PhotoSonus X

High Output Power DPSS Tunable Laser for Photoacoustic Imaging

NEW

PhotoSonus X is a perfect solution for photoacoustic imaging. It has high output energy of more than 50 mJ at the peak, a broad wavelength tuning range from 665 to 2600 nm.

It operates at 100 Hz pulse repetition rate. This set of parameters is perfect choice for gaining good photoacoustic signal strength and ensuring high data collection rate. Diode pumped laser technology and well-engineered system design ensures reliability and low-cost system maintenance. System comes with one-year warranty.

PhotoSonus X has a fiber bundle connector with safety interlock. Bundle connector adapter and beam size are adapted to fiber bundle input ferule dimensions.

PhotoSonus X can be certified for clinical photoacoustic applications.

FEATURES

- *Hands-free wavelength tuning from **665 to 1064 nm** and **1065 – 2600 nm***
- *Fully motorized wavelength tuning*
- *Externally triggerable*
- *High, up to **50 mJ** pulse energy from OPO*
- ***100 Hz** pulse repetition rate*
- *Low-cost maintenance*
- *Certification ready*
- *Integrated DPSS pump laser and OPO into a single housing*
- *Fiber bundle holder with safety interlock*

OPTIONS

- *Fast wavelength tuning*
- *Idler output*
- *Lower fixed pulse repetition rates*

PERFORMANCE

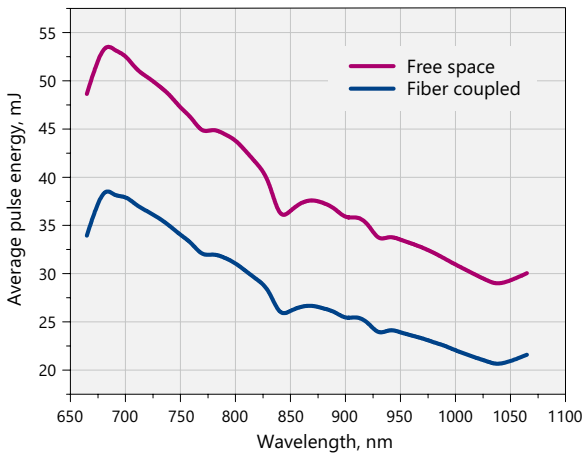

Fig 1. PhotoSonus X signal output typical energy vs. wavelength

PhotoSonus X

SPECIFICATIONS [1]

Model	PhotoSonus X
OPO	
Wavelength range	
Signal	665 – 1064 nm
Idler (optional)	1065 – 2600 nm
OPO output pulse energy [2]	> 50 mJ
Pulse repetition rate [3]	100 Hz
Scanning step	
Signal (665–1064 nm)	0.1 nm
Idler (1065 –2600 nm)	1 nm
Pulse duration [4]	2 – 5 ns
Signal linewidth	< 10 cm^{-1}
Typical signal beam diameter ($1/e^2$) [5]	5 ± 1 mm
Control interfaces	USB, LAN, RS232
PHYSICAL CHARACTERISTICS	
Cooling	Closed loop air-water cooled [6]
Unit size (W × L × H)	551 × 400 × 162 mm
Power supply size (W × L × H)	2 units, 471 × 391 × 147 mm each
Umbilical length	2.5 m
OPERATING REQUIREMENTS	
Room temperature	18 – 27 °C
Relative humidity	20 – 80 % (non-condensing)
Power requirements	100 – 240 VAC, single phase 50/60 Hz
Power consumption	< 2 kW

[1] Due to continuous improvement, all specifications are subject to change without notice. The parameters marked typical are not specifications. They are indications of typical performance and will vary with each unit we manufacture. Unless stated otherwise all specifications are measured at 700 nm.

[2] Free space measurement at 700 nm. See tuning curves for typical outputs at other wavelengths.

[3] Lower fixed pulse repetiton rates are available upon request.

[4] FWHM measured with photodiode featuring 500 ps rise time and 600 MHz bandwidth oscilloscope.

[5] Measured at the output at 700 nm wavelength.

[6] Using external chiller.

OUTLINE DRAWINGS

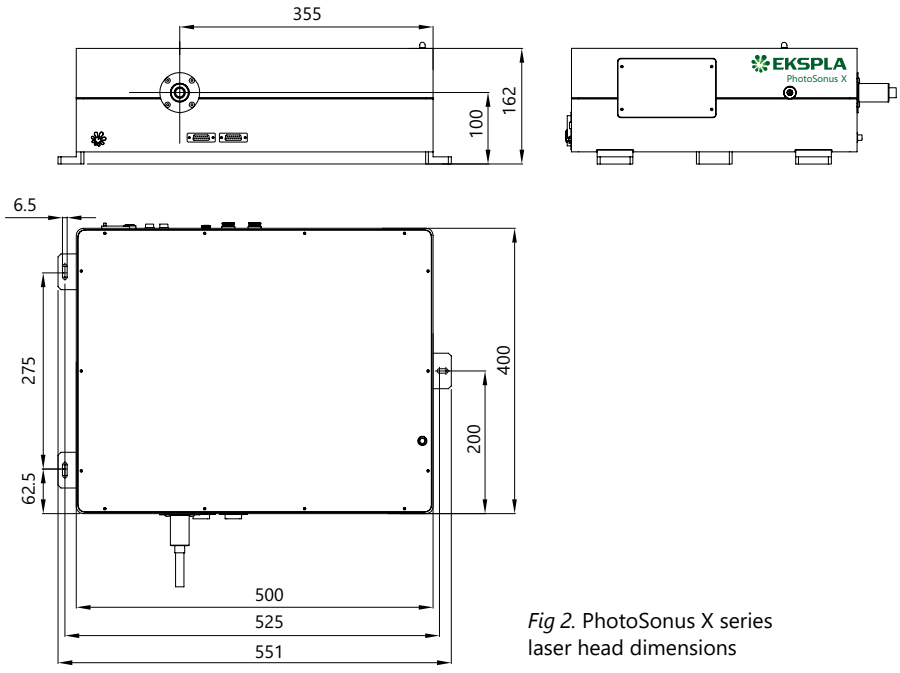

Fig 2. PhotoSonus X series laser head dimensions

Note: Laser must be connected to the mains electricity all the time. If there will be no mains electricity for longer that 1 hour then laser (system) needs warm up for a few hours before switching on.

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