

AZURLIGHT

SYSTEMS



EXPERIENCE THE
EXTREME
CW FIBER LASERS & AMPLIFIERS

Infrared series

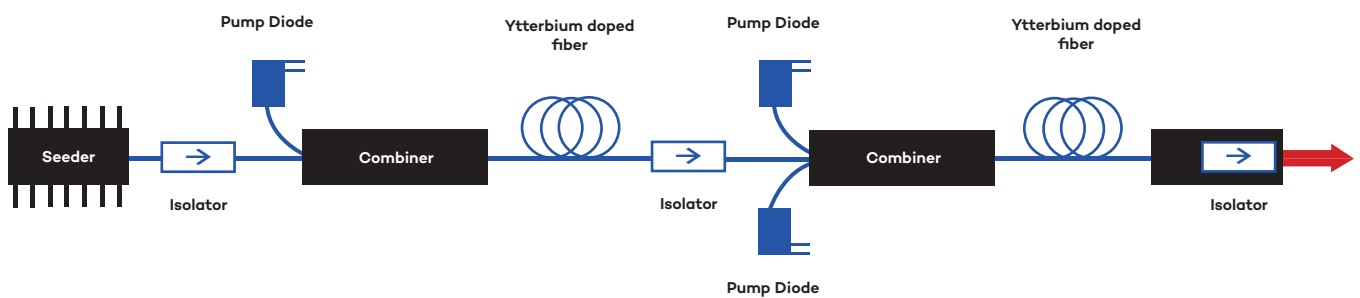
976 nm - 1030 nm - 1064 nm

Azurlight Systems is a French company that develops, produces and commercializes innovative fiber laser technologies. Its patented design represents a real breakthrough on the laser market especially over other solid-state technologies. Our team strives to combine the most stringent fiber laser specifications : high power, single mode, single frequency, ultra-low noise, to enable the most demanding applications. The unique all-fibered architecture allows for reliability and robustness and enables efficient integration.

Our products are intended for industriels and academics. Azurlight Systems is ISO 9001:2015 certified and relies on a well-trained global network of partners. Nevertheless, we are very close to our customers and always appreciate to provide deep understanding of our products performances and potential customization to the application.

MOPA Technology

The 3 building-blocks approach (seeder + HP amplifier + optical head) of the Master Oscillator Power Amplifier architecture let us all the freedom to tailor our products to your application.



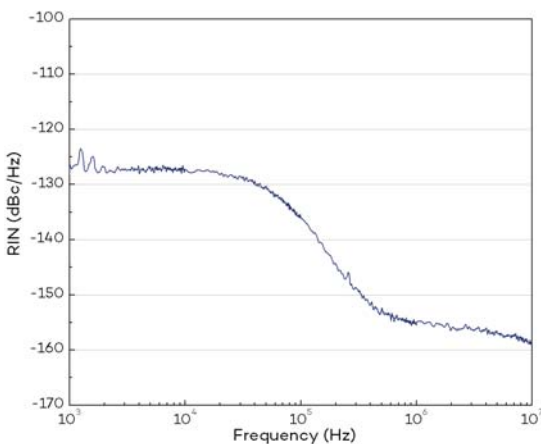
Features

- Up to 130 W
- Single Frequency
- Ultra-Low Noise
- Best-in-class Pointing Stability
- Coolerless Laser Head
- Maintenance Free – Long Life

Applications

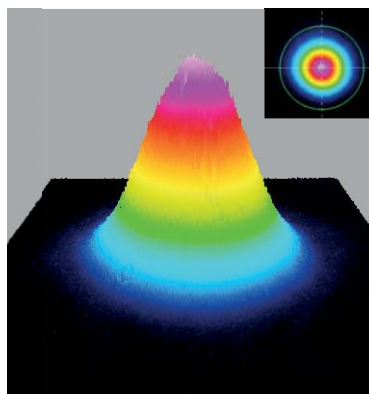
- Atomic & Molecular Physics
- High-Performances Instrumentation
- Optical Metrology
- Interferometry

Performances



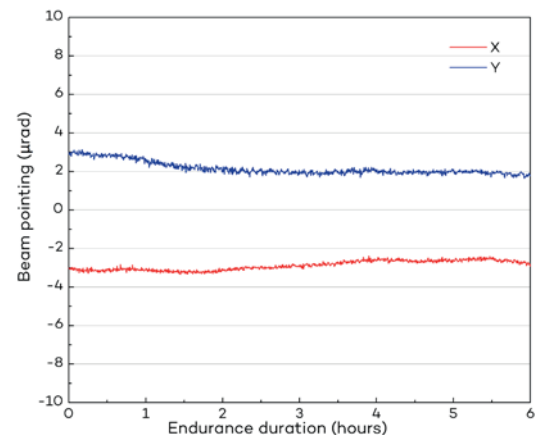
RELATIVE INTENSITY NOISE

The dedicated low noise control electronics efficiently reduces the intensity noise. Above is presented a typical RIN measurement in Constant Current mode of operation. RMS value [100 Hz – 10 MHz] : 0.015%.



SINGLE MODE

Excellent beam quality by design (TEM00). Only the fundamental transverse mode is guided through single mode fibers.





BEAM POINTING STABILITY

The coolerless optical head design enables the best beam pointing stability on the market and ensures a subsequent long-term fiber coupling stability.

Optical Specifications

Wavelength ¹	976 nm	1030 nm or 1064 nm	
Output power	Up to 10 W	10, 20, 50 W	Up to 130 W
Single frequency ² linewidth	< 50 kHz		
Narrowband linewidth	< 100 pm		
Input connection (amp. only)	FC/APC		
Input power (amp. only)	10 - 100 mW		
Spatial mode	TEM00		
Beam quality	M ² < 1.1		M ² < 1.2
Beam diameter « free space »	1.0 ± 0.2 mm		1.3 ± 0.2 mm
Short term power stability	< ± 0.3%		
Long term power stability (8 hours)	< ± 0.5%		
Noise [100Hz - 10MHz]	< 0.2% RMS	< 0.05% RMS	
Pointing stability	< ± 0.5 μrad/°C		
Output polarization ³	Vertically polarized > 300: 1		
Output power tunability	1 to 100% (10 to 100 recommended)		
Laser control	Multi-turn potentiometer, Touch screen, Analog voltage		

General Specifications

Power	< 10 W	< 50 W	< 130 W
Rack dimension	19"3U (460x440x130 mm)		19"6U (460x440x260 mm)
Rack cooling	Air		Water
Optical head dimension	 150x115x45 mm	 330x115x80 mm	 400x265x105 mm
Optical head cooling	Coolerless		Water
Umbilical cable length	1.35 m		2 m
Supply requirements	90-240 V/50-60 Hz		90-240 V/50-60 Hz
Electrical power consumption	200 W < ... < 300 W		200 W < ... < 400 W

¹ Other wavelengths available on request

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

³ Optional output : depending on the output power, PM980/H1060/LMA/Collimated fiber/ Multiple output beam splitting

Options

- Azurlight Systems offers 3 types of architectures :
internal seeder, various external seeders, amplifiers only
- Advanced optical setup
- Combined IR/visible laser dual output head, by recycling unconverted IR radiation from a frequency doubling head



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