

PICUS Q

PICOSECOND LASER FOR QUANTUM DOT EXCITATION

The **PICUS Q** is housed in a standard 19" enclosure and is made for easy integration into your setup / device.

Fiber-coupled outputs allow flexible pulse delivery offside an optical table. The **PICUS Q** is based on Refined's proprietary fiber technology that has proven its hands-off performance and stability in biomedical research labs around the world.

READY FOR INTEGRATION

- 770 - 980 nm
- Comfortable fiber delivery
- Optional secondary output up to 1550nm

EFFICIENT QUANTUM DOT PUMPING

- Repetition rate of 40 MHz
- Narrowband filtered output available

ULTRA STABLE

- Pulse to pulse coherence > 98% visibility
- Active center wavelength stabilization



Applications

Quantum dot pumping
Single-photon sources
Material sciences

Product Specifications

Optical

Tuning range	770-980 nm
Pulse to pulse coherence	>98%visibility
Average power	>50mW / >25mW with filter option
Repetition rate	40 +- 0.5 MHz center / +-100 kHz during tuning
Pulse duration	7 - 15 ps
Spectral bandwidth	Typ. 1 nm; Optionally custom filtering down to 0.1 nm
Output fiber	PM780
Polarization	linear, 100:1

Electrical

Interfaces	Communication through USB or RS232 Clock/Reprate out for external synchronisation
Software interfaces	GUI and custom serial API, e.g., via Python & Matlab

Mechanical

Laser head dimension	44x49x13 cm ³
Laser controller dimension	44x45x13 cm ³
Cooling	Air-cooled
Weight	15 kg leaser head / 20kg electronics
Standard umbilical length	1.8 m, 10 cm bending radius

Optional features (specifications preliminary)

Additional filtered output

Filter tuning range	75nm, centered around wavelength of choice
Filter bandwidth	down to 0.1 nm, gaussian shape, independent offset
Filter accuracy	0.01 nm resolution; repeatability +- 0.01 nm
Filtered output power	bandwidth dependent; typically >1.5 mW for 0.1nm

Additional NIR - (Idler) output

Tuning range	1130 nm to >1500 nm
Output power	typically 20 - 75mW
Spectral bandwidth	<1nm, typically 0.3 nm
Pulse duration	7-15 ps

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The product is constantly being improved, therefore the specifications are subject to change without notice. Aug. 2025 | Rev. 5

REFINED
LASER SYSTEMS