

# nLIGHT High Power Fiber Lasers

Leading fiber laser with 4kW of power for industrial materials processing.



The nLIGHT® 4kW high power fiber laser delivers the output needed to support heavy materials processing. Designed to meet the performance and reliability requirements for industrial applications, these lasers feature several advancements in fiber laser technology.

A modulation rate up to 100 kHz and rise and fall times of less than 5  $\mu$ s provide improved cutting and welding performance. This laser also features true hardware-based back reflection protection, easy onsite servicing and reliable operation in harsh manufacturing environments.

## Key Features & Benefits

- 4kW output power delivers consistent performance for advanced cutting and welding.
- 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 4kW High Power Fiber Laser Specifications

Models	CFL-4000
<b>Optical Specifications</b>	
Mode of Operation	CW/Modulated
Polarization	Random
Maximum Average Power, CW	4kW
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	≤ 2.0 mm-mrad ≤ 3.7 mm-mrad ≤ 11.0 mm-mrad ≤ 17.0 mm-mrad
Wavelength	1080 ± 10 nm
<b>Electrical Specifications</b>	
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)
<b>Mechanical Specifications</b>	
Dimensions, W x D x H	831 x 1336 x 1124 mm
Optical Fiber	10, 20, 30 m, QBH connector standard
Cooling Method	Water
<b>Environmental Specifications</b>	
Operating Temperature <sup>1</sup>	+10 to +40 °C
Storage Temperature	-10 to +60 °C
Relative Humidity	10 to 80%

<sup>1</sup>Non-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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