QX250i™ 2D AOI

Automated Optical Inspection

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.

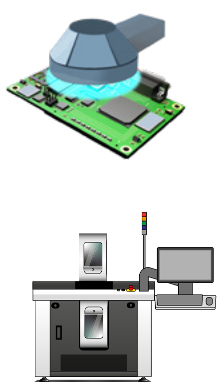
Nordson TEST & INSPECTION offers its SMT & Semiconductor customers a robust product portfolio, including Acoustic, Optical and both Manual and Automated X-ray Inspection systems, X-ray Component Counting systems and Semiconductor measurement sensors. Nordson TEST & INSPECTION is uniquely positioned to serve its customers with best-in-class precision technologies, passionate sales and support teams, global reach, and unmatched consultative applications expertise.

Exceptional support
from Nordson's worldwide network

AOI Products

Proprietary Advanced Technology

Optical Inspection
& Metrology



WS Products

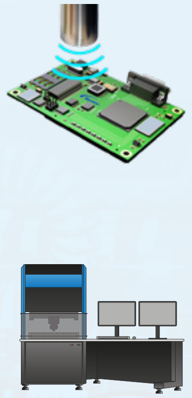
Improve Your Yields

Semiconductor
Metrology Sensors

AMI Products

Qualify Your Design

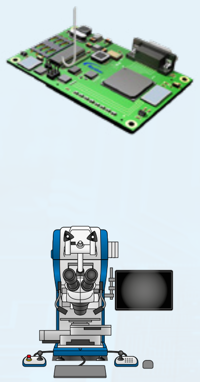
Acoustic
Inspection



BT Products

Test Your Design

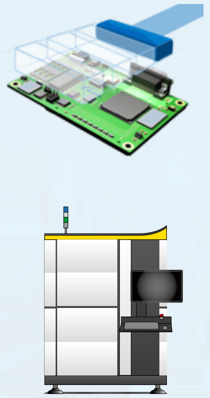
Bondtesters



AXI Products

High Speed High Flexibility

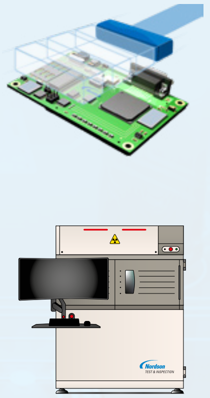
Automated
X-ray Inspection



MXI Products

Making the Invisible, Visible

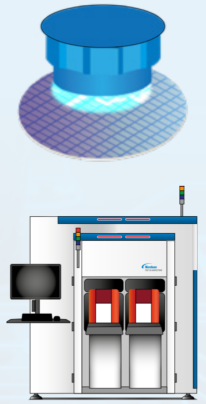
Manual
X-ray Inspection



AXM Products

Measuring the Invisible

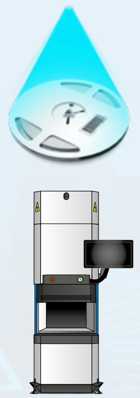
Automated
X-ray Metrology



CC Products

Maximize Efficiency

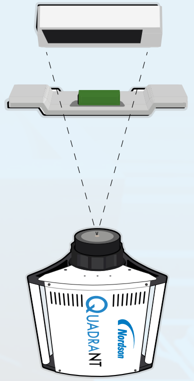
X-ray Component
Counting



XRT Products

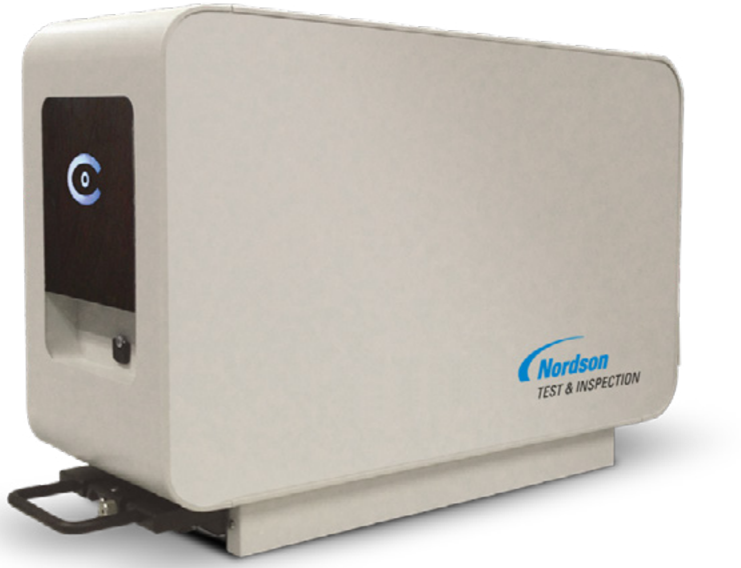
High Speed High Resolution

X-ray
Technologies



Intelligent Sensing Technology

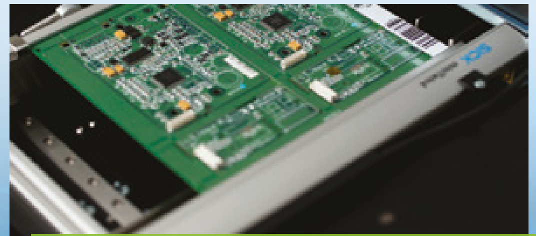
The QX250i™ offers High Value, Flexible Inspection for All Applications, and is Ideal for Selective Solder and Pre-Reflow. The SIM (Strobed Inspection Module) is the core engine behind every QX250i™ / QX200i™ system enabling 'on-the-fly' high performance inspection. Designed and manufactured exclusively 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.

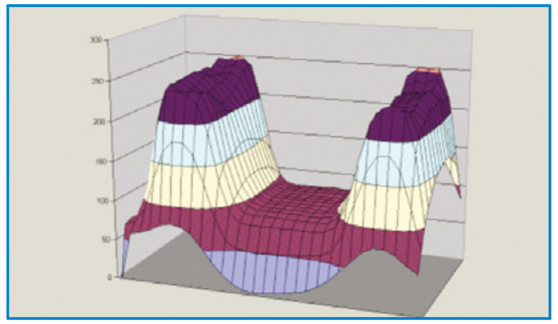
The SIM on the QX250i™ is designed with enhanced illumination – delivering the best 01005 and solder joint inspection performance ever. With an 80 Megapixel sensor and higher resolution (12 µm), you get crisp, perfect quality images for more accurate defect review. (The QX200i™ uses a 40 Megapixel sensor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



01005 component size inspection capability

Inspect 'Anything'

Nordsons' AI² (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.



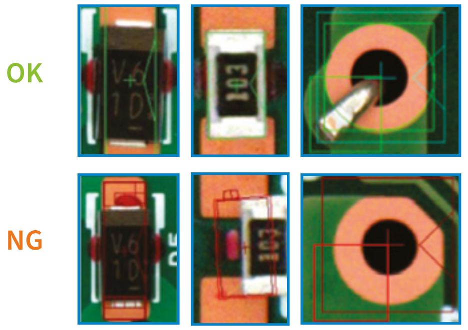
AI² Software's unique image processing technique.

AI² is all about keeping it simple

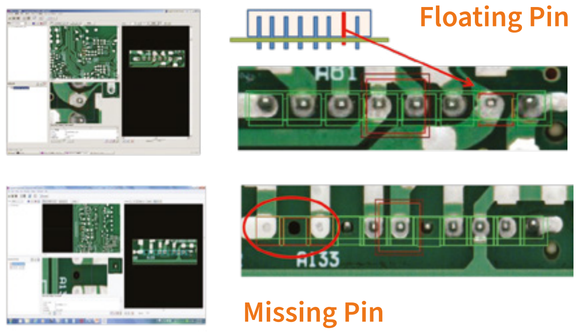
No parameters to adjust or algorithms to tune. And, you don't need to anticipate defects or pre-define variance either – AI² does it all for you.

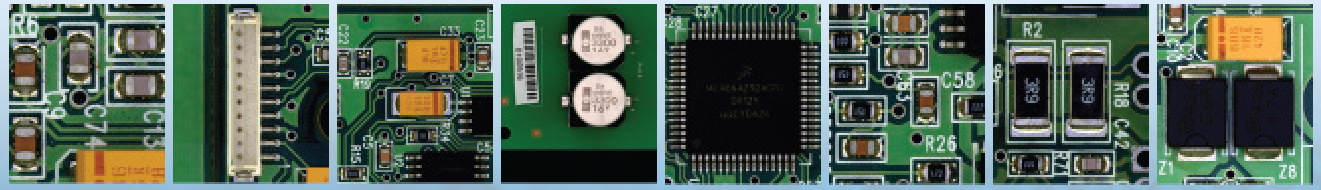
Just draw a box, show a few good examples and you are ready to inspect just about anything. Simply add good examples to the AI² model and the false call rates reduce significantly providing a very robust inspection solution.

Pre-Refow 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.

3-Easy-Steps Programming

1. Import Component from Library
2. Auto-collect First Example
3. Auto-update Model

< 13 min

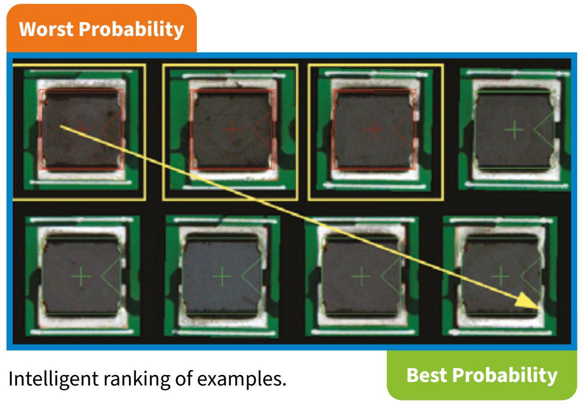
Programming for pre-defined parts

Simplified programming process.

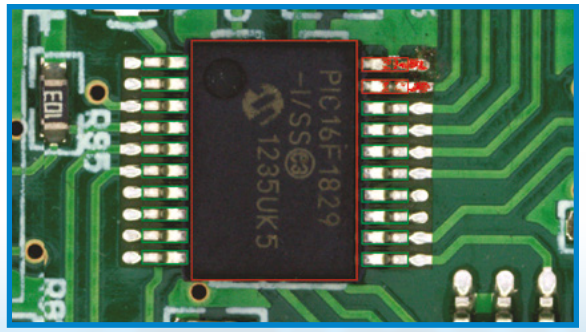
AI^2 - Faster, Simpler, and Smarter

With AI^2 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^2 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.



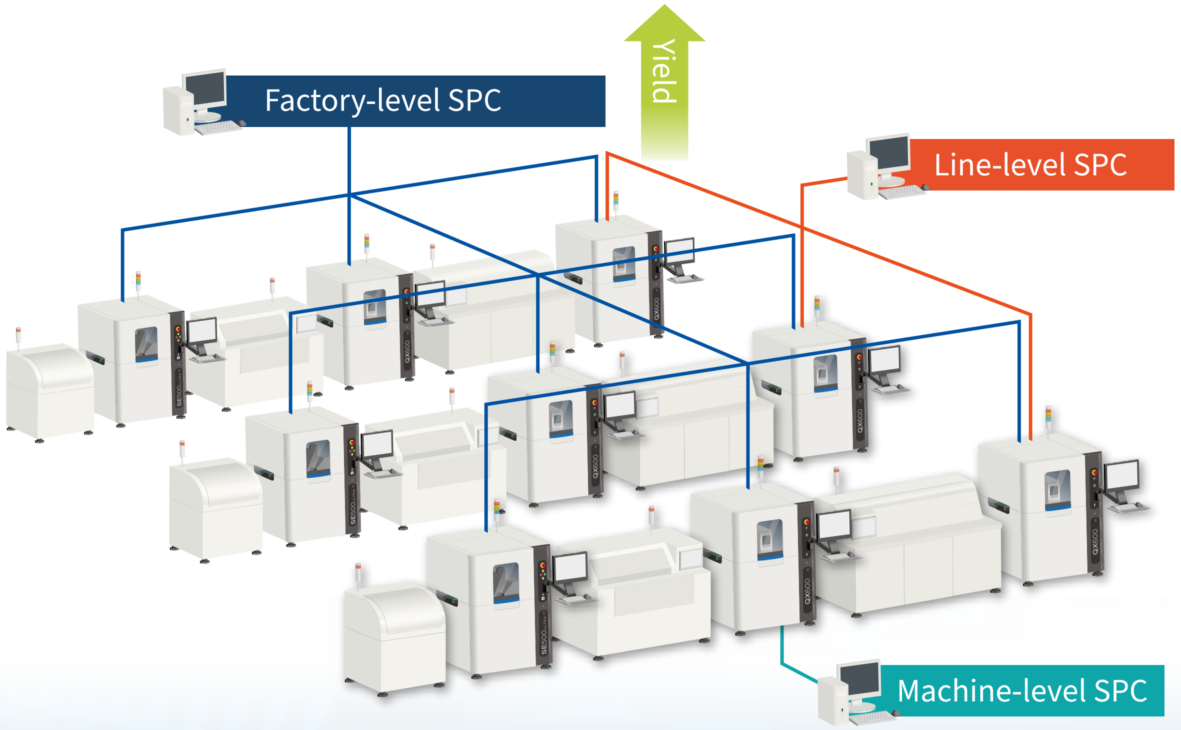
Intelligent ranking of examples.



Active pixel marking.

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^2/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^2) Technology	
Programming	Simple online or offine	
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 (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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CERTIFIED ISO 9001 UKAS MANAGEMENT SYSTEMS 001

THE QUEEN'S AWARDS FOR ENTERPRISE: INTERNATIONAL TRADE 2020

Nordson Test & Inspection products are patent protected and covered by the patent listed at www.nordson.com.

BR-QX250i 20/01/2024-V1

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