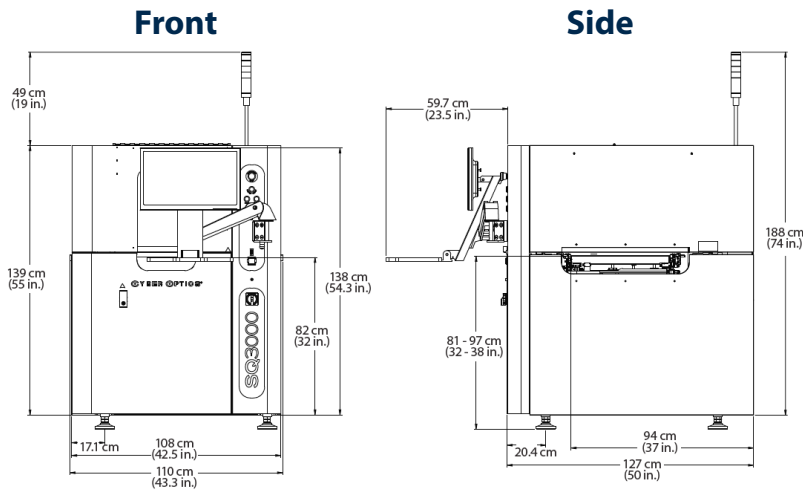


Inspection Capabilities		MRS Sensor	Ultra High Resolution MRS Sensor
Inspection Speed	30-40 cm²/sec (2D+3D)	15 cm²/sec (2D+3D)	
Minimum Component Size	0402 mm (01005 in.)		0201 mm (008004 in.)
PCB Size	510 x 510 mm (20 x 20 in.)		
Component Height Clearance	50 mm		
PCB Thickness	0.3 - 5 mm		
Component 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 and Other Defects	Gold finger contamination, excess solder, insufficient solder, bridging, through-hole pins		
3D Measurement Inspection	Lifted Lead, package coplanarity, polarity dimple and chamfer identification		
Measurement Gage R&R	<10% @ ±3σ (±80 μm process tolerance)		
Z Height Accuracy	1 μm on certification target		
Z Height Measurement Range	6 mm at spec, 24 ¹⁰ mm capability	3 mm at spec, 10 mm capability	
Vision System & Technology			
Imagers	Multi-3D sensors		
Resolution	Sub 10 μm	7 μm	
Image Processing	Autonomous Image Interpretation (AI²) Technology, Coplanarity and Lead Measurement		
Programming Time	<15 minutes (for established libraries)		
CAD Import	Any column-separated text file with ref designator, XY, Angle, Part no info; Valor process preparation		
System Specifications			
Machine Interface	SMEMA, RS232 and Ethernet		
Power Requirements	100-120 VAC or 220-240 VAC, 50/60 hz, 10 amp max.		
System Dimensions	110 x 127 x 139 cm (W x D x H)		
Weight	≈965 kg (2127 lbs.)		
Options			
Barcode Reader, Rework station, SPC Software, Alignment Target			



SQ3000™

The Ultimate in Speed and Accuracy

Powered by
MRS Technology



AWARD WINNING

- • • • •
- 2015 SMT Vision Award
- 2015 EM Asia Innovation Award
- 2015 Global Technology Award
- 2016 Global Technology Award

NEW
Ultra-High Res
MRS Sensor



CYBEROPTICS®

Contact CyberOptics today for more information
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CYBEROPTICS®

SQ3000™

The Ultimate in Speed and Accuracy

High Precision Accuracy with Multi-Reflection Suppression (MRS) Sensor Technology

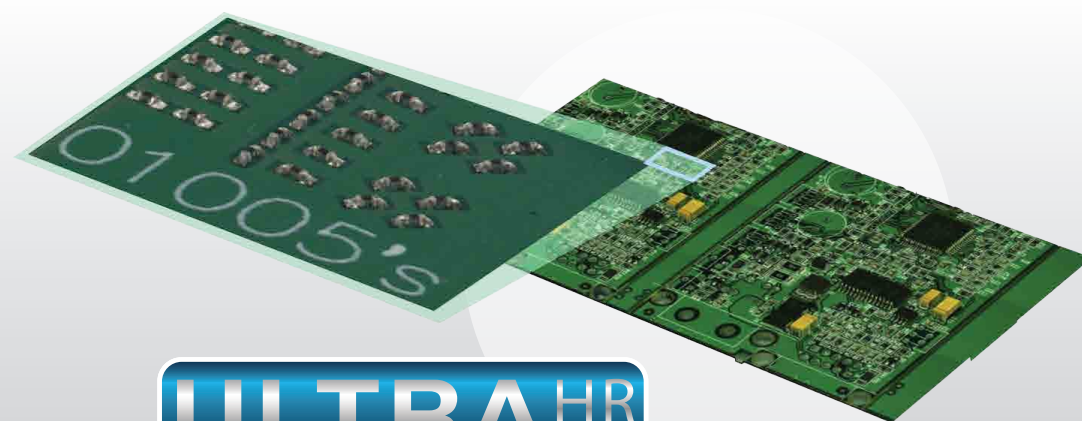
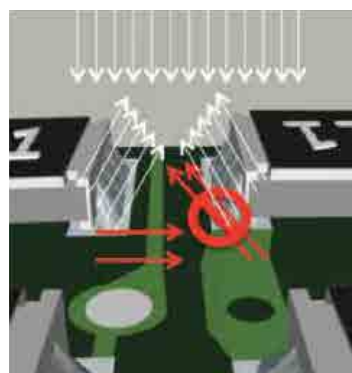
The SQ3000™ is powered by CyberOptics' breakthrough 3D sensing technology comprising four multi-view 3D sensors and a parallel projector delivering metrology grade accuracy at production speed. CyberOptics' unique sensor architecture simultaneously captures and transmits multiple images in parallel while proprietary 3D fusing algorithms merge the images together. The result is ultra-high quality 3D images and high-speed inspection.



Multi-Reflection Suppression (MRS) Technology

SQ3000™ offers unmatched accuracy with the revolutionary MRS technology by meticulously identifying and rejecting reflections caused by shiny components and reflective solder joints. Effective suppression of multiple reflections is critical for true height measurement making MRS an ideal technology solution for a wide range of applications including those with very high quality requirements.

CyberOptics has advanced the proprietary Multi-Reflection Suppression (MRS) sensor to an even finer resolution. The Ultra-High Resolution MRS sensor enhances the SQ3000 3D AOI platform, delivering superior inspection performance, ideally suited for the 0201 metric process and micro-electronic applications where an even greater degree of accuracy and inspection reliability is critical.



ULTRA^{HR}
HIGH RESOLUTION

Intuitive, Easy-to-Use Software

The SQ3000™ software is a powerful yet extremely simple software designed with an intuitive interface that reduces training efforts and minimizes operator interaction – saving time and cost. Based on the award-winning SPI V5 software, the SQ3000 software includes multi-touch controls and 3D image visualization tools, taking ease-of-use to a whole new level.

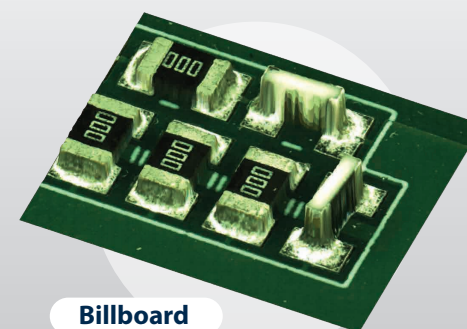
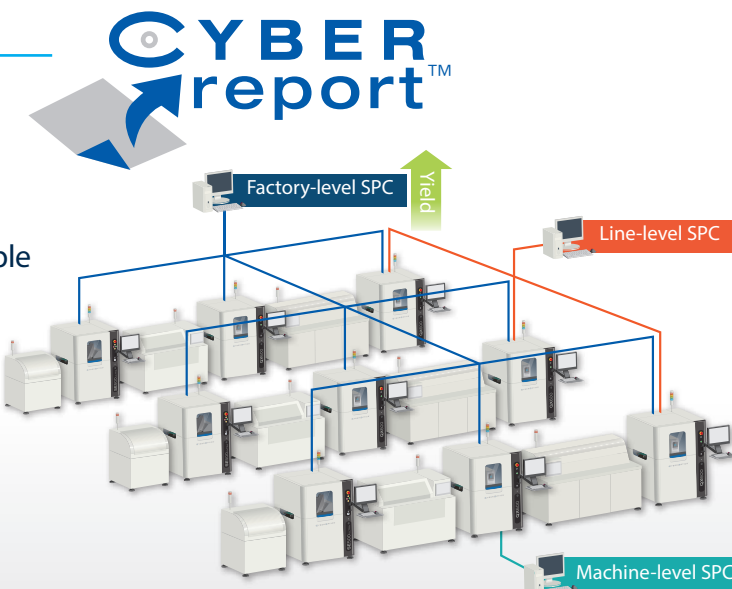


AI² - Faster, Smarter Programming

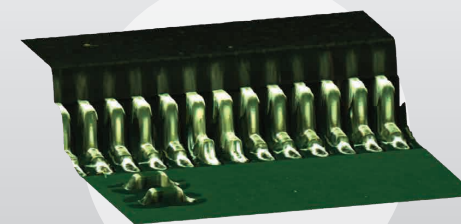
AI² (Autonomous Image Interpretation) technology is all about keeping it simple - no parameters to adjust or algorithms to tune. And, you don't need to anticipate defects or pre-define variance either - AI² does it all for you. With AI², you have the power to inspect the most comprehensive list of features and identify the widest variety of defects. AI² offers precise discrimination with just one panel inspection making it a perfect solution for high-mix and high-volume applications.

Fast, Scalable SPC Solution

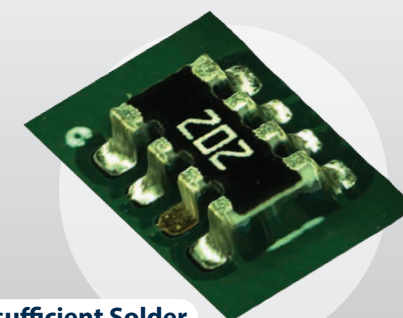
CyberReport™ offers full-fledged machine-level to factory-level SPC capability with powerful historical analysis and reporting tools delivering complete traceability for process verification and yield improvement. CyberReport™ is easy to setup and simple to use while providing fast charting with a compact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



Billboard



Lifted Leads



Insufficient Solder