

PICUS DUO

PICOSECOND LASER SOURCE FOR COHERENT RAMAN IMAGING

The **PICUS DUO** is the ideal laser source for multicolor CARS and SRS imaging. The turn-key **PICUS DUO** offers a compact footprint, no need for water cooling or an isolated table.

Wavelength conversion in an all-fiber optical parametric oscillator, pumped by a stable fiber laser provides an unmatched combination of tuning speed and tuning range.



HIGHEST AVAILABLE TUNING SPEED

- Tunable in ms across 700 - 3100 cm^{-1}
- No external delay required
- Integrated spectrometer

OPTIMIZED FOR CARS & SRS MICROSCOPY

- Optional integrated AM modulator (20, 10, 6 MHz)
- Balanced detector available (down to -170 dBc/Hz)
- Shot-noise limited at powers as high as 70 mW

SEAMLESS OPERATION

- Plug & Play installation
- Hands- and maintenance-free operation
- Air-cooled and compact: 49x48x20 cm^3

Applications:

- Rapid hyperspectral SRS & CARS imaging
- Tissue diagnostics via virtual H&E
- Cell phenotyping
- Rapid spectroscopy via sparse sampling

*Contact us for
various
customizations!*

Product Specifications

Optical	Output A	Output B
Covered wavenumbers	700 - 3100 cm^{-1} with step size of 0.1 cm^{-1}	
Associated tuning range	approx. 780 - 980 nm	approx. 1025 - 1055 nm
Tuning speed	< 100 ms	
Average power	100 - 250 mW	> 400 mW
Average power (w modulation & reference port for balanced detection)	50 - 125 mW	> 280 mW
Typical pulse duration	6 - 12 ps	2 - 3 ps
Excitation bandwidth	< 12 cm^{-1}	
Repetition rate	~40.5 MHz	
Integrated tunable delay	± 4 cm	

Electrical

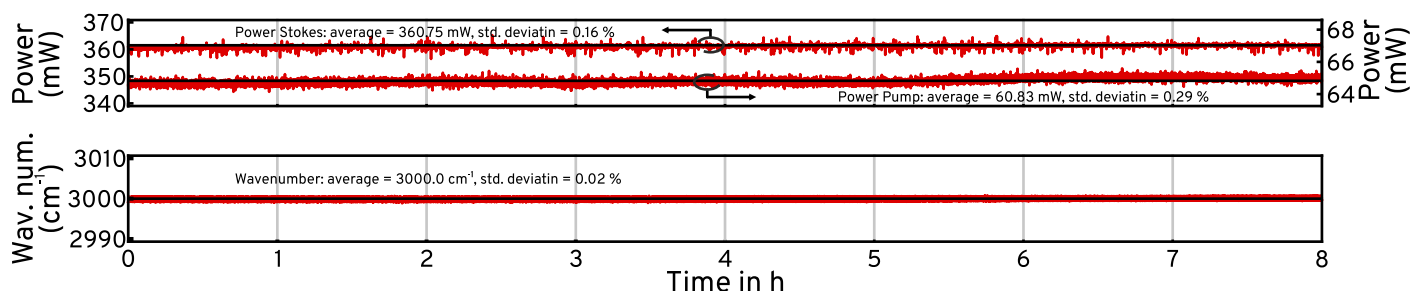
Interfaces	Communication through USB or RS232 Trigger in for high speed wavelength tuning Monitor out for external synchronization
Software interfaces	GUI and custom serial API, e.g., via Python & Matlab

Mechanical

Laser head (pump laser integrated)	49x48x20 cm^3
Laser controller dimension	43x45x13 cm^3
Cooling	Air-cooled
Weight	25 kg
Standard umbilical length	1.8 m

Performance

Typical long term stability



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The product is constantly being improved, therefore the specifications are subject to change without notice. March 2025 | Rev. 5.1

REFINED
LASER SYSTEMS