alta prime

Medium Power Fiber Lasers

nLIGHT alta™ is the first in a line of next generation high power fiber lasers to address the rapidly evolving needs of industrial materials processing. The nLIGHT alta™ fiber lasers are built with leading laser diode and fiber technologies, and incorporate the first failsafe back reflection isolation technology for full processing of highly reflective materials.

nLIGHT alta *prime*™ offers unrivaled process control and performance by incorporating these enhanced features:

- **Programmable pulse shaping**: nLIGHT's advanced software capability provides end-users and OEM's the ability to create customized pulse shapes, enabling precise process optimization and repeatable and consistent process control.
- **100 kHz rep rate and 5 µs rise/fall time**: By increasing the modulation rate to 100 kHz and decreasing the rise and fall times to less than 5 µs, nLIGHT provides the most advanced fiber laser for rapid pierces during cutting and for processing of fine features with minimal heat affected zone.
- **Processing monitoring sensors**: nLIGHT alta *prime*™ fiber lasers incorporate detectors to provide the integrator access to process signals, which allow real-time quality control and greater process tolerance.

The nLIGHT alta™ fiber laser platform is designed and manufactured in the U.S., leveraging nLIGHT's vertically integrated high brightness laser diode and fiber technology and is supported through a global network of sales and service staff. nLIGHT alta™ - the next generation of fiber lasers.

Features

- Most advanced cutting and welding performance
- Failsafe processing of highly reflective materials
- Proprietary design for high uptime and easy service
- Durable to harsh environmental conditions
- Powers of 500 W, 700 W and 1000 W

Applications

- Thin metal Cutting, Welding, Drilling
- Additive manufacturing
- Medical device production
- Brittle materials processing

nLIGHT

Typical Device Specifications

Optical	Units			
Mode of operation		CW/QCW		
Polarization		Random		
Maximum average power (CW)	W	500	700	1000
Maximum peak power (Modulated)	W	500	700	1000
Power tunability	%	5 – 100		
Power variation (8 hr)	%	≤ 1		
Modulation frequency	kHz	≤ 100		
Rise/fall times	µs	≤ 5		
Beam quality (single mode)*	M^2	≤ 1.3		
Beam quality (multi-mode options)*	mm-mrad	Tailored to customer need: ≤ 2 with 50 µm fiber ≤ 4 with 100 µm fiber ≤ 8 with 200 µm fiber		
Wavelength	nm	1080 ± 10		
Electrical				
Operating voltage	V_{AC}	200-240, single-phase		
Operating voltage frequency	Hz	50/60		
Control interface		External hardware control/RS-232/Ethernet		
Mechanical				
Dimensions (mm)		480 w x 177 h x 840 d		
Optical fiber		5 m, 10 m, 20 m, QBH connector standard, other options available		
Cooling method		Water		
General condition				
Operating temperature**	ºC	+10 to +40		
Storage temperature	ºC	-10 to +60		
Relative humidity**	%	10 to 80		

*Nominal
**Non-condensing

Laser Safety
This laser product does NOT comply with IEC 60825-1 or 21CFR1040.10/21CFR1040.11 and is solely intended to be integrated into a laser product certified by the Purchaser. The Purchaser acknowledges that their product must comply with the applicable regulations before it can be sold to an end user.

Notice
nLIGHT continually improves its products to provide our customers with outstanding quality and reliability. nLIGHT may make changes to specifications and product descriptions at any time, without notice. In addition, nLIGHT offers a limited warranty to ensure customer satisfaction. For complete details, please contact your nLIGHT sales representative.