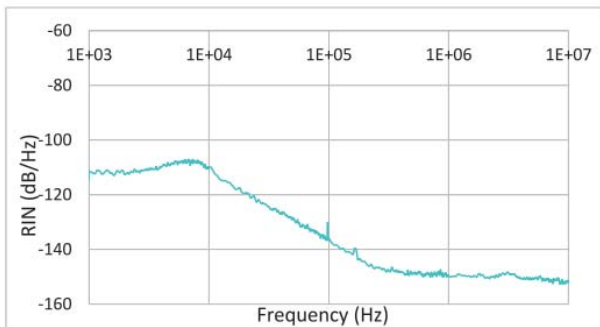


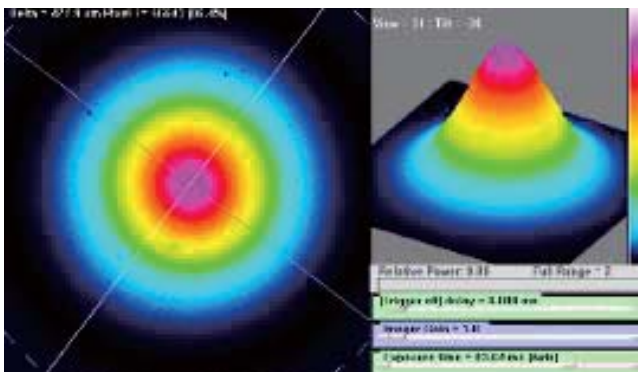


ALS 1064 CW Fiber Lasers 5W 10W 20W 50W

All-fiber based MOPA Technology



Below is a typical RIN data of an ALS IR fiber laser with internal laser seed <50kHz (typical 25 kHz). This spectrum is representative of the RIN level of the entire ALS IR range of lasers set up in constant power mode.



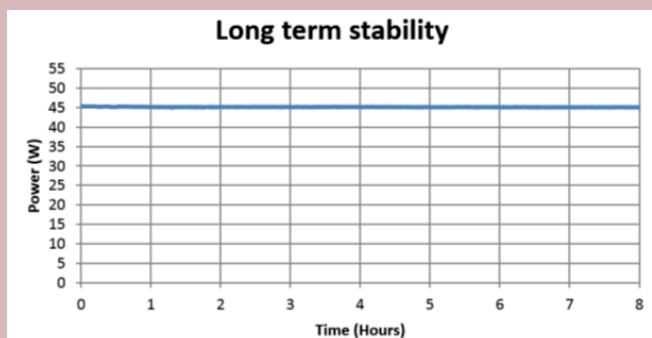
ALS lasers are based on only single mode fibers architecture and so offer an ultra-stable high quality single spatial mode. Typical value: $M^2 < 1.1$ (typ. 1,05)

- High power Laser pumping
- Nonlinear frequency conversion
- Control - measurement
- Quantum Physics
- Atom trapping
- Atom cooling
- Bose-Einstein Condensate
- Optical Tweezers

key features :

- TEM₀₀ mode
- Long coherence length
- $M^2 < 1.1$
- Single frequency
- Ultra-low noise
- Excellent pointing stability
- Ultra stable power output
- High polarization ratio and stability
- Coolerless laser head
- Compact design
- Maintenance free - long life
- Low power consumption
- OEM versions available
- RoHS Compliant

The graph below shows the power stability of the entire range of ALS-IR lasers: short term fluctuations < +/- 0.2% (limited by detector noise) and long term fluctuations < +/- 0.3%.



SPECIFICATIONS

1064 High Power Fiber Lasers with internal seeder		Unit
Wavelengths ⁽¹⁾	1064± 0,5	nm
Output power	5W, 10W, 20W, 50W*	W
Output power Tunability	1 to 100 (10 to 100 recommended)	%
Beam quality	M ² < 1.1	-
Beam diameter « free space »	1 ± 0,1 (other upon request)	mm
Beam divergence ½ ang.	< 0.85	mrاد (@1/e ²)
Spatial mode	TEM00	-
Spectral width - single frequency ⁽²⁾	< 50	kHz
Power stability (constant power mode)	< ± 0.3 (short term) < ± 0.5 (over 8 hours)	% %
Noise [100Hz - 10MHz]: - single frequency	< 0.05	% rms
Frequency stability ⁽³⁾	< 0.1	pm
Output polarisation	Vertically polarized > 200:1	-
Pointing stability	< ± 0.5	µrad/°C
Output ⁽⁴⁾	Free space laser head	-
Laser control	Multi-turn potentiometer, Touch screen, Analog voltage	-
Supply requirements	90-240V/50-60Hz	-
Electrical power consumption	200<...<300	W
Cooling	Air cooled Rack, coolerless Head	-

* >45W after the high power isolator located in the laser head

(1): Other wavelengths available on request.

(2): Typically <30 kHz for single frequency version, linewidth reduction down to 3kHz available as an option with an external seeder rack.

(3): Measured over 8 hours and temperature variation < 3°C.

(4): Optional output: PM980 / HI1060 / LMA / Collimated fiber / Multiple output beam splitting depending on the output power

Options: external ALS seeder (FC/APC) or external tunable (thermal & piezo) seeder (FC/APC)

Dimensions	
Laser Rack	480 x 460 x 130mm
Laser Heads	>10W 330 x 116 x 80mm or up to 10W 150 x 95 x 40mm



About 1,5 meters cable length between rack and the beam output from the laser head
Coolerless laser head
19" 3U air cooled power unit



Customized optical output option available according to the Fiber Laser power :
beam splitting: 1:3 or more, free space or fibered
Beam shaping
Advanced optical setup

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