QX150i™ 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.

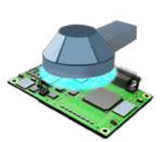
Nordson TEST & INSPECTION offers its SMT & Semiconductor customers a robust product portfolio, including Acoustic, Optical and both Manual and Automated X-ray Inspection systems, X-ray Component Counting systems and Semiconductor measurement sensors. Nordson TEST & INSPECTION is uniquely positioned to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

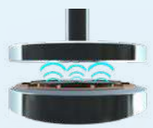
Optical Inspection & Metrology



WS Products

Improve Your Yields

Semiconductor Metrology Sensors



AMI Products

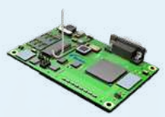
Qualify Your Design

Acoustic Inspection

BT Products

Test Your Design

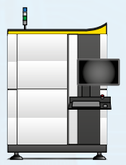
Bondtesters



AXI Products

High Speed High Flexibility

Automated X-ray Inspection



MXI Products

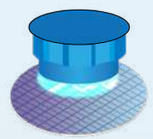
Making the Invisible, Visible

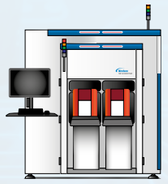
Manual X-ray Inspection

AXM Products

Measuring the Invisible

Automated X-ray Metrology

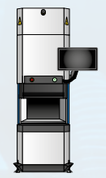




CC Products

Maximize Efficiency

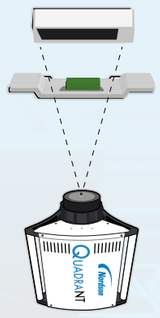
X-ray Component Counting



XRT Products

High Speed High Resolution

X-ray Technologies



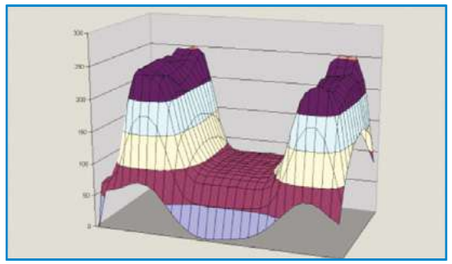
Intelligent Sensing Technology

The QX150i™ 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 QX150i™ 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.

An all-new SIM on the QX150i™ 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.

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.



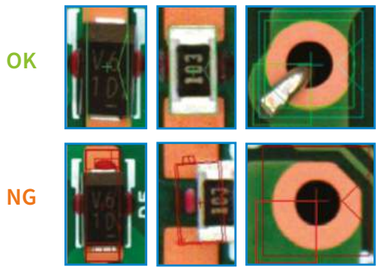
AI² Software's unique image processing technique.

AI² is all about keeping it simple

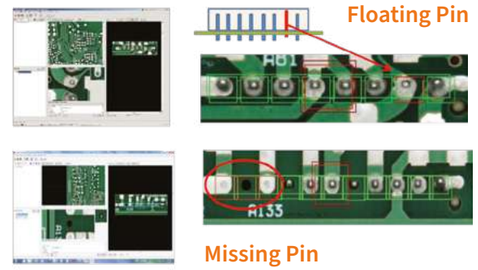
No parameters to adjust or algorithms to tune. And, you don't need to anticipate defects or pre-define variance either – AI² does it all for you.

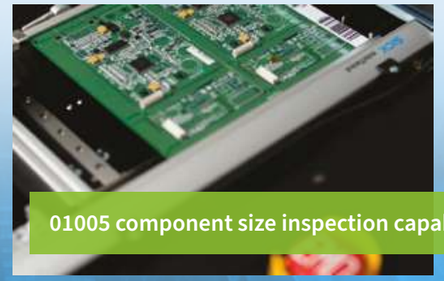
Just draw a box, show a few good examples and you are ready to inspect just about anything. Simply add good examples to the AI² model and the false call rates reduce significantly providing a very robust inspection solution.

Pre-Refow Inspection



Selective Soldering Inspection



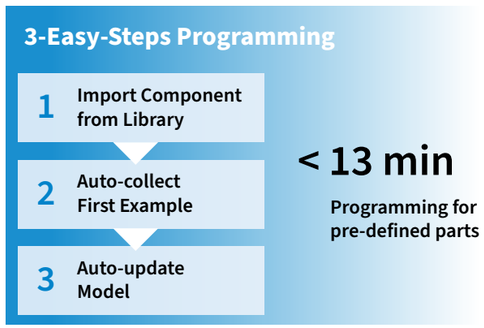


01005 component size inspection capability

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.

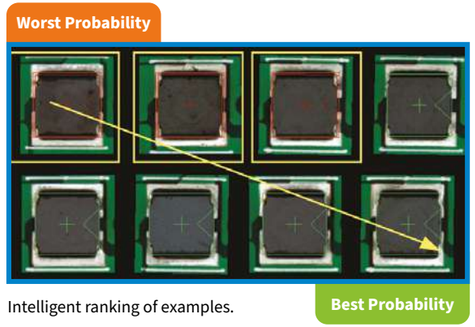


Simplified programming process.

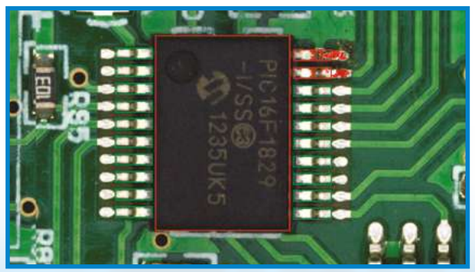
AI² - Faster, Simpler, and Smarter

With AI² 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, 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.

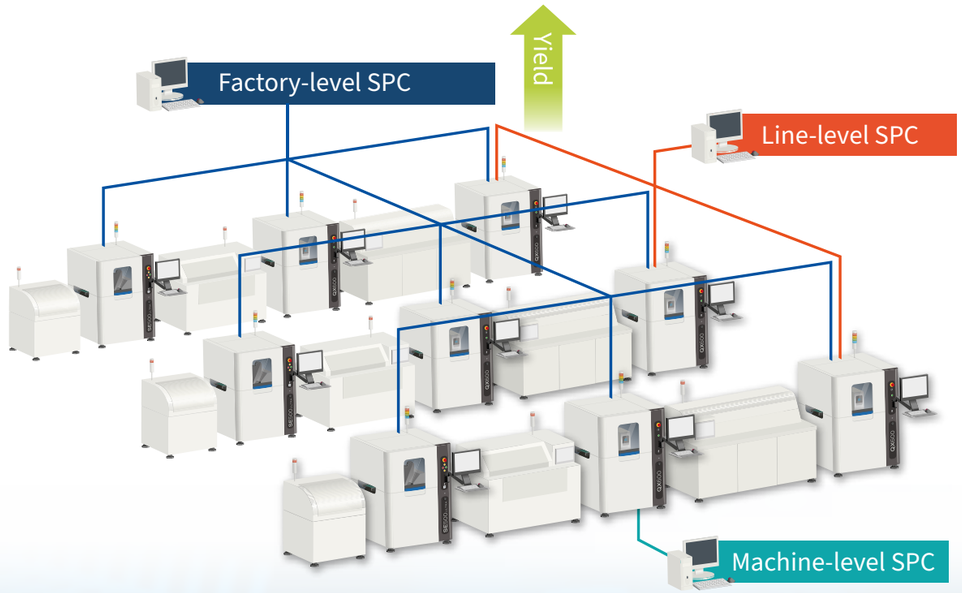


Active pixel marking.

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.

CYBERREPORT



Specifications

Inspection Capabilities	QX150i	QX100-i
Inspection Speed	200 cm^2/sec (31 $in.^2$/sec)	
Minimum Component Size	0402 mm (01005 in.)	
Board Length	Min. 50 mm (2 in.)/ Max. 400 mm (15.7 in.)	Min. 50 mm (2 in.)/ Max. 410 mm (16.1 in.)
Board Width	Min. 50 mm (2 in.)/ Max. 308 mm (12 in.)	
Component Height Clearance (max)*	Top: 35 mm (1.37 in.) Bottom: 23mm (0.90 in.)	Top: 30 mm (1.18 in.) Bottom: 25mm (0.98 in.)
Board Edge Clearance (min)	3.0 mm (0.125 in.) – bottom side only	
Component Types Inspected	Standard SMT (chips, J-lead, gull-wing, BGA, etc.), through-hole, odd-form, clips, connectors, header pins, and more	
Component Defects	Missing, polarity, tombstone, billboard, flipped, wrong part, gross body and lead damage, 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	
Measurement Gage R&R	< 10% (down to 0402 mm components)	

Vision System		
Imagers	80 Megapixel Sensor	40 Megapixel Sensor
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 840 – 990 mm (33.1 – 38.9 in.)
Machine Interface	SMEMA, RS232 and Ethernet
Power Requirements	100-120 VAC or 220-240 VAC, 50/60 hz, 10-15 amps
System Dimensions	100 x 88.6 x 132.1 cm (W x D x H)
Weight	~219 kgs (483 lbs.)
Machine Installation	<1 hour

Options	
	SPC Software, Offline Defect Rework Station, Sensor Alignment Target, Barcode Readers (1D/2D)

*QX150i SN4000-40007 height clearance (top) is 30mm

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

Nordson Test & Inspection Europe, SEA, Africa
ti-sales-eu@nordson.com

Nordson Test & Inspection Americas
ti-sales-us@nordson.com

Nordson Test & Inspection China
ti-sales-cn@nordson.com

Nordson Test & Inspection Japan
ti-sales-jp@nordson.com

Nordson Test & Inspection Singapore
ti-sales-eu@nordson.com

Nordson Test & Inspection Taiwan
ti-sales-tw@nordson.com

Nordson Test & Inspection Korea
ti-sales-korea@nordson.com

Specifications subject to change without prior notice. Copyright © Nordson 2024. Other products and company names mentioned are trademarks or trade names of their respective companies.

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

BR-QX150i 20/01/2024-V1

www.nordson.com/TestInspect

Nordson TEST & INSPECTION