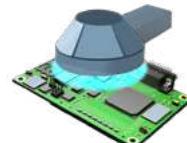
Nordson TEST & INSPECTION is uniquely positioned to serve its customers with best-in-class precision technologies, passionate sales and support teams, global reach, and unmatched consultative applications expertise.



## AOI Products

### Proprietary Advanced Technology

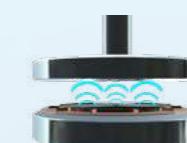
Optical Inspection & Metrology



## WS Products

### Improve Your Yields

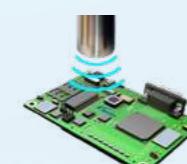
Semiconductor Metrology Sensors



## AMI Products

### Qualify Your Design

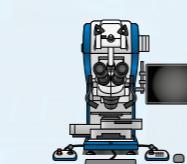
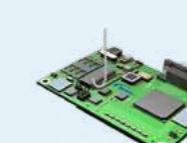
Acoustic Inspection



## BT Products

### Test Your Design

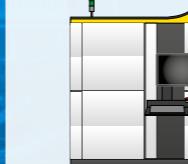
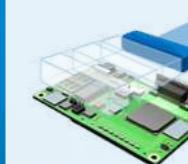
Bondtesters



## AXI Products

### High Speed High Flexibility

Automated X-ray Inspection



## MXI Products

### Making the Invisible, Visible

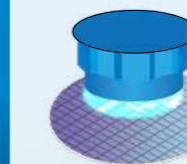
Manual X-ray Inspection



## AXM Products

### Measuring the Invisible

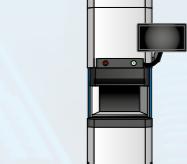
Automated X-ray Metrology



## CC Products

### Maximize Efficiency

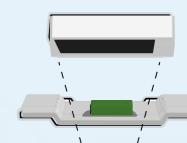
X-ray Component Counting



## XRT Products

### High Speed High Resolution

X-ray Technologies



# Intelligent Sensing Technology

The QX250i™ offers High Value, Flexible Inspection for All Applications, and is Ideal for Selective Solder and Pre-Reflow. 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 Nordson TEST & INSPECTION, the SIM is absolutely calibration-free and illuminates only when needed – reducing cost of ownership and power consumption.



## Dual SIMs

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  $\mu\text{m}$ ), you get crisp, perfect quality images for more accurate defect review. (The QX200i™ uses a 40 Megapixel sensor and to achieve a resolution of 17  $\mu\text{m}$ ).

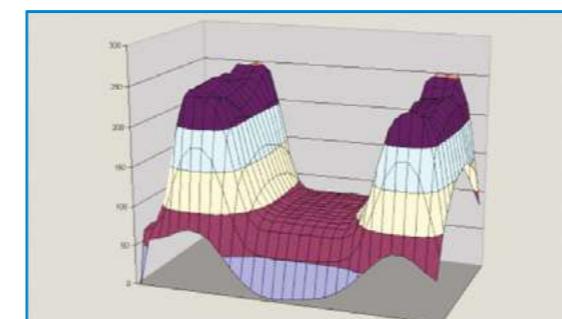


01005 component size inspection capability



# Inspect 'Anything'

Nordsons' AI<sup>2</sup> (Autonomous Image Interpretation) technology is designed for both low volume high mix, and high volume low mix Applications, and builds on the proven success of our Statistical Appearance Modeling technology.



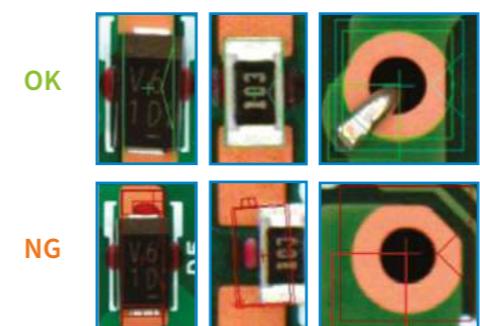
AI<sup>2</sup> Software's unique image processing technique.

## AI<sup>2</sup> is all about keeping it simple

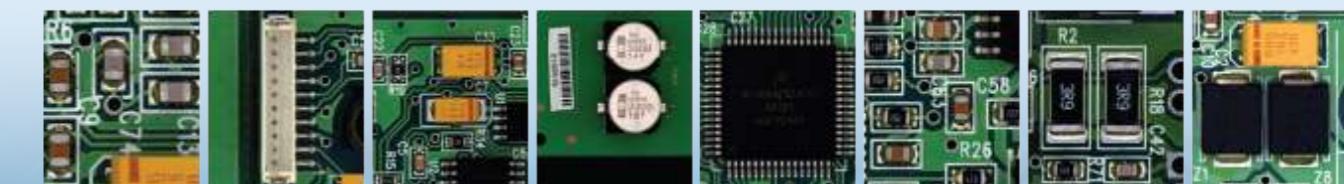
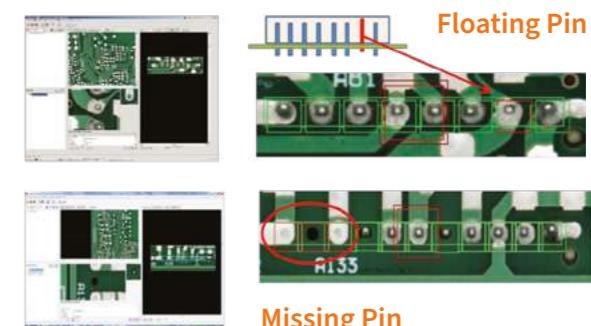
No parameters to adjust or algorithms to tune. And, you don't need to anticipate defects or pre-define variance either – AI<sup>2</sup> does it all for you.

Just draw a box, show a few good examples and you are ready to inspect just about anything. Simply add good examples to the AI<sup>2</sup> model and the false call rates reduce significantly providing a very robust inspection solution.

## Pre-Reflow Inspection



## Selective Soldering Inspection



Components Inspected / Detected

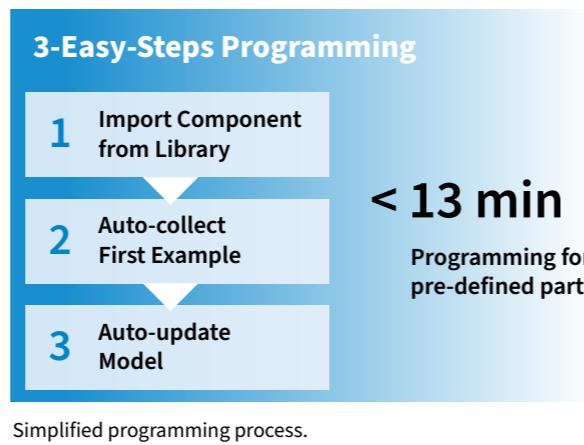
# AOI Software

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.

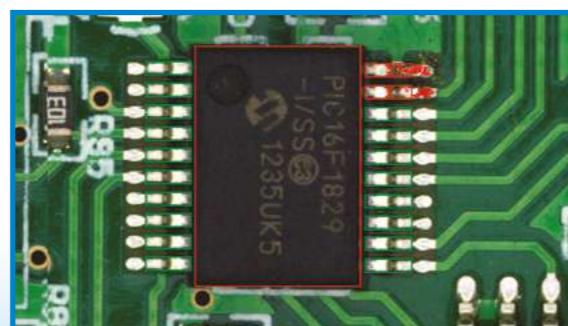
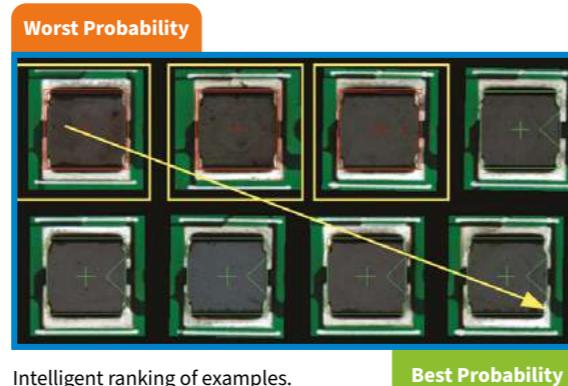
## AI<sup>2</sup> - Faster, Simpler, and Smarter

With AI<sup>2</sup> technology, programming gets even faster – with a 90% reduction in examples required to create a complete production ready programme – you will achieve 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, AI<sup>2</sup> 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.

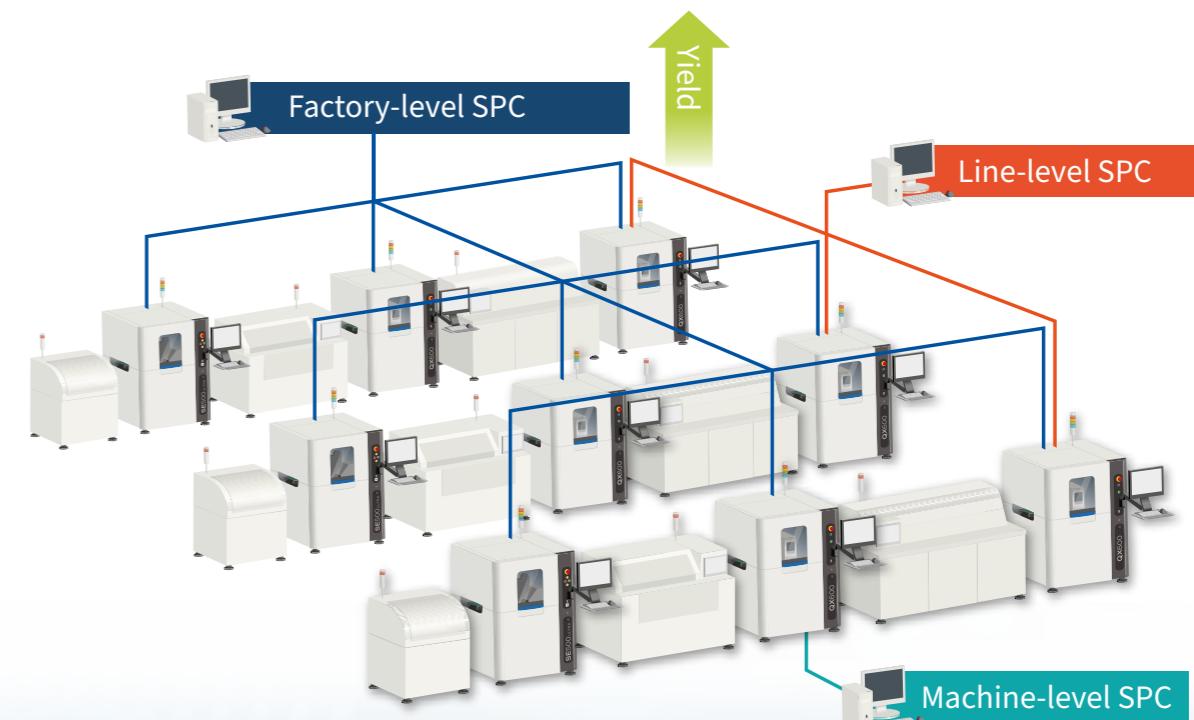


Simplified programming process.



# 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.



# Specifications

Inspection Capabilities	QX250i	QX200i
Inspection Speed		110 cm <sup>2</sup> /sec
Minimum Component Size		0402 mm (01005 in.)
Board Length		Min. 50 mm (2 in.)/ Max. 400 mm (15.7 in.)
Board Width		Min. 50 mm (2 in.)/ Max. 308 mm (12 in.)
Component Height Clearance (max)	Top: 35 mm Bottom: 34 mm	Top: 30 mm Bottom: 29 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 more	
Solder Joint Defects	Solder bridge, opens, lifted leads, wettability, excess and insufficient solder, debris, and more	
Other Defects	Gold-finger contamination, pin-in-hole, bent pins, debris, and many others	
Component Measurement 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 <sup>2</sup> ) Technology	
Programming	Simple online 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, 50/60 Hz	
System Dimensions	100 x 104.7 x 124 cm (W x D x H)	
Weight	249 kgs (548.951 lbs.)	
Machine Installation	<1 hour	
Options	SPC Software, Offline Defect Rework Station, Sensor Alignment Target, Barcode Readers (1D/2D)	

For more information, speak with your Nordson representative or contact your Nordson regional office

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