

FIBER LASERS & Solutions

Visible - Up to 10W

532

ALS VIS CW series

515

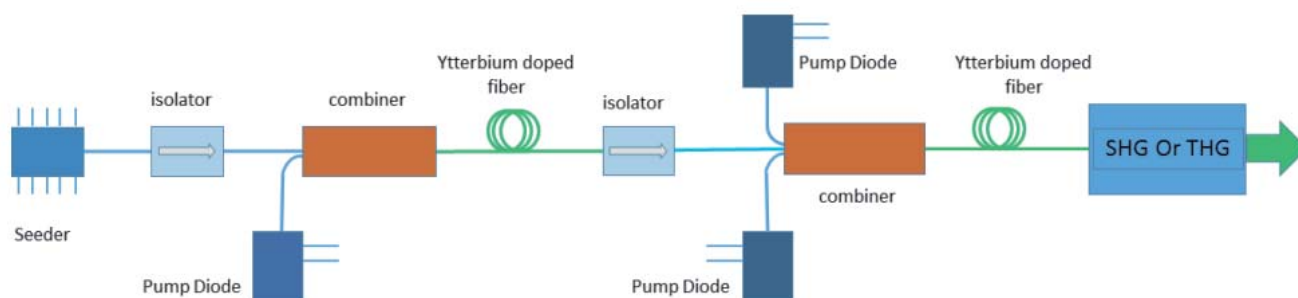
Atom cooling
Laser pumping
Digital Holography
Ar Laser Replacement
Laser Doppler velocimetry
Super resolution microscopy
High resolution interferometry

488



ALS VIS CW series

ALL Fiber based MOPA Technology



ALS Superior laser technology key features

TEM₀₀ 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

> 2W @ 507,4nm CW setup: Together with a highly recognized research team, Azur Light Systems has designed a custom high power laser at this specific wavelength

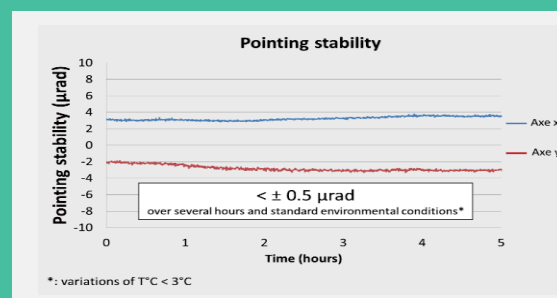
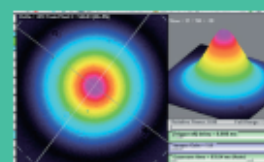
507,4nm is then doubled to generate a laser beam @ 253.7nm, corresponding to a Hg transition band allowing to trap Hg atoms.

Azur Light Systems capability provides advanced solutions in Atom physics research. Power stability, low noise, frequency locking as well as pointing stability and beam profile performances are 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 visible lasers offer unique performance in terms of low noise and high power, combined with the inherent efficiency and stability of fiber lasers.



The graph shows the pointing stability of a standard ALS-BL/GR lasers. Customers from industry validated our solution as the only one on the market to be able to replace and improve their performances performed with Argon lasers regarding the central frequency stability and the pointing stability.

SPECIFICATIONS

VIS Fiber Lasers with internal seeder			Unit
Wavelengths ⁽¹⁾	488	515 or 532	nm
Output power	0.5, 1.0, 2.0	0.5, 1.0, 2.0, ..., 10	W
Output power Tunability	1 to 100 (10 to 100 recommended)		%
Beam quality	M ² < 1.1		-
Beam diameter « free space »	1 ± 0,2 (others upon request)		mm
Beam divergence ½ ang.	Beam diameter dependent		mrad (FW@1/e ²)
Spatial mode	TEM00		-
Spectral width			
- single frequency ⁽²⁾	< 200		kHz
- narrow bandwidth ⁽⁵⁾	< 50		pm
Power stability			
- short term	< ± 0.3		%
- over 8 hrs.	< ± 0.5		%
Noise [100Hz - 10MHz]:			
- single frequency	< 0.05		% rms
- narrow bandwidth ⁽⁵⁾	< 0.2		
Frequency stability ⁽³⁾	< 0.1		pm
Output polarization	Linear > 400:1		-
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		-

(1): Other wavelengths available on request.

(2): Linewidth reduction down to 12kHz available as an optional external tunable seeder rack, from 515 to 548 nm.

(3): For single frequency version only. Measured over 8 hours and temperature variation < 3°C.

(4): Optional output: Fiber coupling / multiple output / beam splitting depending on the fiber laser power

(5): Narrow bandwidth only available for 488nm series

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

Dimensions	
Laser Rack	480 x 460 x 130mm
Laser Heads	<5W: 275 x 120 x 50mm or 5+W: 325 x 120 x 50mm



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 beam output on demand

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

SPECIFICATIONS

	Simultaneous Dual Wavelength Single beam High Power Lasers OCEAN series			Unit
Wavelengths ⁽¹⁾	515 & 532	488 & 532	488 & 515	nm
Output power one beam	0.5+0.5, 1+1, 2+2		0.5+0.5, 1+1, 2+2	W
Output power Tunability	1 to 100 (10 to 100 recommended)			%
Beam quality	$M^2 < 1.1$			-
Beam diameter « free space »	$1 \pm 0,2$ (others upon request)			mm
Beam divergence	Beam diameter dependant			mrad (FW@1/e ²)
Spatial mode	TEM ₀₀			-
Spectral width - single frequency	< 200			kHz
Power stability - short term - over 8 hrs.	< ± 0.2 < ± 0.3			% %
Noise [100Hz - 10MHz] single Freq.	< 0.05			% rms
Frequency stability	< 0.1			pm
Output polarization	Polarized > 400:1			-
Pointing stability	< ± 0.5			μ rad/°C
Output	Free space laser head			-
Laser control	Multi-turn potentiometers, Touch screens, Analog voltages			-
Supply requirements	90-240V/50-60Hz			-
Electrical power consumption	200<...<600			W
Cooling	Air cooled			-

(1): Other wavelengths available on request..

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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