

LIRM Laser Inline Routing System



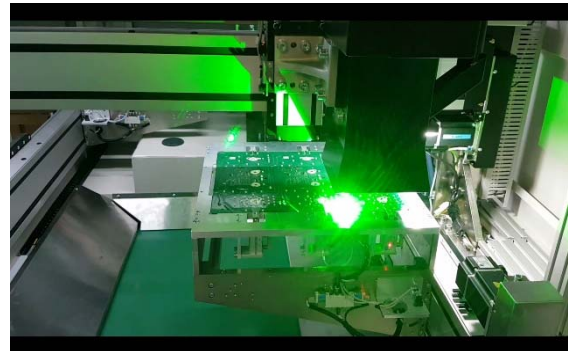
Specially designed for FR4/FR2 and flex PCB assemblies

The LIRM is an inline scanning laser singulation machine specially designed to handle FR4 / FR2 and flex printed circuit board assemblies (PCBA) up to 1.6 mm in thickness.

The LIRM operates two tables for simultaneous cutting and load/unload operations for maximum production effectiveness and flexibility. Parts handling is as simple as positioning on a flat vacuum platen or a simple alignment fixture reducing the expenses usually associated with tooling.

The LIRM employs a 30W green laser source with a wavelength at 532 nm. The green wavelength is well-absorbed by PCB materials and this enables cuts with minimum thermal discoloration.

Fully protected with shielded work area meeting class 1 Laser standards.



Features:

- 2 tables with PCB panel sizes of:
 - 200 mm x 200 mm (version 1)
 - 400 mm x 400 mm (version 2)
- Powerful servo motors powered axis
- CE certification (option)
- 30 Watts Green laser (UV or IR laser options available)
- Move, teach and cut visual programming system

Specifications

Manipulator	
Configuration	X, Y, W & Z axis
Manipulator motors	4 axis AC brushless servo motors
Manipulator repeatability	± 0,02 mm
Resolution	± 0,01 mm
Work Station	
Board Positioning	Dual workstation with nest fixture or pin fixture
Panel Location	Located by tooling holes, edges of PCB or vacuum fixture
Loading	Inline Auto Loading
Unloading	Inline Auto Unloading
Panel Size	200 x 200 mm (version 1) 400 x 400 mm (version 2)
Panel Thickness	less than 1,6 mm for FR4 (Design Guidelines available)
Laser System	
Green Laser Nominal Power	25 W to 30 W @ 40kHz
Laser Medium	Nd: YVO ₄
Wavelength	532 nm
Cooling	On board chiller unit
Peak Power	31,25 kW to 37,5 kW @ 40 kHz
Repetition Rate	Single shot to 400 kHz
Pulse width	< 20nS @ 40 kHz
Pulse Energy	625 µJ to 750 µJ @ 40 kHz
Fume Extractor Unit	
Power	220 W fume extractor unit
Filtration	3 stage filtration with disposable filters Hepa class H14, 99,997% @ 0,3 microns & activated carbon
Vision system	
Video camera	High resolution CCD video camera PCB fiducial capturing or PCB edge positioning (optional)
Programming	
Inline	Vision assisted point to point manual teaching
Offline	CAD and manual program generation capability
Editing function	Dry run vision assisted / test run mode
Safety Features	
	"E" Stops, laser safety shutter, servo overload detection, class 4 laser enclosure work area with laser safety viewing windows
Machine dimensions and utilities	
Machine size W/D/H	1,70 m x 1,90 m x 1,80 m (version 1) 2,00 m x 2,50 m x 1,80 m (version 2)
Power Supply	options available
Options:	
Bar code support	1D or 2D
Fiducial alignment	
MES connectivity & interfacing	

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We are looking forward to your challenge!

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