



NUPULSE™ Picosecond Fiber Laser

The NuPULSE™ picosecond fiber laser from Nufern has a continuously tunable pulse duration from 750 ps to 100 ns and repetition rates from 20 KHz up to 5 MHz. The short pulse duration and high repetition rates combine to give high speed, permanent black marking on a variety of metals. The single mode beam quality and picosecond pulses open up a variety of high-precision marking and cold-processing micromachining applications such as Li-Ion battery foil cutting. The NuPulse provides all these features in a compact and easy to integrate package with a 1.5 meter umbilical and integrated isolator and beam expander. The laser is completely controlled via an industry standard digital interface with optional DB25 or RS-232.

Typical Applications

- Marking
- Engraving
- Micro-Machining
- Welding
- Trimming

Features and Benefits

- Picosecond pulsewidth — Cold processing on a wide range of materials
- Continuously tunable pulsewidth — Increased application optimization
- Highest rep rate 5 MHz — Yields highest production throughput
- Fast turn-on time — Deterministic process quality
- E-Shutter — Safety compliance without mechanical shutter

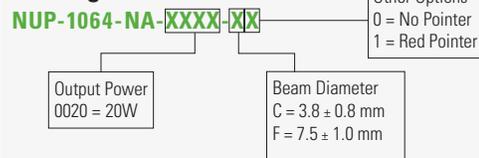
Optical Specifications

Output Power	20 W
Output Power Adjustment	10 – 100%
Leakage Power in Off State	< 20.0 mW
Power Stability ¹	± 2.5%
Beam Quality (Nominal)	M ² < 1.5
Beam Divergence	< 0.5 mrad
Output Beam Diameter	3.8 ± 0.8 mm 7.5 ± 1.0 mm
Visible Pointer	No Pointer Red Pointer
Output Type	Fiber to Free space isolator
Mode of Operation	Pulsed
Polarization	Random
Peak Power	> 10.0 kW
Pulse Energy (Max.)	1.0 mJ
Pulse Width Range	750 ps – 100 ns
Pulse Width Tuning Resolution	500 ps
Pulse Repetition Rate (PRR)	20 – 5000 kHz
Turn On Time	< 100 μs
Turn Off Time	< 10 μs
Central Wavelength (Nominal)	1064.0 nm

NUP-1064-NA-0020-XX

¹ Power fluctuation at full rated power for 5 hrs.
± (Max-Min)/(Max+Min).

Naming Conventions:



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Nufern products are manufactured under an ISO 9001:2008 certified quality management system.

Standard specifications and design parameters are listed above. Specifications are subject to change without notice.



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Mechanical Specifications

Delivery Fiber Length	1.5 m
Output Cable Minimum Bend Radius	30 mm
Dimensions	196 x 81 x 283 mm
Weight	6.8 kg

Electrical Specifications

DC Supply Voltage	23 - 25 VDC
Current Consumption (At 24V DC)	≤ 8.0 A

Environmental Specifications

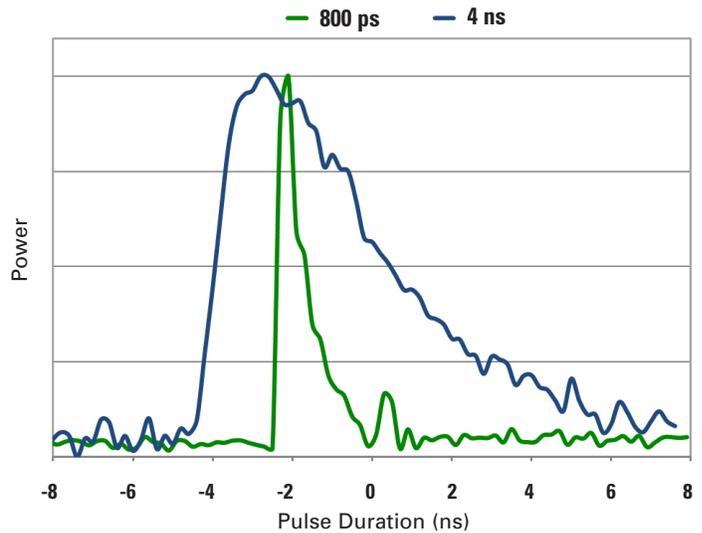
Operating Ambient Temperature	10 to 42° C
Storage Temperature	-10 to 60° C
Operating Humidity	30 to 85% RH non-condensing
Warm-up Time	30 sec
Cooling	Air cooled

NUP-1064-NA-0020-F1

Standard NUPULSE Package



Adjustable Pulse Duration



POWERED BY
NUFERN™

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