



SAR-1400-L Laser Singulation Machine

Fast Facts

- Stress Free Non-Contact Laser Depaneling
- SAR-1400-L provides the flexibility to depanel two different panels at once with no changeover
- Laser depaneling produces less dust than traditional routing or cutting with a saw
- Maximum panel size over 13" x 15"
- Every machine movement utilizes precision linear motor technology
- Stationary water cooled laser is the most accurate and never needs to be adjusted due to movement and motor wear
- 15" swivel mounted touch screen interface
- Windows XP Operating System

Tyco Electronics SAR-1400-L Laser Singulation Machine

The SAR-1400-L Laser Singulation Machine combines innovative technologies to provide the flexibility of a traditional bit router with the speed of a singulation press in one completely stress free, dust-reduced laser depaneling solution.

Stress Free Depaneling

Utilizing a laser for the depaneling process means cutting is achieved without making contact with the PCB. Cutting without contact means there is no stress to the PCB or to the delicate components on that PCB.

No stress to the PCB or the components ensures there are no failures due to stress cracks resulting in increased quality and performance of end products.

Stationary Laser Assembly Guarantees a Cut that is Consistently Accurate

The focal point of the beam will not move and the laser accuracy never degrades with machine and motor wear.

Significant Dust Reduction

Laser routing provides significant dust reduction over traditional cutting with a router bit or a saw.

Significant dust reduction means there is no secondary process step required to remove dust left by the depaneling process.

No dust means no foreign material on the PCB or end product that can cause failures or contamination.

Dual Shuttle In-Feed provides Speed, Flexibility, and Accuracy

The dual shuttle in-feed provides the ability to run one PCB very fast or the flexibility to run two different programs simultaneously. The cycle time is less than 2 seconds for the PCB shuttle process. Running two products simultaneously reduces changeover time to zero.

All Axes Utilize High Precision Linear Motor Technology

Every machine movement is extremely fast and accurate.

SAR-1400-L Laser Singulation Machine

Machine Dimensions:

Length: 1440mm [56.7"]
Width: 2152mm [84.73"]
Height: 2250mm [88.59"] (including exhaust)
Table Height: 900mm [35.43"]
Weight: 2000kg [4410 lbs.]

Speed:

X and Y Axis: 2000mm/sec [78.74"/sec]
Z Axis: 1000mm/sec [39.37"/sec]

Accuracy:

Positioning Accuracy: +/- 0.02mm [0.00078"]
Repeat Accuracy: +/- 0.02mm [0.00078"]
Cutting Accuracy: +/- 0.05mm [0.0019"]

PCB Characteristics:

Maximum PCB size:
350mm [13.78"] X 400mm [15.75"]

Maximum Work Space:
342mm [13.46"] X 395mm [15.55"]

Minimum PCB Thickness: 0.5mm [0.019"]
Maximum PCB Thickness: 2mm [0.078"]

Maximum Top Side Component Height:
20mm [0.787"]

Maximum Bottom Side Component Height:
50mm [1.96"]
(Application specific, customization available)

Noise Level:

Measured at a distance of 1.2 M from the machine -
less than 72 db (A)

System Control:

IPC control unit with DIN-programming, continuous
path control
Windows XP operating System
15" Swivel-mounted touch screen

Facilities Requirements:

Power: 400 VAC, 50Hz, 63A
Air: 6 bar [88 PSI] clean, dry air

Ambient Temperature: 18 C to 30 C [64.4F to 86 F]

Relative Humidity: 15% - 80%

Laser Source:

CO 2 Laser Type
Laser Protection Class 1

Standard Features:

Vision System - Position recognition, bar code identification,
and camera aided teach ability
ESD protective glass for load and unload areas

Optional Equipment:

Vacuum and Exhaust Unit
Water Cooler and Recirculation Unit
CAD-CAM Offline Programming Software
Remote Servicing

For More Information:

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The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult Tyco Electronics for the latest dimensions and design specifications.

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