alta™

QCW 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. Designed to meet the performance and reliability requirements for industrial applications, nLIGHT alta™ incorporates several improvements over other commercially available fiber lasers:

- **Improved Cutting and Welding Performance:** By increasing the modulation rate to 50 kHz and decreasing the rise and fall times to less than 10 µs, nLIGHT provides the most advanced fiber laser for rapid pierces during cutting and for processing of fine features with minimal heat affected zone.
- **Back Reflection Isolation:** nLIGHT's novel back reflection isolation technology allows uninterrupted full power processing of highly reflective materials.
- **Design-for-Service:** nLIGHT alta™ incorporates a unique, proprietary fiber laser architecture that enables tool integrators or end users to manage common field service events, resulting in higher machine uptime, lower cost of ownership and an improved customer experience.

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 technologies, and is supported through a global sales and service network. nLIGHT alta™ — the next generation of fiber lasers.

Features

- Easy process set-up
- Failsafe processing of highly reflective materials
- Fastest piercing and drilling rates based on proprietary modulation capabilities
- Designed for harsh environmental conditions

Applications

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

nLIGHT

Typical Device Performance

Optical	Units	
Mode of operation		CW/QCW
Polarization		Random
Maximum average power (CW)	W	500
Maximum peak power (modulated)	W	500
Power tunability	%	5 – 100
Power variation (8 hr)	%	≤ 1
Modulation frequency	kHz	≤ 100
Rise/fall time	µs	≤ 4
Beam quality (single mode)*	M^2	≤ 1.2
Tailored BPP 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	VAC	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.