

Multimode Rackmount Fiber Lasers

Small form factor rackmount fiber lasers with power up to 1.5 kW



nLIGHT® multimode rackmount fiber lasers deliver continuous power with models from 500 to 1500 W and multiple fiber options for advanced applications in welding, cutting, 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

- **500 to 1500 W power models**
Continuous power from a range of spliced multimode fiber options suitable for diverse laser processing 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.

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nLIGHT Multimode Rackmount Fiber Laser Specifications

| Models | CFL-500-MM | CFL-700-MM | CFL-1000-MM | CFL-1200-MM | CFL-1500-MM |
|-------------------------------------|--|------------|-------------|-------------|-------------|
| Optical Specifications | | | | | |
| 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 | 50 μm fiber ≤ 2.0 mm-mrad 100 μm fiber ≤ 4.0 mm-mrad 200 μm fiber ≤ 11.0 mm-mrad | | | | |
| Wavelength | 1070 ± 10 nm | | | | |
| Electrical Specifications | | | | | |
| Supply Voltage | 200 to 240 VAC, single phase, 50/60 Hz | | | | |
| Control Interface | External hardware control, analog power control, GUI, RS-232/Ethernet | | | | |
| Mechanical Specifications | | | | | |
| Dimensions (W x D x H) | 430 x 677 x 177 mm | | | | |
| Optical Fiber ¹ | 5, 10, 20, 30 m length, QBH connector | | | | |
| Cooling Method | Water | | | | |
| Environmental Specifications | | | | | |
| Operating Temperature ² | 10 to 40°C | | | | |
| Storage Temperature | -10 to 60°C | | | | |
| Relative Humidity | 10 to 80% | | | | |

¹ Configuration dependent

² Non-condensing or with use of CDA

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