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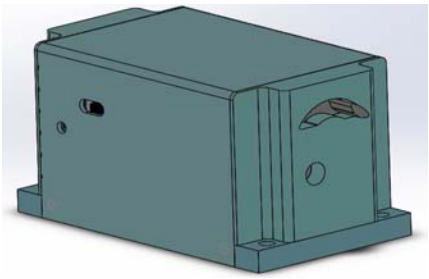
# Free Space Diode Module



## Key Features

- Plug & Play
- High power stability
- LD Current Full Protection
- LD Temperature Stabilized
- High Speed Modulation
- Low noise
- Excellent beam profile
- USB or Local control

## Applications

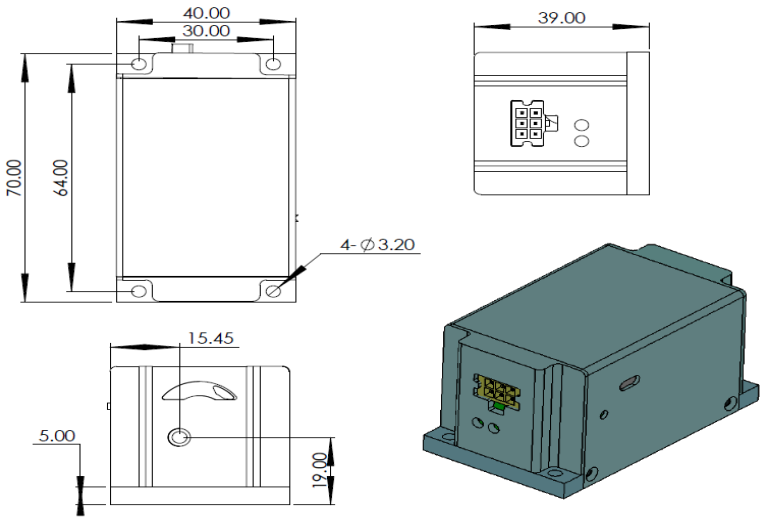
- Confocal Microscopy
- Biomedicine Research
- Inspection & Metrology
- Analytical Instruments
- Holography
- Basic R&D

The free space laser module is a temperature stabilized diode laser. It integrated thermoelectric cooler, modulation, protection electronics in a compact package.

Module features very low $M^2$ value Gauss beam output with excellent beam pointing stability at a wide temperature dynamic range. The special designed electrical driver enable this optical engine has the lowest power consumptions compare to the similar product in the industry.

This component does not comply with the Federal Regulations (21 CFR Subchapter1) as administered by the Center for Devices and Radiological health. Purchaser acknowledges that his/her products must comply with these regulations before they can be sold to a customer. The output light from this product is harmful to a human body even if it is invisible. Avoid looking at the output of this product directly, or through a lens during operation. Observance of operation should be through a TV camera or related equipment. Refer to IEC 825-1 and 21 CFR 1040.10-1040.11 as a radiation safety standard for laser products.

## Dimensions Diagram



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## Specifications

| Optical Performance | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Wavelength | T=25 °C | Refer to wavelength list | | | nm |
| Output Power | T=25 °C, CW | Refer to wavelength list | | | mW |
| Mode | | TEM00 | | | |
| Noise(RMS) | 10 ~ 20MHz | | | 0.3 | % |
| Power stability | 8hrs @ T=25 °C | | 1 | | % |
| Polarization Extinction Ratio | Vertical | 20 | | | dB |
| **Collimated Beam Parameters** | | | | | |
| M2 | | | | ~1.1 | |
| Beam size | $1/e^2$ | ~2.0 | | | mm |
| Beam divergence | Full angle | | | 1 | mrad |
| **Electronics** | | | | | |
| Power Supply | | 5 / 12 | | | V |
| Power Consumption | | | 3 | 10 | W |
| Current(TEC) | | | | 2 | A |
| Current(LD) | | | | 500 | mA |
| Temperature Stability | | | 0.2 | | °C |
| Control | Local / USB | | | | |
| Power setting | 0% ~ 100% output | | | | |
| **Environmental Conditions** | | | | | |
| Storage Temperature | | 0 | | 50 | °C |
| Operation Temperature | | 10 | | 40 | °C |
| Operation Humidity | Non condensing | | | | |
| **Dimensions** | 105mmX69mmX39mm | | | | |

*The mechanical tolerance should be +/-0.2mm on all package dimensions unless otherwise custom specified

## Wavelength List

| Wavelength | Power(mW) | Wavelength | Power(mW) | Wavelength | Power(mW) | Wavelength | Power(mW) |
|---|---|---|---|---|---|---|---|
| 375nm | 50 | 488nm | 20, 60, 150 | 655nm | 20 | 808nm | 50,100 |
| 395nm | 100 | 495nm | 50 | 660nm | 50,100 | 830nm | 50, 100 |
| 405nm | 100, 250,400 | 505nm | 50 | 670nm | 10 | 840nm | 50 |
| 415nm | 100 | 515nm | 50,120 | 685nm | 40 | 850nm | 50, 100 |
| 421nm | 100 | 520nm | 50,80 | 690nm | 20 | 880nm | 10 |
| 445nm | 80,400 | 633nm | 100 | 705nm | 30 | 905/915nm | 100, 200 |
| 456nm | 50, 100 | 638nm | 40,100,150 | 730nm | 30 | 940nm | 200,300 |
| 473nm | 100, 250 | 640nm | 40, 100 | 785nm | 50,100,200 | 980nm | 100, 200 |

## Ordering Information

For more information of our products, please contact factory directly or your local distributor via E-mail or phone.