



nLIGHT Compact Fiber Lasers

The industry's most compact fiber lasers with power output up to 3kW.



The compact nLIGHT® fiber laser family delivers the highest power in the smallest footprint up to 3kW. A modulation rate up to 100 kHz and rise and fall times of less than 5 μ s provide improved cutting and welding performance.

These compact nLIGHT fiber lasers feature true hardware-based back reflection protection, easy onsite servicing and reliable operation in even the harshest manufacturing environments.

Key Features & Benefits

- Up to 3kW models in a compact form factor optimizes shop floor space.
- Hardware-based back reflection protection allows uninterrupted, failsafe processing of even the most reflective metals with no damage to the laser.
- Easy onsite serviceability maximizes uptime and productivity.
- Durable design ensures continuous operation in manufacturing environments.
- Advanced electronics allow faster piercing and processing of fine features along with smaller affected heat zones.

nLIGHT Compact Fiber Laser Specifications

Models	CFL-2000	CFL-2500	CFL-3000
Optical Specifications			
Mode of Operation	CW/Modulated		
Polarization	Random		
Maximum Average Power	2kW	2.5kW	3kW
Power Tunability	5 – 100%		
Power Variation, 8-Hour	≤ 1%		
Modulation Frequency	≤ 100 kHz		
Rise and Fall Times	≤ 5 μs		
Beam Quality 50 μm fiber 100 μm fiber 200 μm fiber 300 μm fiber	≤ 2.3 mm-mrad ≤ 4 mm-mrad ≤ 11 mm-mrad ≤ 17 mm-mrad		
Wavelength	1070 ± 10 nm		
Electrical Specifications			
Operating Voltage, Three-Phase	380 – 480 VAC		
Operating Voltage Frequency	50/60 Hz		
Control Interfaces, Standard	External Hardware Control (HD-26 female, DB-25 male), Analog Power Control (DB-15 female), ASCII Command Line (DB-9 female), GUI and API (RJ-45)		
Mechanical Specifications			
Dimensions, W x D x H	445 x 927 x 625 mm		
Optical Fiber	10, 20, 30 m, QBH connector standard		
Cooling Method	Water		
Environmental Specifications			
Operating Temperature ¹	+10 to +40 °C		
Storage Temperature	-10 to +60 °C		
Relative Humidity	10 to 80%		

¹Non-condensing or with use of CDA.

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 their product must comply with application regulations before it can be sold to an end user.



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