# Microlaser M4


nLIGHT's DPSS 1064nm Microlaser M4 is designed with integrated output optics, thermal control and a complete electronics package for a wide range of applications. Pumped with nLIGHT's patented nXLT diodes, the Microlaser M4 offers exceptional beam quality and high pulse energy from a compact package.

The Microlaser M4 is engineered for easy integration and maintenance free operation that helps lower the cost and improve the reliability of your product.

The passively Q-switched Microlaser M4 is a proven product with years of field data.

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## Features

- Patented nXLT™ diode protection for extended life
- Integrated output optics
- Easy integration
- Excellent beam quality
- Compact package

## Applications

- Diamond Planning
- Marking
- Biophotonics
- Lidar
- Remote sensing
- Instrumentation

**Proven Performance**

# Typical Laser Performance

| Optical | Unit | Lower Spec | Typical | Upper Spec |
|---|---|---|---|---|
| Wavelength | nm | | 1064 | |
| Beam quality | $M^2$ | 1 | 1.3 | 1.7 |
| Waist diameter | um | 220 | 300 | 360 |
| Waist location[2] | mm | | 22 | |
| Divergence (Full angle) | mrad | 5.5 | 6.5 | 7.5 |
| Beam location (From nominal) | mm | | 1 | |
| Mode of operation | | Pulsed | | |
| Polarization | | Random | | |
| Output power[1] | mW | 200 | 1000 | 1200 |
| Pulse Repetition Frequency(PRF) | kHz | 3 | 13.5 | 17 |
| Pulse width | ns | 14 | 18 | 22 |
| Pulse energy | µJ | 50 | 75 | 95 |
| Peak power[3] at 1000mW | KW | 3.5 | | 5 |
| Peak power at 450mW | KW | 2.5 | | 3.5 |
| Power stability, 8hr | % | | 5 | |
| **Electrical** | | | | |
| Input voltage | VAC | 100 | 220 | 240 |
| Control interface | | CAN serial communication, Digital control D-Sub | | |
| **Environment & Mechanical** | | | | |
| Laser head cooling type | - | | Air cooled | |
| Operating temperature range | °C | 35 | | 45 |
| Storage temperature range[4] | °C | -20 | | 70 |
| Operating humidity range | %RH | 20 | | 80 |
| Weight (head/driver) | g | 370 / 2750 | | |
| Dimensions (head/driver) | mm | 153 x 50 x 34.5 / 220 x 146 x 96 | | |

[1] The output power can be varied via software

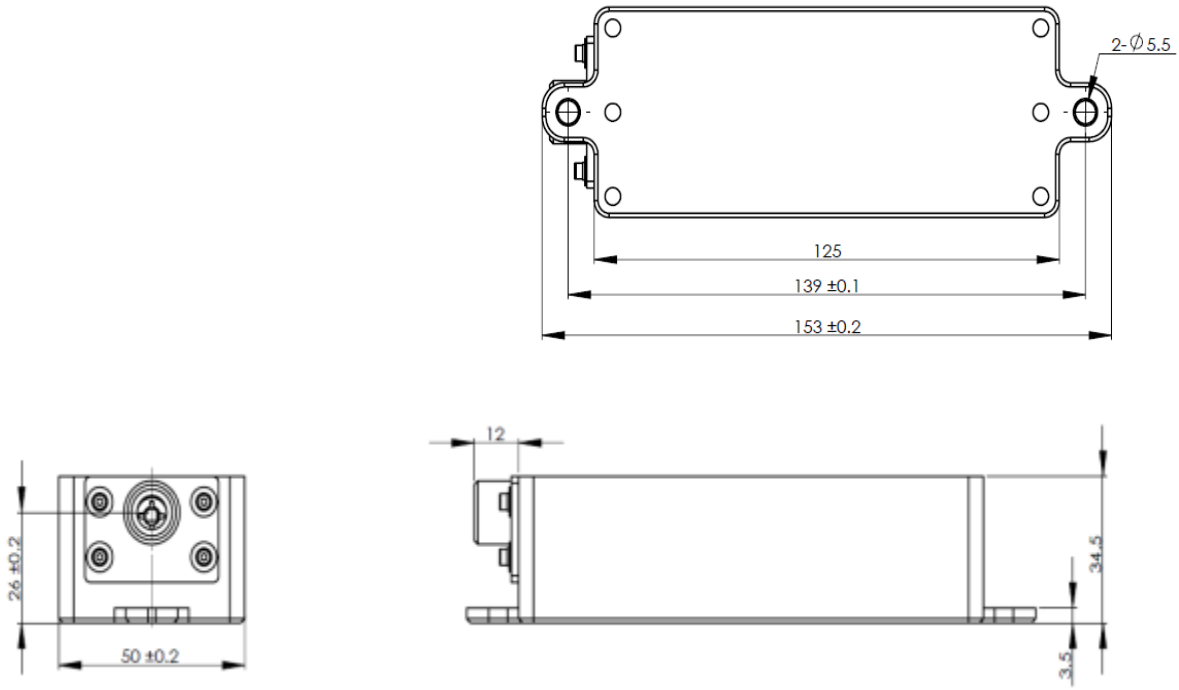
[2] Inside laser housing. Measured from output face.

[3] Calculated by Peak power = Average power / (PRF x Pulse width)

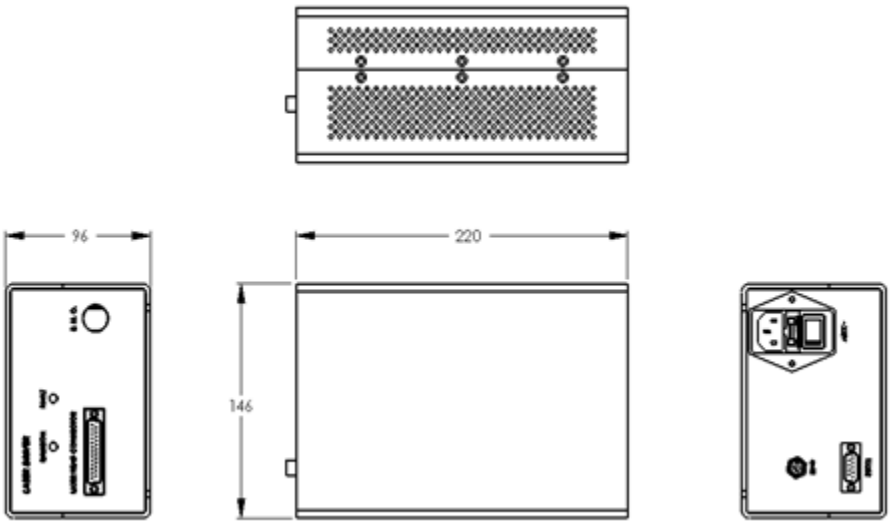
[4] Non condensing environment

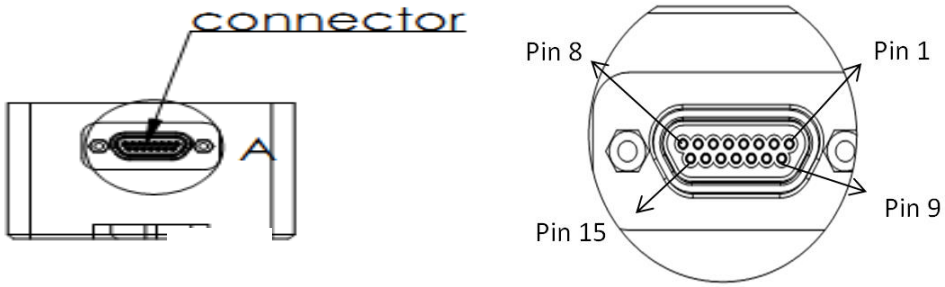
[5] The typical value specified at 1000mW.

## Package Dimensions




Note: OEM versions can have output optics per customer requirement






## Pin Definition

| | |
|---|---|
| **Pin1** | TEC- |
| **Pin2** | |
| **Pin3** | |
| **Pin4** | Thermistor |
| **Pin5** | Thermistor |
| **Pin6** | LD+ |
| **Pin7** | |
| **Pin8** | |
| **Pin9** | TEC+ |
| **Pin10** | |
| **Pin11** | |
| **Pin12** | |
| **Pin13** | LD- |
| **Pin14** | |
| **Pin15** | |