AZURLIGHT SYSTEMS

Product Datasheet

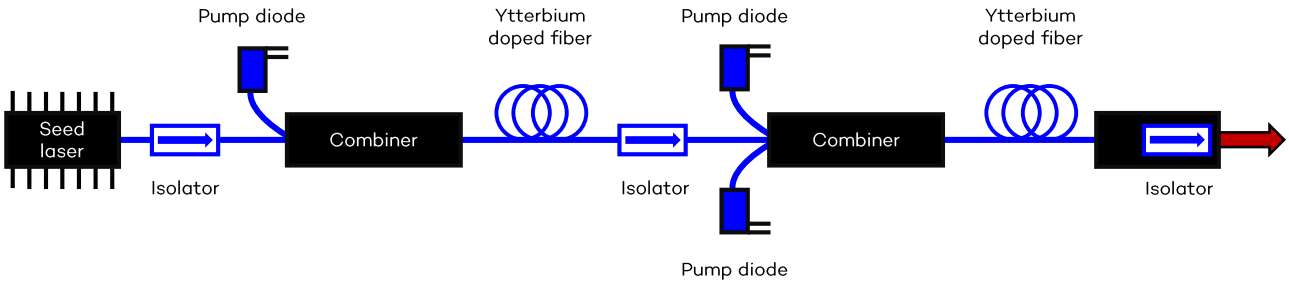
1015 nm CW Fiber Amplifier

Up to 10 W

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 industrials 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.



Azurlight Systems is the only company offering high performance amplifiers around 1015nm and has experience with different seed lasers.
If your seed laser cannot supply enough input power, Azurlight Systems proposes a dedicated pre-amplifier.
Contact us for more details.

Key Features

→ Up to 10 W
→ Low Intensity Noise
→ No added Phase Noise
→ Maintenance Free – Long Life

Our 1015 nm product line offers an excellent beam quality (M^2 < 1.1) out of an air-cooled compact laser head.

Applications

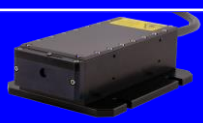
→ Atomic & Molecular Physics
→ Quantum Physics
→ Rydberg excitation

The most advanced fiber lasers specifications are combined in our systems without compromise on stability and reliability making it the perfect tool to push the limits of your demanding application.

Optical Specifications

Wavelength	1015 ± 3 nm
Output power	> 10 W CW from 1013 nm to 1018 nm > 7 W CW from 1012 nm to 1013 nm (> 10 W best effort)
Linewidth	Single frequency seed laser compatible
Input connection	FC/APC
Input power	15 - 100 mW
Beam quality	TEM00 M^2 < 1.1
Beam diameter « free space »	1.0 ± 0.2 mm
Power stability	< ± 0.5%
Noise [100Hz - 10MHz]	Seeder related (typ. < 0.1% RMS with Azurlight Systems external seeder)
OSNR	> 40 dB
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

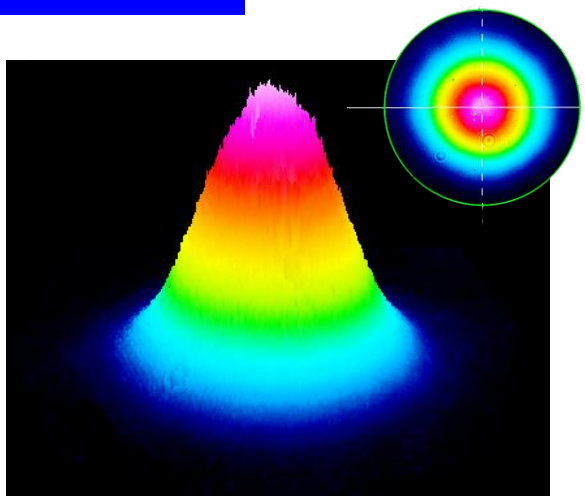
General Specifications

Rack dimension	19"3U (460x440x130 mm) water cooled
Head	 Dimensions : 150x95x45mm
Optical head cooling	Coolerless
Umbilical cable length	1.35 m
Supply requirements	90–240 V/ 50-60 Hz
Electrical power consumption	200 W < ... < 300 W

Options : preamplifier

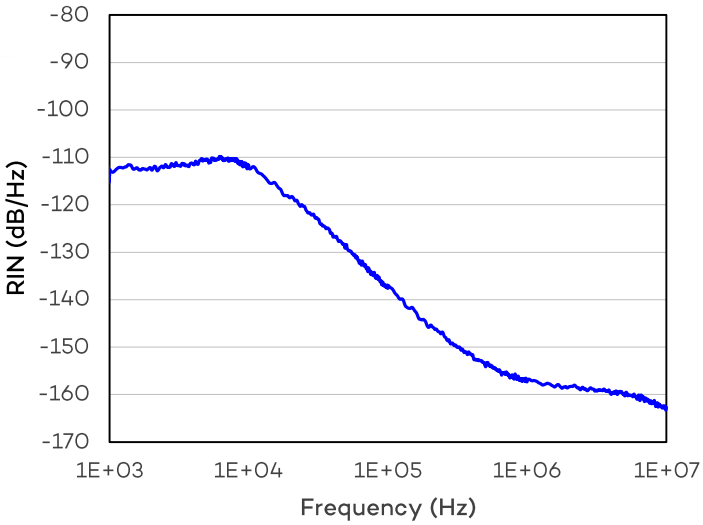
Wavelength	1015 ± 3 nm
Input and Output connection	FC/APC
Input power	> 1 mW
Output power	> 30 mW
Rack	19" 2U air cooled

Performances



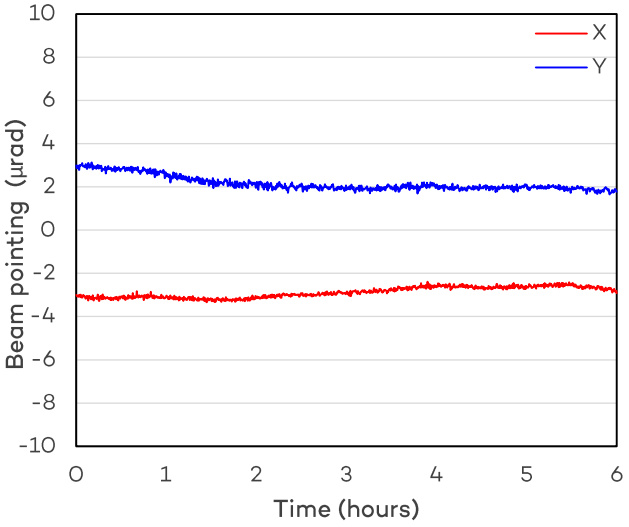
Beam profile

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



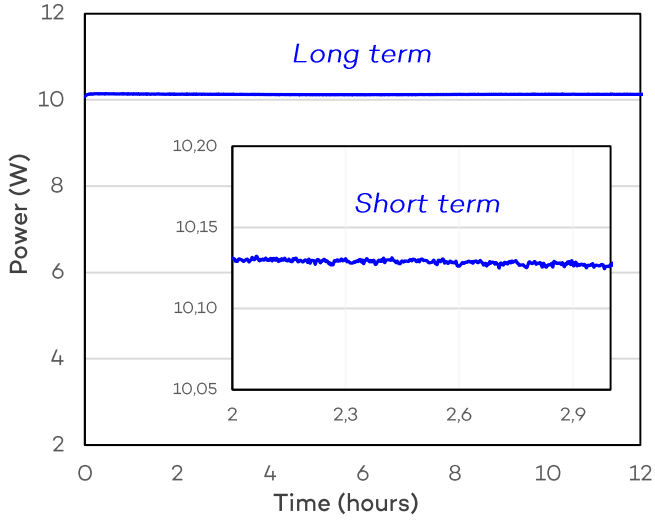
Relative Intensity Noise (RIN)

The dedicated low noise control electronics efficiently reduces the intensity noise. The noise is related to the seed laser, the amplifier has a negligible contribution. Above is presented a typical RIN measurement at 1015 nm.



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.



Power stability

Great power stability is made possible by a careful and robust integration of our optical components. The Constant Power mode of operation and its feedback loop gives the best power stability performances (< ± 0.5%).

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