

# MULTI

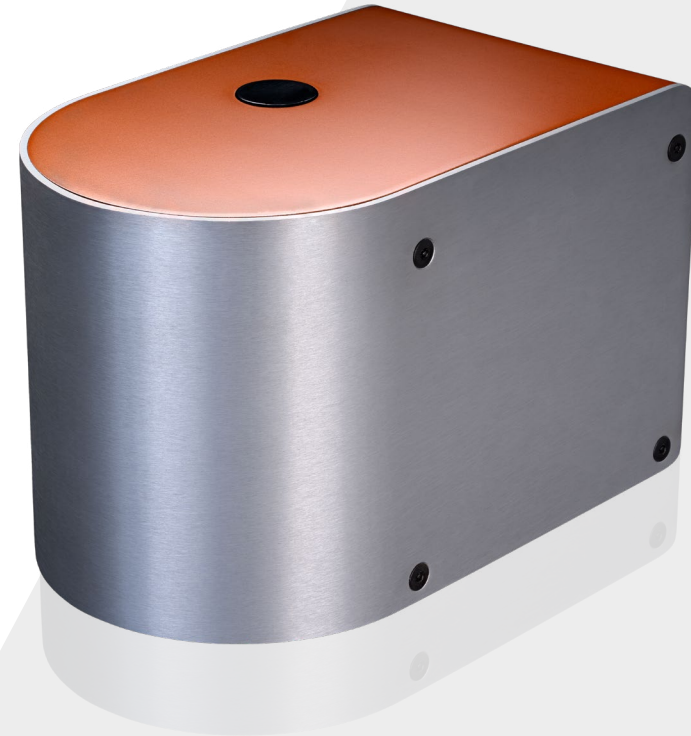
## Programmable Laser Beam Shaping Module

*Speed up and get the best out of your laser micromachining process!*

Compact and easy to use, MULTI module allows to combine high-end process quality with mass-customization requirements in industrial environment.

Optimized for Amplitude ultrafast industrial lasers, MULTI module allows to parallelize processes while conserving the outstanding quality expected from a femtosecond laser. The laser tool can be digitally exchanged instantly, to start the next process step or manufacture a different product.

MULTI also offers to engineer laser beam energy distribution, offering new degrees of freedom to optimize your process or realize several operations in one pass, like roughening and finishing.



### Applications

#### Industry:

- > Microelectronics
- > Display
- > Micromachining

### Key Features

- > Parallel micromachining
- > Flexible micromachining
- > Beam engineering
- > Straightforward integration
- > Ergonomic interface, embeddable in your software environment.
- > Qualified up to 100W in IR femtosecond regime
- > Patented technology

# Specifications

## Multi

Spectral Range	1000 – 1100 nm
Maximum Laser Power	100 W
Input Beam Diameter <sup>1</sup>	5.0 - 7.5 mm
Maximum Pulse Energy <sup>2</sup>	20 mJ
Optical Transmission (typ.)	Up to 100 %
Diffraction efficiency	85 %
Pattern Switching Time	100 ms

<sup>1</sup> Collimated Tem<sub>00</sub> Gaussian beam

<sup>2</sup> Pulse duration = 7 ns

The available field on sample depends on the laser and the desired precision.

Please contact us for more info.

## Utilities

Cooling System	Water
DC Voltage <sup>3</sup>	16 V
Head Dimensions	16 x 15,6 x 24,7 cm

<sup>3</sup> Provided by the Qelec controller

## Typical values

Focusing Lens Focal Length	160 mm	80 mm
Beamlet Diameter in IR <sup>4</sup>	30-44 μm	15-22 μm
Pitch in IR	14 μm	7 μm
Maximum Field in IR	27 mm	13 mm

<sup>4</sup> Depends on input beam characteristics

# Compatibility



Magma



Satsuma



Tangerine



Tangor



Yuja