

# Single-Mode Rackmount Fiber Lasers

High-intensity rackmount fiber lasers with power up to 1.5 kW



nLIGHT® single-mode rackmount fiber lasers deliver continuous power with models from 500 to 1500 W and beam quality of  $M^2 \leq 1.1$  for advanced applications in e-mobility, welding, and additive manufacturing. The compact size of these lasers facilitates easy integration into machine tools. Like all nLIGHT fiber lasers, the rackmount series includes hardware-based back-reflection protection to enable uninterrupted processing of highly reflective materials.

## Features

- **Single-Mode Intensity**  
500 to 1500 W of continuous power with a high-intensity Gaussian beam of  $M^2 \leq 1.1$  to support a diverse range of applications.
- **Back-Reflection Protection**  
Hardware-based back-reflection protection allows uninterrupted processing of even the most reflective metals with no material restrictions, process modifications, or damage to the laser.
- **Unparalleled Serviceability**  
Durable design ensures continuous operation in manufacturing environments with easy onsite serviceability to maximize uptime.
- **High-Frequency Modulation**  
Advanced electronics allow faster piercing and processing of fine features along with smaller heat-affected zones.

**nLIGHT**

# nLIGHT Single-Mode Rackmount Fiber Laser Specifications

Models	CFL-500-SM	CFL-700-SM	CFL-1000-SM	CFL-1200-SM	CFL-1500-SM
<b>Optical Specifications</b>					
Mode of Operation	CW/Modulated				
Polarization	Random				
Maximum Average Power	0.5 kW	0.7 kW	1.0 kW	1.2 kW	1.5 kW
Power Tunability	5 – 100%				
Power Variation, 8-Hour	≤ 1%				
Modulation Frequency	≤ 100 kHz				
Rise and Fall Times	≤ 5 μs				
Beam Quality	$M^2 \leq 1.1$				
Fiber Core Diameter	14 μm				
Wavelength	1070 ± 10 nm				
<b>Electrical Specifications</b>					
Supply Voltage	200 to 240 VAC, single phase, 50/60 Hz				
Control Interface	External hardware control, analog power control, GUI, RS-232/Ethernet				
<b>Mechanical Specifications</b>					
Dimensions (W x D x H)	430 x 677 x 177 mm				
Optical Fiber <sup>1</sup>	5 and 10 m, QBH connector				
Cooling Method	Water				
<b>Environmental Specifications</b>					
Operating Temperature <sup>2</sup>	10 to 40°C				
Storage Temperature	-10 to 60°C				
Relative Humidity	10 to 80%				

<sup>1</sup> Configuration dependent

<sup>2</sup> Non-condensing or with use of CDA

nLIGHT continually improves its products to provide customers outstanding quality and reliability. The information contained herein is subject to change without notice. nLIGHT, Inc. shall not be liable for technical or editorial errors or omissions contained herein. Warranties are set forth in express warranty statements accompanying products. Nothing herein should be construed as constituting an additional warranty. For details, please contact your nLIGHT sales representative.

[sales@nlight.net](mailto:sales@nlight.net) | [www.nlight.net](http://www.nlight.net)

© Copyright 2023 nLIGHT, Inc.

