AZUR LIGHT SYSTEMS

FIBER LASERS & Solutions
IR - Up to 50W

1064

1030

976

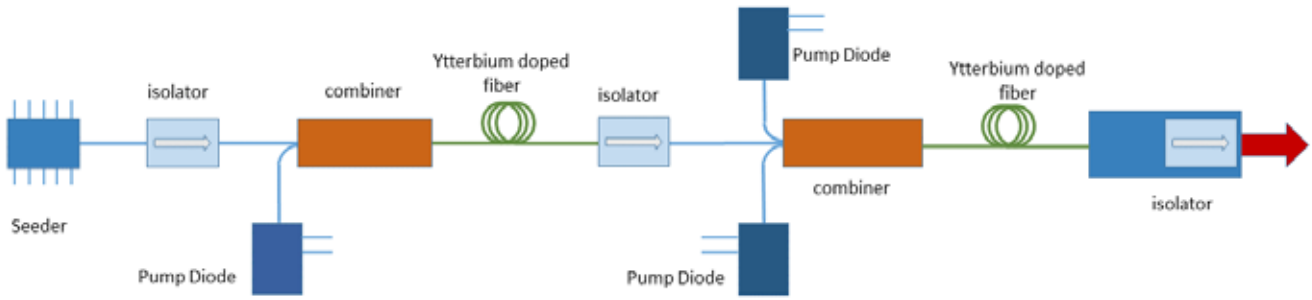
ALS IR CW series

Atom trapping
Atom cooling
Bose-Einstein Condensate
Laser pumping
Nonlinear frequency conversion
Control - measurement
Spectroscopy IR

When specifications & actual performances matter

ALS IR CW series

ALL Fiber based MOPA Technology



ALS Superior laser technology key features

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

Versatility & Modularity

200W 1064nm CW setup: Azur Light Systems has designed a 4x50W channel **mutually coherent laser system.**

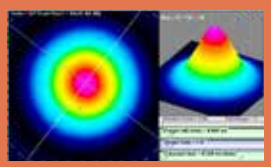
Based on a single seeder, this unique modular setup is used to reach advanced experimental conditions in **Atom Cooling research**. Power scaling to higher powers is possible.

Power stability, low noise, frequency locking as well as pointing stability and beam profile performances were the key features.

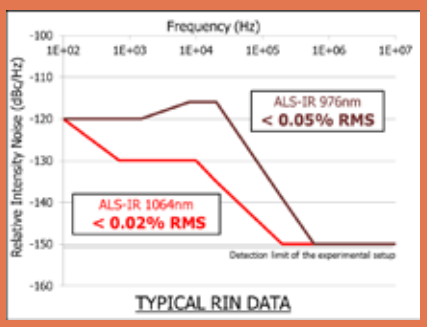
Azur Light Systems (ALS)

develops, manufactures and sells worldwide fiber laser technology at new wavelengths for scientific, industrial and bio-medical applications. Representing a veritable breakthrough in the laser market, and offering many advantages in terms of stability, robustness and ease of integration, this innovative technology offers significant performance advantages over other solid state laser technologies.

Our **single frequency single mode infrared lasers** offer unique performance in terms of low noise and high power, combined with the inherent efficiency and stability of fiber lasers.



With a RIN of less than -120 dBc/Hz (100Hz - 10MHz) at 50W output power, ALS infrared lasers are perfectly suited for many applications requiring very low noise sources such as metrology, optical trapping, cooling of atoms or optical pumping.



TYPICAL RIN DATA

SPECIFICATIONS

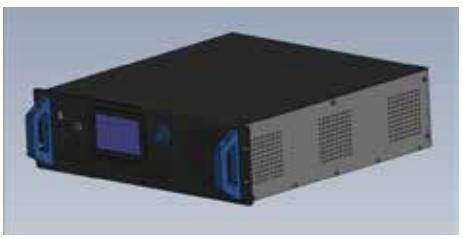
IR High Power Fiber Lasers with internal seeder			Unit
Wavelengths (1)	976	1030 or 1064	nm
Output power	5, 10, …	5, 10, …, 50	W
Output power Tunability	1 to 100 (10 to 100 recommended)		%
Beam quality	M^2 < 1.1		-
Beam diameter « free space »	1.5 (other upon request)		mm
Beam divergence	< 0.4		mrad (FW@1/e^2)
Spatial mode	TEMoo		-
Spectral width - single frequency (2) - narrow bandwidth	 < 50 < 50		 kHz pm
Power stability	< ± 0.2 (short term) < ± 0.3 (over 8 hours)		% %
Noise [100Hz - 10MHz]: - single frequency - narrow bandwidth	 < 0.05 < 0.2		 % rms
Frequency stability (3)	< 0.1		pm
Output polarization	Polarized > 100:1		-
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<…<500		W
Cooling	Air cooled		-

(1) Other wavelengths available on request.
(2) Linewidth reduction down to 3kHz available as an option with an external seeder rack.
(3) For single frequency version only. Measured over 8 hours and temperature variation < 3°C.
(4) Optional output: PM980 / HI1060 / LMA / Collimated fiber / Multiple output beam splitting

Dimensions	
Laser Rack	480 x 460 x 130 mm
Laser Head	275 x 120 x 50 mm

About 2 meters cable length between rack and the beam output from the laser head

Coolerless laser head
19'' 3U air cooled power unit



Customized optical beam output on demand

- Beam splitting: 1:3 or more, free space or fibered
- Beam shaping
- Advanced optical setup

SPECIFICATIONS

High Power Standard optical Amplifiers for FC/APC external seeder				Unit
Wavelengths (1)	975_980	1015_1052	1055_1085	nm
Output power	5, 10, …	5, 10, …, 50		W
Output power Tunability	1 to 100 (10 to 100 recommended)			%
Beam quality	M^2 < 1.1			-
Beam diameter « free space »	1.5 (other upon request)			mm
Beam divergence	< 0.4			mrad (FW@1/e^2)
Spatial mode	TEMoo			-
Input optical power	15 to 150			mW
Power stability	< ± 0.2 (short term)			%
	< ± 0.3 (over 8 hours)			%
Noise [100Hz - 10MHz]:	Seeder dependent			% rms
Frequency stability	Seeder dependent			
Output polarization	Polarized > 100:1			-
Pointing stability	< ± 0.5			µrad/°C
Output (2)	Free space laser head			-
Laser control	Multi-turn potentiometer, Touch screen, Analog voltage			-
Supply requirements	90-240V/50-60Hz			-
Electrical power consumption	200<…<500			W
Cooling	Air cooled			-

(1) Wavelength range: the effective standard useable spectral domain is defined at +/- 4nm from one requested central wavelength. Extended wavelength range are available on demand.
(2) Other on demand

For specific wavelengths, higher output powers or OEM designs, contact us.

Azur Light Systems company is continuously investing in advanced fiber laser technology development. We are proud of our products and the customer satisfaction endorsed by the most recognized research labs and companies throughout the world. Our Exclusive partners in North America, Japan, China and Germany are locally providing the most efficient support to our customers

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