

SIRIUS SERIES



<10 ps / SINGLE SHOT TO 1MHz / > 5W AT 1064 NM

COMPACT HIGH-ENERGY PICOSECOND LASER FOR MICROMACHINING

SIRIUS is a state-of-the-art, very compact, high energy, hybrid ultrafast picosecond range for advanced micromachining applications and supercontinuum pumping in a rugged and robust format that SPARK LASERS has especially designed for the most demanding micromachining applications such as photovoltaic, selective ablation, Consumers' electronics or supercontinuum pumping for instrumentation and industrial OEM integration working with 24/7 operations.

SIRIUS is a 1064 nm, high energy, offering over 60 μ J and 5 W, with pulses below 10 ps up to 1 MHz with a real perfect beam quality with $M^2 < 1.2$.

SIRIUS range combines the most advanced electronics for on-the-fly pulse control and incomparable ergonomomy within a compact design and a less than 5 minutes set-up time for installation.

SIRIUS embeds smart electronics allowing it to be synchronized internally or externally for remote control and fine and fast power modulation through GUI or TTL signal including gating, burst mode...

SIRIUS range is available in IR and can be optionally doubled (532nm) and tripled (355 nm) in the harmonics thanks to an external conversion module. Wavelengths can be selected electronically through the GUI or serial communication protocol.

TECHNICAL SPECIFICATIONS*

	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	up to 60 µJ at 50 kHz	up to 30 µJ at 50 kHz
REPETITION RATE	Single pulse to 1 MHz (with burst mode)	
M ²	< 1.2	
BEAM WAIST DIAMETER	1 mm	
BEAM POINTING STABILITY	< 25 µrad/°C	
ELLIPTICITY	> 0.85	
WARM-UP TIME	< 10 min	
POWER STABILITY	< 1% RMS	
RMS NOISE	< 1%	
POLARIZATION	linear, > 100:1	

ELECTRICAL

EXTERNAL INTERFACES	High speed external synchronisation (sync. out / sync. in), Communication through USB, RS 232, TCP/IP
SOFTWARE INTERFACES	Intuitive GUI, Serial communication protocol
PULSE CONTROL	Ext AOM with gating and burst mode
POWER CONSUMPTION	100 to 240 VAC, < 400 W

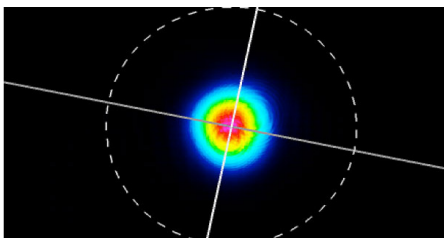
MECHANICAL

LASER HEAD DIMENSIONS & WEIGHT	464 x 290 x 118 mm ³ - 16 kg
LASER CONTROLLER DIMENSIONS & WEIGHT	19"/3U rack - 12 kg
STANDARD UMBILICAL LENGTH	3 m
TECHNICAL DRAWINGS FOR DOWNLOAD	SIRIUS / SIRIUS + MODULE
COOLING	Water cooled

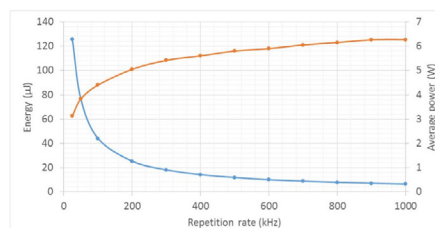
OPTIONS

EXTERNAL MODULE	External IR/GR/UV module with "on-the-fly" electronic selection through GUI or serial communication protocol.
SPECIAL WAVELENGTH	4 th harmonic generation available

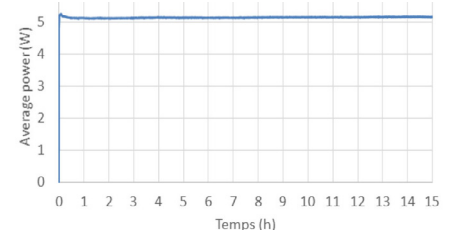
PERFORMANCE



BEAM PROFILE



POWER & PULSE ENERGY VS REPETITION RATE



AVERAGE POWER STABILITY

* This information is subject to modifications without prior notice.

