

Picus Duo

High-speed, full-spectrum laser source
for coherent Raman

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- ✓ Multicolor SRS & CARS imaging
- ✓ Full-spectrum Raman coverage
- ✓ Millisecond spectral tuning
- ✓ TPEF & SHG ready
- ✓ Synchronized dual output
- ✓ Compact & air-cooled



The Picus Duo is a compact dual-output laser source designed for flexible SRS and CARS imaging. Two synchronized picosecond beams provide the freedom to integrate the laser into custom imaging setups while delivering stable, high-contrast imaging across the full Raman spectrum.

Covering the Raman range from 700 to 3100 cm^{-1} with millisecond wavelength tuning, the Picus Duo combines broad spectral access with fast switching between molecular contrasts. Its compact and air-cooled design requires no water cooling or vibration isolation and provides full computer control of tuning, modulation, delay and power.

Product Specifications Picus Duo

Optical

Specification	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. 1027 - 1055 nm
Tuning speed	< 200 ms	
Average power	100 - 250 mW	> 300 mW
Average power (w modulation & reference port for balance detection)	50 - 125mW	> 210 mW
Typical pulse duration	6 - 12 ps	2 - 3 ps
Spectral resolution	< 12 cm ⁻¹	
Repetition rate	~40.5 MHz	
Modulation (optional)	20 MHz, 50% duty cycle	
Integrated tunable delay	± 4 cm ≈ 260 ps	
Noise performace		3 dB above shot-noise limit (with optional balanced detector at 1–100 mW optical power on detector.)

Hardware

Laser head (pump laser integrated)	49x48x20 cm ³
Lasercontroller dimension	43x45x13 cm ³
Cooling	Air-cooled
Weight	25 kg
Standard umbilical length	1.8m
Power supply	100–240 VAC, 50/60 Hz

Interfaces

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



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