

Ultra High-Power Compact Fiber Laser

Compact and reliable for increasing efficiency and maximizing capability



The all-new nLIGHT® CFL-20000 is the highest power fiber lasers available in this form factor, allowing for better utilization of your shop floor. Compact and versatile, this laser was designed with trusted and durable components for high operating efficiency in a wide range of materials processing applications.

Based on nearly two decades of high-power laser innovation, this fiber laser features the latest in optical technology, allowing for exceptional, consistent part quality and increasing the capability of different metals and thicknesses that can be cut by the job shop.

Features

- **20kW**
Delivers excellent productivity for more parts per day and increased profits.
- **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 maximizes 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 100-200µm enables a diverse range of applications.

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nLIGHT 20kW High Power Fiber Laser Specifications

Models	CFL-20000
Optical Specifications	
Mode of Operation	CW/Modulated
Polarization	Random
Maximum Average Power, CW	20kW
Power Tunability	5 – 100%
Power Variation, 8-Hour	≤ 1%
Modulation Frequency	≤ 100kHz
Rise and Fall Times	≤ 5μs
Beam Quality	100μm fiber ≤ 5mm-mrad 200μm fiber ≤ 11.0mm-mrad
Wavelength	1070 ± 10nm
Electrical Specifications	
Supply Voltage	400 – 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)	1059 x 805 x 1181mm
Optical Fiber	20 m QD 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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