Laser Machining Software

LMS

Laser Machining Software is an all-in-one solution to control your laser machining system. LMS is easy to learn and requires no specific skills to use it. Just enter parameters and click!

SOFTWARE VERSIONS

Pro Version
One size fits all engine to control laser machining processes, from laser marking and direct laser structuring, to laser additive manufacturing.

Key Features
- CAD import and design
- Process automation
- Hardware control

OEM Version
- Tailor-made to hardware
- Application development via plugins
- Task optimized HMI
- Specific functions
- Encrypted process parameters
- Specific hardware support

• Easy to learn and intuitive
• Single window functionality
• Saves time with fast processing
• Controls most of machining processes right away
• Can be tailored to your needs with a special GUI, special functions or new hardware
• Open architecture allows adding user created plugins

COMPATIBLE CONTROLLERS

XPS
- Universal Controller/Driver
- Single enclosure up to 8 Axis
- User Friendly Interface and API's
- Research and Generic applications

Newport®
LMS FEATURES

CAD Import and Design
- Import CAD files (DXF, DWG, STL, Gerber, NC Drill, etc.) or design using with built-in tools.
- All shapes can be hatched with advanced LMS hatching algorithms, enabling fast and uniform fill.
- Objects are parametrized, for precise control and easy editing or described using math functions.

Automation
- Complex laser machining recipes can be created and automated with LMS software.
- Galvo scanners and positioning stages are controlled automatically, using Stitching function. Objects are split to smaller parts to fit in galvo field or centered in it.
- All the actions in the machining recipe are controlled by parameters and variables. Loops can be created for repetitive patterns.
- Recipe or parts of it can be triggered by digital inputs.
- Machining trajectories can be adjusted automatically to compensate for sample tilting or flatness using camera autofocus or different sensors.
- All in a single interface and requires no special programming knowledge.

Hardware Control
- Single-window control of hardware directly using .dll libraries, no need for G-Code.
- LMS controls positioning stages, galvo scanners, laser sources, sensors and power meters and many other devices can be controlled via digital or analog I/O and serial port.
- Support for additional hardware or writing plug-ins.

Machine Vision and Alignment
- Seamlessly integrates machine vision for laser machining processes including simulation and setup.
- Several cameras can be calibrated to precisely match position and scale of stages and scanners.
- Autofocus allows precise surface detection down to sub-micron, depending on optics.
- Automatic and manual alignment procedures compensate sample misplacement or rotation.

APPLICATIONS

Laser Additive Manufacturing
LMS software is a great tool to prepare and control laser additive manufacturing/3D printing processes like SLS, SLM, SLA and others.
- Use multiple STL models for single process
- Fast STL slicing and hatching
- Repair faulty STL models
- Various hatching modes
- Control of the process

PCB Laser
Gerber and NC Drill files can be imported to LMS laser machining software and prepared for machining in a single window.
- PCB laser etching
- PCB laser drilling
- PCB laser cutting
Process can be implemented with both, galvo scanners and linear stages for greater speed. Machine Vision is used to realign after flipping or board replacement.

Laser Engraving
- Import DXF and STL files or design using built-in tools. Use designs for 3D and deep laser engraving.
- Integrated Machine Vision allows manual or automatic alignment of sample for precise positioning.
- LMS controls both galvo scanners and positioning stages, optimized for large field and high accuracy.

Laser Drilling
- Import NC Drill and DXF files or user-add holes Complex hole patterns can be created using Recipe Flow tools.
- Laser and motion parameters are controlled at the single-window interface.
- Stitching tools enables use of galvo scanners for drilling and linear stage translation between vias – each via or group of vias can be centered in the galvo scanner field automatically. This way speed, size and accuracy of the process can be maximized.
- Alignment with cameras and machine vision is available as an option.