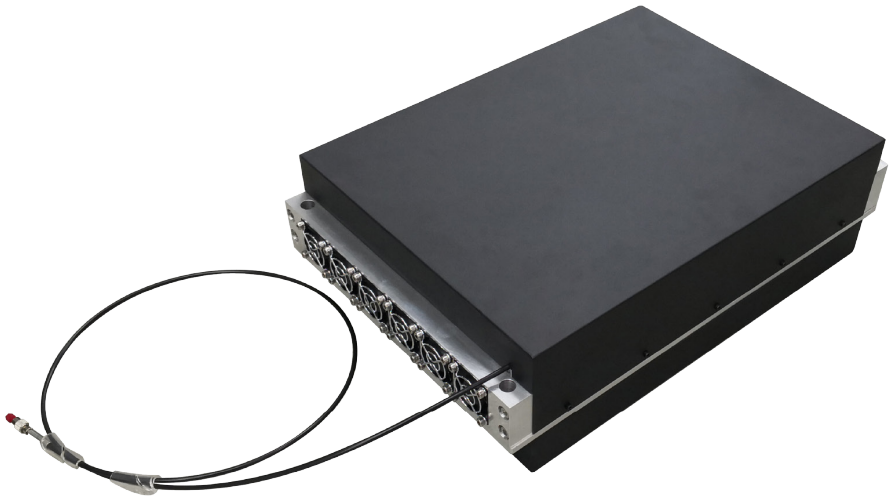
Laser Components

FIBER-COUPLED MULTI-COLOR LASER MODULE SERIES

The Multi-color Laser Module series is fully customizable with up to 4 wavelengths from mW to 5W, while using fiber combining technology to offer SM, MM or specialty fiber options. The modules are fully integrated with internal electronics and ARM based firmware to allow for software control and remote monitoring. Compact and customizable, these modules deliver the highest quality performance and reliability for a wide range of applications primarily for Life Sciences.



FEATURES

- Available wavelengths
  - Blue: 405nm/450nm/465nm/488nm
  - Green: 520nm/532nm
  - Red: 640nm/660nm
  - Or customize up to 4 wavelengths
- Available fiber types
  - Multimode
  - Singlemode
  - Specialty fiber: square, rectangular or octagonal core dimensions
- mW to 5W for each wavelength
- Integrated driving & temperature control
- ARM based smart & robust firmware

APPLICATIONS

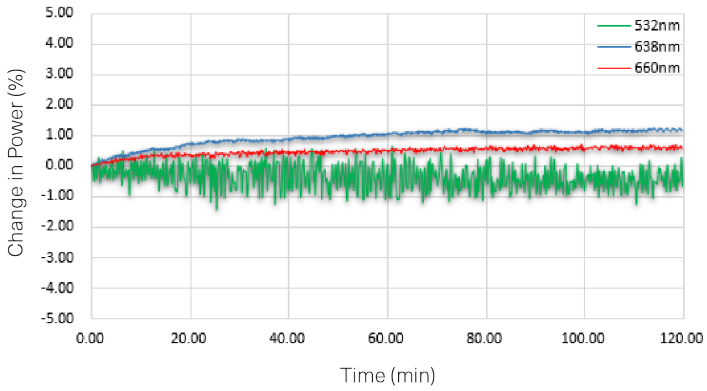
- Biotechnology - Sequencing, PCR, Flow Cytometry
- Medical - Endoscopy, Imaging, Point of Care Diagnostics
- Scientific/Other - Spectroscopy, Machine Vision

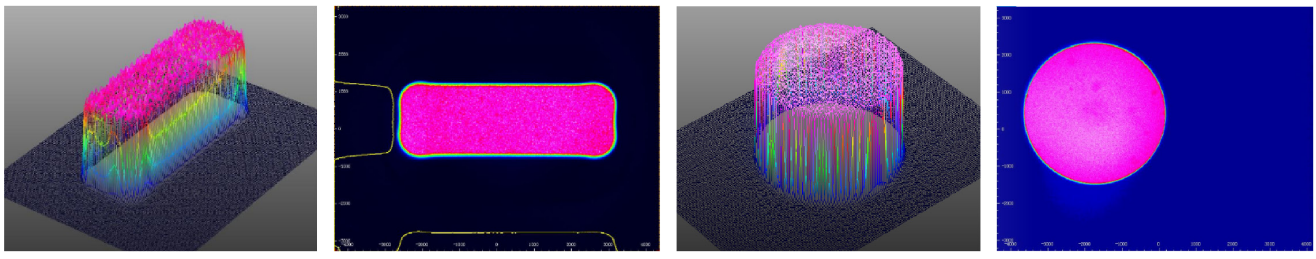
COHERENT

Product Specifications

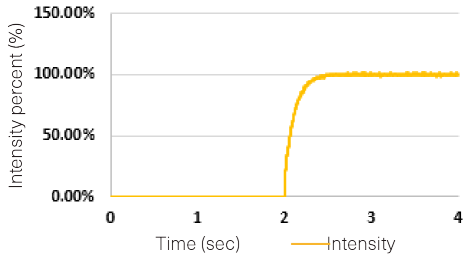
Optical Parameters		Conditions
Laser Wavelength	Custom	90% Power
Output Power	Custom	Each Wavelength @25℃
Output Power Stability (20-40℃)	<2%, <3%, <5%	2 Hrs @ CW & Operating Temp
Power Adjustment	5%~100%@I/O Control(0~3V)	Each Wavelength
Modulation Period	CW or Pulse	Frequency <100HZ
Rise/Fall Time	≦1ms	10%-100% Intensity
Output Fiber Type	Multimode Rectangular Fiber: 150umx450um; NA:0.21 Multimode Circular Fiber: 105/125um,200/220um,400/440um; NA:0.15,0.22 Single Mode Fiber, Specialty Fiber or custom	
Fiber Cable	Φ0.9/2.0/3.0/4.4mm Protection Tube or custom	
Fiber Connector Type	FC/APC, SMA or custom	
Near Field Intensity Uniformity	>80%	

Typical Power Stability

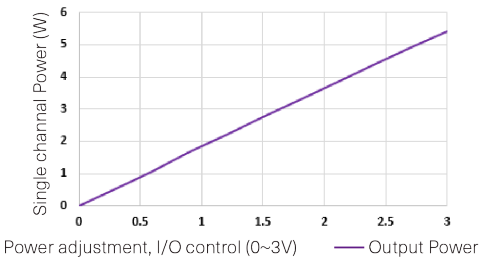




Typical Power Adjustment



Typical Rise time



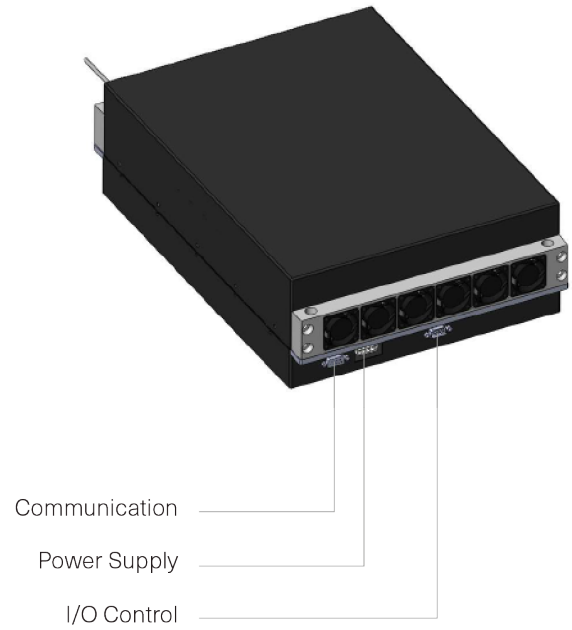
Module Mechanical Parameters	
Module Size (Depending on the Power)	276mm×158mm×85mm (P>0.5W@Each Wavelength) 320mmx180mmx100mm (P>1.5W@Each Wavelength) 440mmx300mmx130mm (P>5W@Each Wavelength) Or Custom
Fiber Length	>1000mm

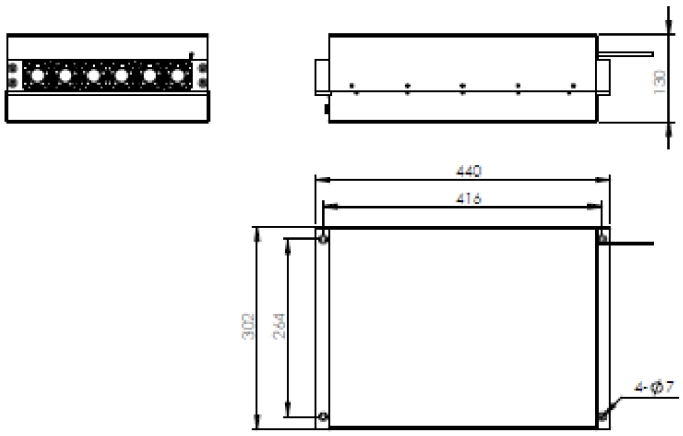
Electrical Parameters	
Supply voltage and current	24V±10%, ≦ 30A
Power Interface Type	Molex 5556
Control Interface Type	DB9 Female
Communication Type	DB9 Male
Power adjustment	0~3V

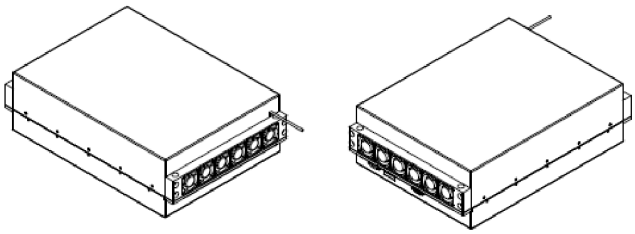
Environment	
Operating Case Temperature	+20℃~+40℃
Storage Temperature	-30℃~+60℃
Operating Relative Humidity	0%~90%,Non-condensing
Total Power Dissipation	<720W (Depending on the Power)
Warm Up Time from OFF	5min

Typical Product Dimensions

5W Module Example:







Electrical Interface

Item-1: Communication: DB9 Male

Item-2: Power Connector: 24V DC, Power supply, Molex 5556(Pin definition and quantity depending on the power)

Item-3: Control I/O: DB9 Female (Dual-wavelength products as an example)

Pin Definitions			
Pin1	Laser 1 enable	Pin6	GND
Pin2	Laser 1 power adjustment	Pin7	Laser 1 state indicator
Pin3	Both enable	Pin8	Laser 2 state indicator
Pin4	Laser 2 power adjustment	Pin9	Module ready signal
Pin5	Laser 2 enable		

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