



Powered by
2
MRS Sensors

SE3000-DDTM 3D SPI

Automated Optical Inspection

www.nordson.com/TestInspect



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.

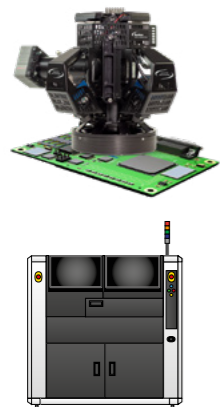


Exceptional support
from Nordson's worldwide network

AOI Products

Proprietary Advanced Technology

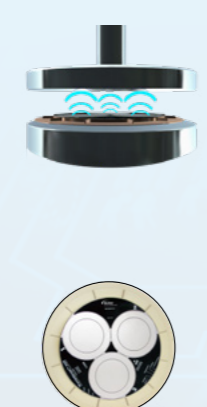
Optical Inspection & Metrology



WS Products

Improve Your Yields

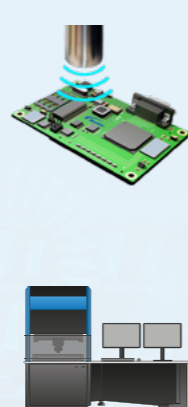
Semiconductor Metrology Sensors



AMI Products

Qualify Your Design

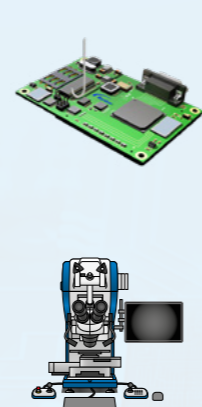
Acoustic Inspection



BT Products

Test Your Design

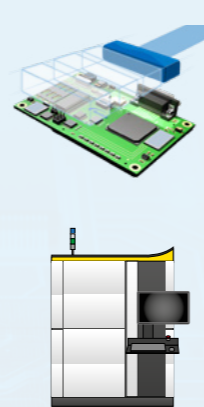
Bondtesters



AXI Products

High Speed High Flexibility

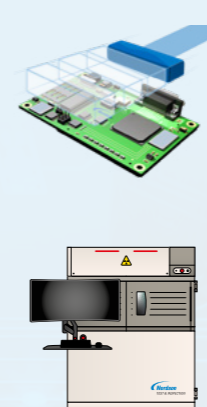
Automated X-ray Inspection



MXI Products

Making the Invisible, Visible

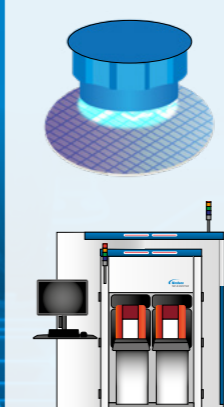
Manual X-ray Inspection



AXM Products

Measuring the Invisible

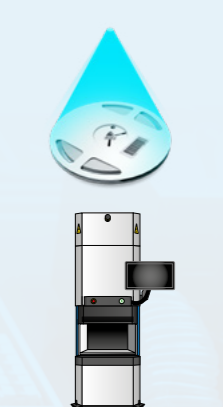
Automated X-ray Metrology



CC Products

Maximize Efficiency

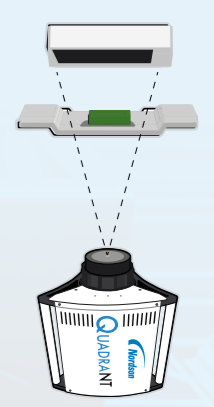
X-ray Component Counting



XRT Products

High Speed High Resolution

X-ray Technologies



True Measurement, Supreme Quality

The SE3000 DD SPI system incorporates the industry leading MRS™ sensor technology with a finer resolution for the best accuracy, repeatability and reproducibility - even on the smallest paste deposits.

Combined with the award winning, easy-to-use SPI software, solder paste inspection has a new level of precision for the most stringent requirements. The SE3000 D (dual lane, single sensor) is also available.



Shorter Inspection Times



Unmatched Accuracy and Resolution with MRS Technology



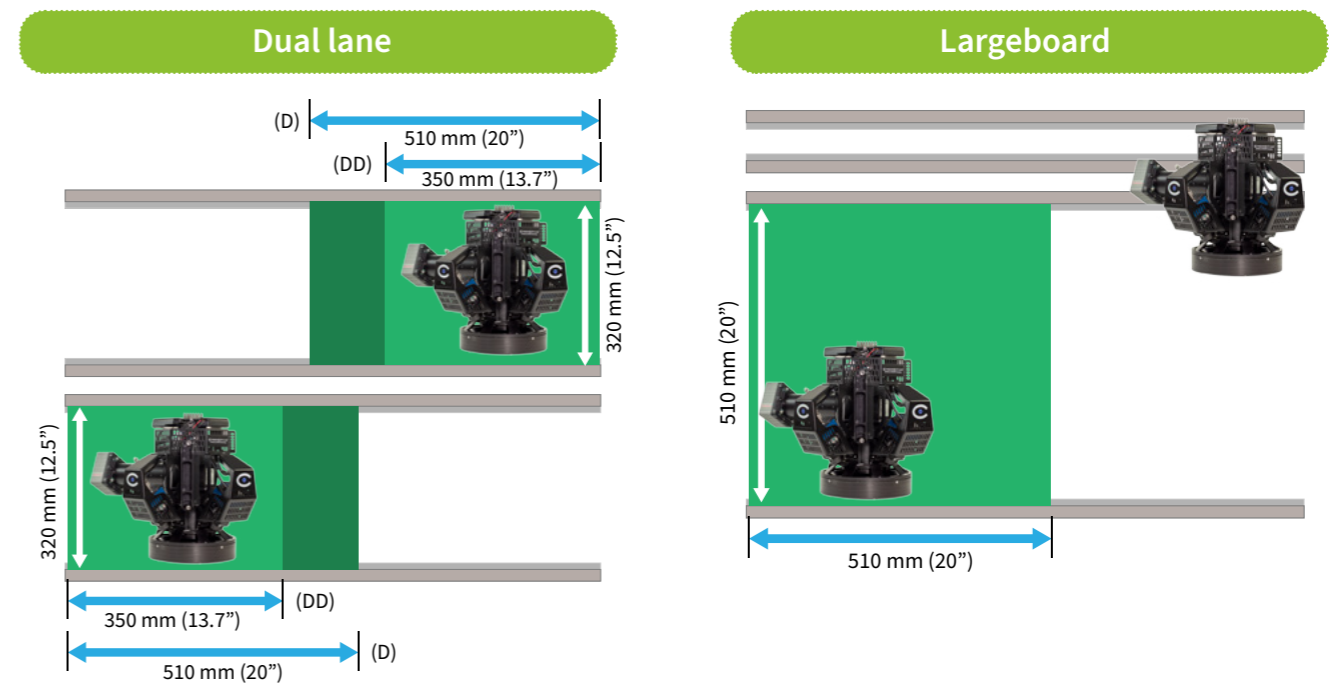
Versatility for Applications with High Quality Requirements

Performance at its Best (Accuracy & GR&R)

Flexibility At Its Best

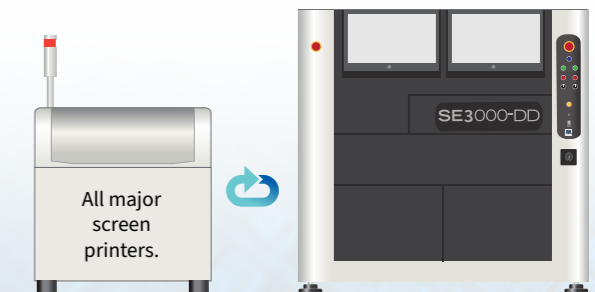
The SE3000 DD 3D Solder Paste Inspection (SPI) System is an extension of the award-winning SE3000™ 3D SPI platform. The dual lane, dual sensor system maximizes flexibility catering to varying PCB widths. This unique design provides the ability to inspect high volume assemblies, the convenience of inspecting different assemblies and board sizes simultaneously on different lanes, or even switching from dual lane to single lane mode to inspect very large boards.

Not only does the SE3000 DD provide PCB flexibility, it also provides the flexibility to choose two of the same or two different proprietary MRS sensors.



Feedback, Feed Forward Ready

SE3000 DD fully supports feedback and feed forward capability with leading Solder Paste Printer and SMT Moulder vendors respectively. With simple configuration settings, SE3000 DD gives you the power to do more with SPI results - optimize printing process, establish stencil cleaning cycles and fine-tune printer setup. All this means reduced rework costs, increased production throughput and improved yields.

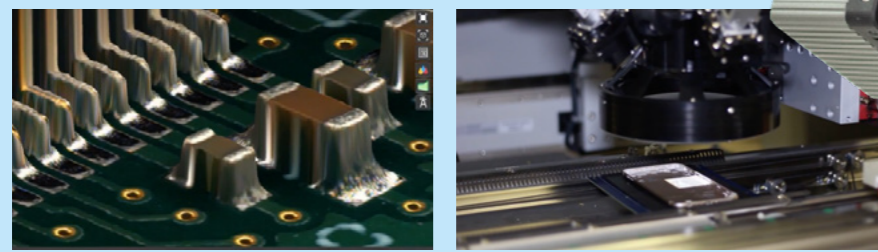


Multi-Reflection Suppression[®] (MRS[®]) Sensor Technology

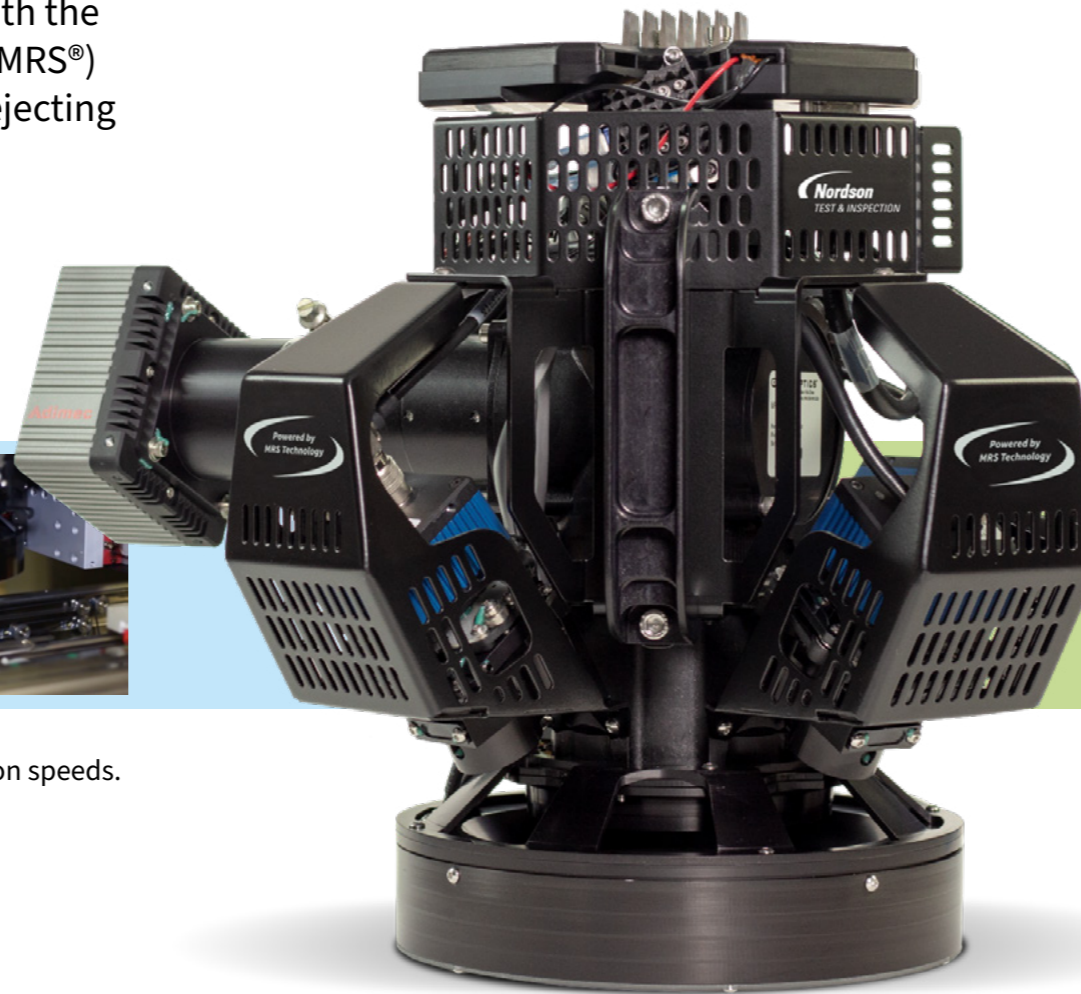
The SE3000-DD offers unmatched accuracy with the revolutionary Multi-Reflection Suppression[®] (MRS[®]) technology by meticulously identifying and rejecting reflections caused by shiny components.

Reflection based distortions

MRS is designed to Inhibit reflection-based distortions from shiny and specular surfaces.



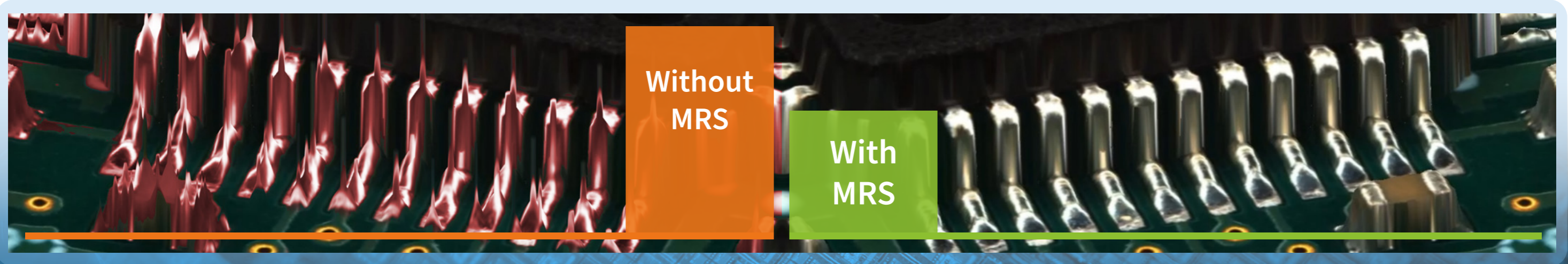
Enabling the highest possible inspection accuracy at production speeds.



Nordson TEST & INSPECTION has advanced the proprietary Multi-Reflection Suppression (MRS) sensor to an even finer resolution. The Ultra-High Resolution MRS sensor enhances the SE3000 DD platform, delivering superior inspection performance, ideally suited for the 0201 metric process and microelectronic applications where an even greater degree of accuracy and inspection reliability is critical.

MULTIPLE MRS SENSOR OPTIONS

Standard MRS Sensor	Ultra High Resolution
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Award-Winning Intuitive Software

The SPI V5 series software delivers world-class user experience with its intuitive interface, completely changing the way users interact with our system.

With full multi-touch experience, SPI V5 series software offers a range of revolutionary features that enable smarter and faster inspection.

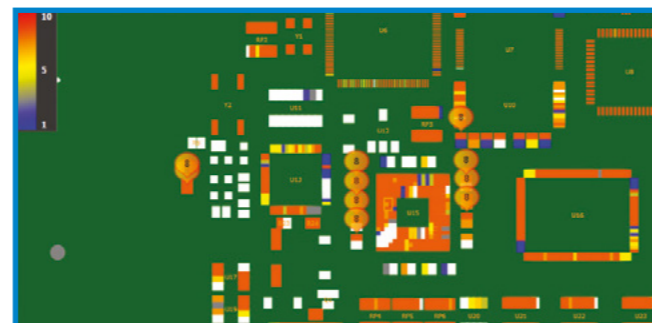


Defect Review Interface.

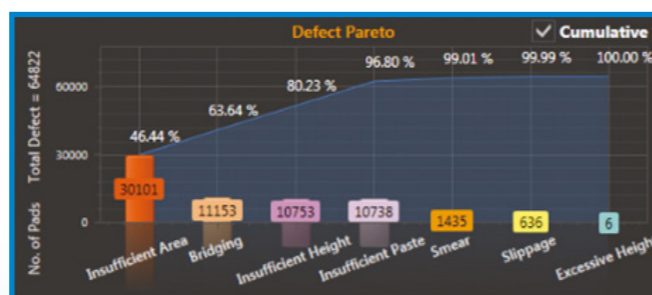


Features Include

- Seamless integration of all applications - Teach, Inspection, Defect Review and Real-time SPC.
- Unlimited undo-redo and global search options in Teach.
- Loads of smart, informative and relevant charts that provide yield summary, FPY information, hotspot display, top 10 pad failures, historical panel and more.
- Easy, hassle-free operation using multi touch, multi-selection, pinchzoom, and pan-move options.



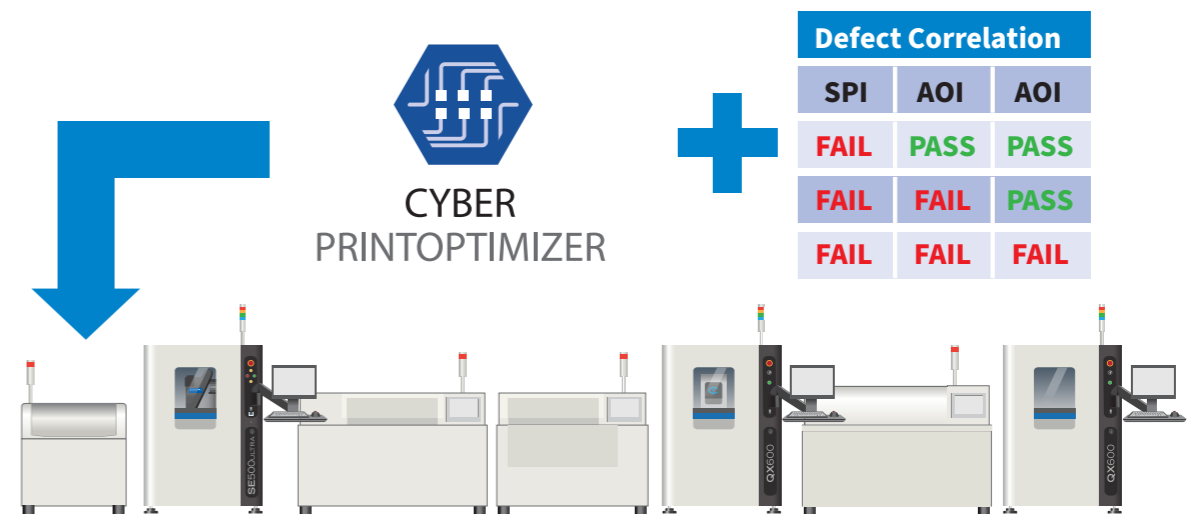
Hot Spot Display.



Real-time SPC.

CyberPrint OPTIMIZER™ Ready

CyberPrint OPTIMIZER™ automatically optimizes the print process by proactively analyzing accurate trend data - first-ever in the industry! Pre-defined templates help you get started quickly while customizable rules support perfect customization for specific product needs. CyberPrint OPTIMIZER's predictive process improvement gets you better yields and reduces downtime.

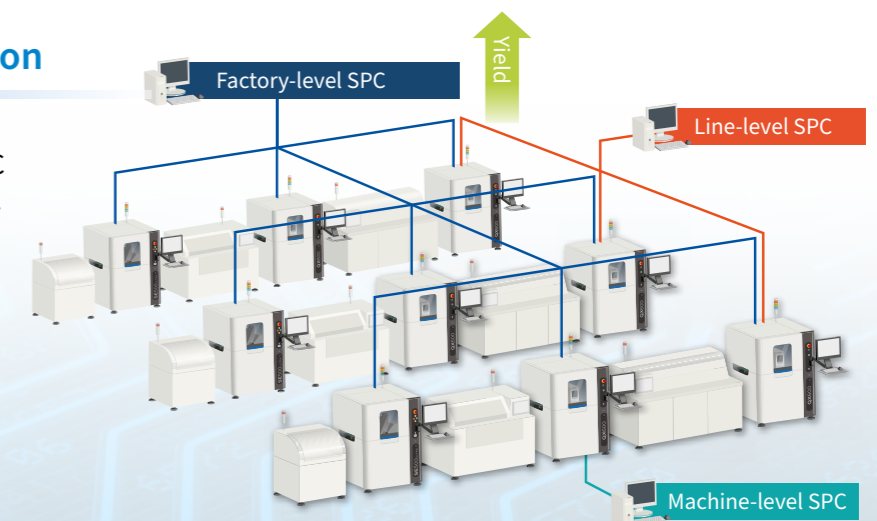


Defect Correlation		
SPI	AOI	AOI
FAIL	PASS	PASS
FAIL	FAIL	PASS
FAIL	FAIL	FAIL

Failure analysis drives line optimization and auto tolerance changes

Fast, scalable SPC solution

CyberReport™ offers full-fledged machine-level to factory-level SPC capability with powerful historical analysis and reporting tools.



↑ Yield

High End Applications

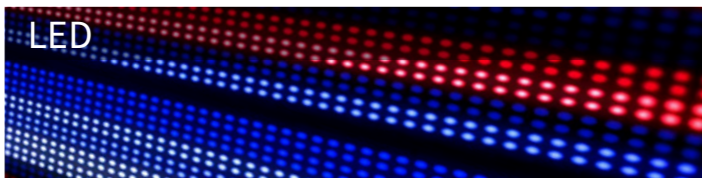
MRS is an ideal technology solution for a wide range of applications including those with very high quality requirements.



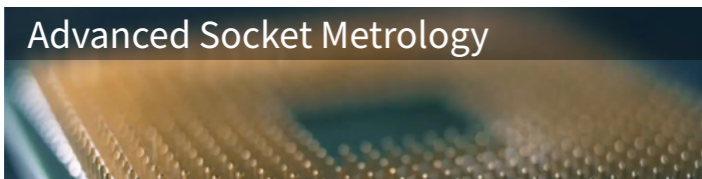
Advanced Packaging



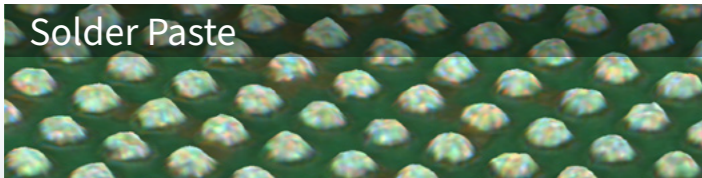
LED



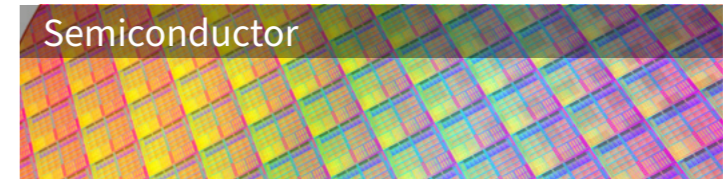
Advanced Socket Metrology



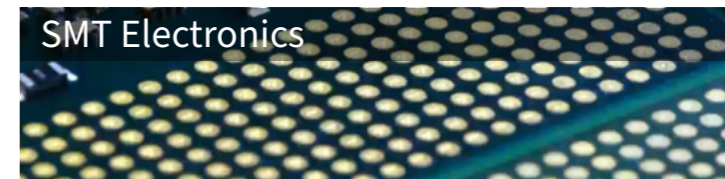
Solder Paste



Semiconductor



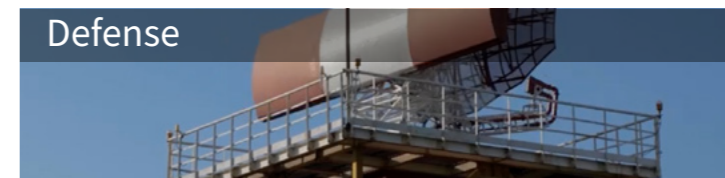
SMT Electronics



Medical



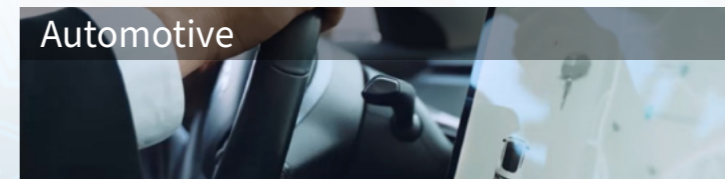
Defense



Aerospace



Automotive



Specifications

Inspection Capabilities	Standard MRS Sensor	Ultra-High Resolution MRS Sensor
Inspection Speed	35 cm ² /sec (2D+3D)	15 cm ² /sec (2D+3D)
Minimum Component Size	0402 mm (01005 in.)	0201 mm (008004 in.)
Panel Size (Max.)	SE3000 DD: Single Lane: 510 x 510 mm (20 x 20 in.); Dual Lane: 350 x 320 mm (13.7 x 12.5 in.) SE3000 D: Single Lane: 510 x 510 mm (20 x 20 in.); Dual Lane: 510 x 320 mm (20 x 12.5 in.)	
Clearance	Top: 50 mm (1.96 in.); Bottom: 30mm (1.18 in.)	
Panel Thickness	0.3 mm to 5.0 mm (0.01 in. to 0.2 in.)	
Panel Edge Clearance	3.0 mm (0.12 in.)	
Maximum Panel Weight	3.0 kg (6.6 lbs)	
Measurement Types	Height, Area, Volume, Registration, Bridge Detection, Defect Review	
Measurement Gage R&R	<10%, 6 σ on Printed Circuit Board; <5% 6 σ on Certification Target	<5%, 6 σ on Printed Circuit Board; <3% 6 σ on Certification Target
Z Height Accuracy	3 μ m on a Certification Target	
Z Height Measurement Range	1 mm	
Conveyor Speed Range	150 - 450 mm/sec (5.9 - 17.7 in./sec)	
Conveyor Adjustment	Automatic	

Vision System & Technology		
Imagers	Multi-3D sensors	
Resolution	18 μ m	9 μ m
Field of View (FOV)	36 x 36 mm (1.42 x 1.42 in.)	21 x 21 mm (0.82 x 0.82 in.)
Maximum Pad Size in FOV	15 x 15 mm (0.6 x 0.6 in.)	
Maximum Inspection Area - SE3000 DD	Single Lane: 504 x 504mm (19.84 x 19.84 in.) Dual Lane: 344 x 314mm (13.54 x 12.36 in.)	
Maximum Inspection Area - SE3000 D	Single Lane: 504 x 504mm (19.84 x 19.84 in.) Dual Lane: 504 x 314mm (19.84 x 12.36 in.)	

System Specifications	
Machine Interface	SMEMA, RS232 and Ethernet
Power Requirements	100-120 VAC or 220-240 VAC, 50/60 hz, 10-15 amps
Compressed Air Requirements	5.6 Kg/cm ² to 7.0 Kg/cm ² (80 to 100 psi @ 4 cfm)
System Dimensions	170.5 x 162 x 152 cm (W x D x H) Height excludes signal-light pole and leveling feet
Weight	~1596 kg (3519 lbs.)

Options	
	Barcode Reader, Rework station, SPC Software, Alignment Target • Standard SE3000, SE3000 X and SE3000XL models available

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

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