

# SIRIUS

## Compact, high-energy picosecond laser




SIRIUS produces high energy with short (<10ps) pulses, in a compact and robust format. Offering one of the World's lowest cost of ownership, high precision and ease of integration, Sirius is ideally suited for industrial applications such as selective ablation of thin layers, glass engraving or micron-scaled features used in a wide variety of applications in industrial market segments.

From single shot to 1 MHz, its efficient, industrial GUI is Industrials best ally to fine tune even the most challenging processes whatever the PRF.

SIRIUS fits perfectly into any systems working in a 24/7 operating environment, year wide. Its very reduced footprint, weight and low capital investment will maximize your ROI.

### SIRIUS Key Features

- >5W at 1064 nm
- < 10 ps pulses
- Single shot to 1 MHz
- Burst mode
- $M^2 < 1.2$
- Low CoO, Fast ROI
- Rugged design
- Plug-and-play
- Maintenance free
- Worldwide warranty coverage 24 months

A banner image showing a laser cutting through a material, with the text "ULTRAFAST MICROMACHINING LASERS" overlaid in white and blue.

ULTRAFAST MICROMACHINING LASERS

### SIRIUS applications

- Additive manufacturing
- Consumer Electronics
- Photovoltaic
- Dielectric
- Medical & Bio-Medical

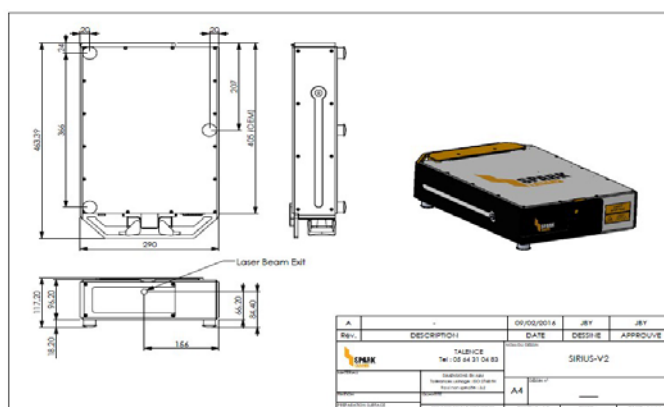
# Technical Specifications\*

Model	SIRIUS-1064	SIRIUS-532
Wavelength	1064 nm	532 nm
Spectral width	< 0.3 nm	< 0.3 nm
Pulse duration	<10 ps	<10 ps
Pulse energy	>120 µJ at 20 kHz (2 W) 60 µJ at 50 kHz (3 W) 35 µJ at 100 kHz (3.5 W) 20 µJ at 200 kHz (4 W) 9 µJ at 500 kHz (4.5 W) 5 µJ at 1 MHz (5 W)	46 µJ at 50 kHz (2,3 W) 25 µJ at 100 kHz (2,5 W) 11 µJ at 200 kHz (2,3 W) 3 µJ at 500 kHz (1,8 W) 1,4 µJ at 1 MHz (1,4 W)
Repetition rate	Single pulse to 1 MHz (with burst mode)	
M <sup>2</sup>	<1.2	
Beam waist diameter	1 mm	
Beam pointing	<25 µrad/°C	
Ellipticity	>0.85	
Warm-up time	< 5 min	< 10 min
Power stability	<2% RMS	
Pulse stability	<2% RMS	
Polarization	Linear, >100:1	
External Interfaces	High speed external synchronisation (Sync. Out / In), Communication through USB, RS 232, TCP/IP	
Software interfaces	Intuitive GUI, Serial communication protocol	
Pulse control	Ext AOM with gating and burst mode	
Laser head dimensions & weight	464 x 290 x 118 mm <sup>3</sup> – 16 kg	
Laser controller dimensions & weight	19"/3U rack – 12 kg	
Standard umbilical length	3 m	
Power consumption	100 to 240 VAC, < 400 W	
Cooling	Water cooled	
OPTIONS	3 <sup>rd</sup> harmonic generation available	
	External module with 3 wavelengths connected to main housing	

\* Specifications subject to change without notice.

\*\* Other wavelengths available upon request

Please contact us for Customization needs



SPARK LASERS offers a 24-month worldwide warranty for all SIRIUS laser range.

For full details of this warranty coverage, please refer to our website [www.spark-lasers.com](http://www.spark-lasers.com) or contact us at +33 564 310 484



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