

High-Performance Industrial Fiber Lasers

Fiber lasers for productivity and efficiency in a small form factor



The all-new nLIGHT® CFL-3000, CFL-4000, and CFL-5000 are the highest power fiber lasers available in this form factor, allowing for better utilization of your shop floor. Available as 3, 4, or 5kW models, these versatile fiber lasers are suitable for a wide range of materials processing applications. Based on nearly two decades of high-power laser innovation, these lasers feature the latest in optical technology to improve your productivity and part quality. They're designed with trusted and durable components for maximum uptime, and high operating efficiency to lower your production costs.

Features

- **3, 4, and 5kW**
Delivers excellent productivity for advanced cutting and welding applications.
- **Back-Reflection Protection**
Hardware-based back-reflection protection allows uninterrupted processing of even the most reflective metals with no damage to the laser.
- **Unparalleled Serviceability**
Modular design simplifies repairs and maximizing uptime.
- **Designed for Rugged Durability**
Ensures continuous operation in harsh manufacturing environments.
- **Advanced Electronic Design**
Provides faster piercing and processing of fine features with smaller heat-affected zones.
- **Multiple Fiber Options**
Choice of feed fiber sizes from 50-200µm enables a diverse range of applications.

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nLIGHT 3, 4, and 5kW Fiber Laser Specifications

Models	CFL-3000	CFL-4000	CFL-5000
Optical Specifications			
Mode of Operation	CW/Modulated		
Polarization	Random		
Maximum Average Power, CW	3kW	4kW	5kW
Power Tunability	5 – 100%		
Power Stability, 8-Hour	≤ 1%		
Modulation Frequency	≤ 50kHz		
Rise and Fall Times	≤ 10μs		
Beam Quality	50μm fiber ≤ 2.8mm-mrad 100μm fiber ≤ 4.3mm-mrad 200μm fiber ≤ 11.0mm-mrade		
Wavelength	1070 ± 10nm		
Electrical Specifications			
Supply Voltage	380 – 480VAC 3P+PE, 50/60Hz		
Control Interface, Standard	External hardware control, analog power control, analog monitors, Ethernet control, GUI, and API		
Control Interface, Optional	EtherCAT, EtherNet/IP, DeviceNet, Profinet, Profibus		
Mechanical Specifications			
Dimensions (W x D x H)	685 × 800 × 560mm		
Optical Fiber	10, 20, 30m, 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%		

¹ Non-condensing or with use of CDA.



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