

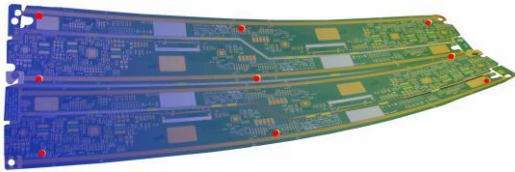
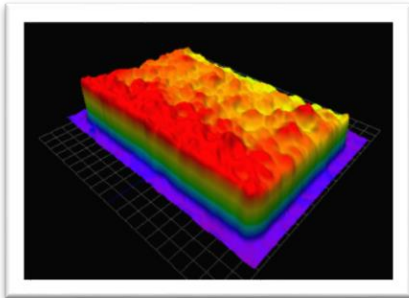
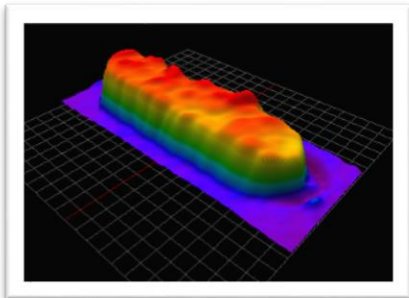
# TECHNOLOGICALLY ADVANCED

## MS-11E 3D SPI Series

# MIRTEC

  
**CoaXPress**

- High-Speed / High-Performance **3D SPI MACHINE**
- **FIFTEEN MEGA PIXEL** CoaXPress Camera Technology
- 10 Micron / Pixel Precision Telecentric Compound Lens Design
- Precision Closed Loop AC Servo Drive Motor System
- Extremely Simple Programming and Operation
- Closed Loop Communication with SMT Printer



- **MOIRÉ** 3D Phase Step Image Processing
- Advanced Dual Projection **SHADOW FREE** Design
- Superior Solder Profile Characterization
- Absolute Repeatability and Reproducibility
- Precision Laser PCB Warpage Compensation



[www.mirtec.com](http://www.mirtec.com)

## MS-11E Features and Specifications

### 3D Inspection Technology

3D Inspection Technology	Shadow Free - Moiré 3D Phase Step Image Processing	
Height Resolution	0.1um	
Height Accuracy	Calibration Jig	2 um
Height Repeatability	Calibration Jig	±1%
Volume Repeatability	Calibration Jig	±2%
Solder Height	Maximum	450 um
	Minimum	40 um
PCB Warpage	±5 mm	
Measurement Capability	Volume, Area, Height, X-Y Position, Bridge, Shape, Etc.	

### Image Transfer Technology

15 Mega Pixel Camera	3,904 x 3,904 Pixels	CoaXPress	120 fps
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### ISIS® Vision System ( FOV Size )

15 Mega Pixel Camera	3,904 x 3,904 Pixels	Option 1	Pixel Resolution : 20 um	78.08 mm x 78.08 mm (3.07" x 3.07")
		Option 2	Pixel Resolution : 15 um	58.56 mm x 58.56 mm (2.31" x 2.31")
		Option 3	Pixel Resolution : 10 um	39.04 mm x 39.04 mm (1.54" x 1.54")

### Maximum Inspection Speed

15 Mega Pixel Camera	CoaXPress @ 120fps	Option 1	Pixel Resolution : 20 um	1,100 mm2/sec (17.05 in2/sec)
		Option 2	Pixel Resolution : 15 um	6,600 mm2/sec (10.23 in2/sec)
		Option 3	Pixel Resolution : 10 um	3,000 mm2/sec (4.65 in2/sec)

### System Specifications

Lens Configuration	Precision Telecentric Compound Lens Design		
Laser PCB Warpage Compensation	1um / Point		
PCB Top Side Clearance	25mm		
PCB Bottom Side Clearance	25mm (Option : 50.8 mm)		
Maximum PCB Warpage	±3mm		
Barcode System (Option)	1D or 2D Barcode Reader		
Built-in SPC	Statistical Process Control Software (Local)		
Built-in Repair	Repair Plus Software (Local)		
Teaching Software	Option 1	GerbPad Software	
	Option 2	ePM-SPI Software	
Robot Positioning System	X/Y Axis	Precision Closed Loop AC Servo Drive Motor System	
	Resolution	1 um	
	Repeatability	±10 um	
Power Requirements	MS-11 / MS-11U	Single Phase(s) 200~240V 50~60Hz, 1.1 KW	
Air Requirements	5 Kgf / cm2 (0.5 Mpa); (71 PSI)		

### Model Number

### PCB Size Range

MS-11E	50 mm x 50 mm to 510 mm x 460 mm (2.0" x 2.0" to 20.1" x 18.1")
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### Model Number

### Machine Dimensions

MS-11E	1,080mm W x 1,470mm D x 1,500mm H (42.5" x 57.87" x 59.1")
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### Model Number

### Weight

MS-11E	950 kg (2,094.4 lbs)
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