

M-BIOS

Free-Space Laser Modules



GENERAL DESCRIPTION

The M-BIOS is a series of stand-alone laser modules with integrated laser driver electronics, control and protection circuitry. The compact, single wavelength, laser source features a wide variety of wavelength and power options including; UV laser (375nm), Violet laser (405nm), Blue laser (488nm), Green laser (532nm), Yellow laser (561nm) or Red laser (638nm) sources. These free space laser modules are ideal for using in laboratory environments or integration as OEM components in instruments.

SERVICE

Optionally, we offer the complete value chain:

We design and develop laser modules which are optimized to meet the specific requirements of your application.

In order to evaluate the performance of the lasers in the design phase we offer the rapid manufacture of prototypes and small series production.

We scale up to volume production.

APPLICATIONS

- Flow cytometer
- DNA Sequencing
- Hematology Analyzer
- Immunofluorescence analyzer
- Medical imaging

FEATURES

- Ultra-low noise
- High power stability
- Compact structure
- Integrated control circuit
- Digital communication

Specifications

Optical

Wavelength (nm)	375	405	488	532	561	638
Wavelength tolerance (nm)	$\pm 2, \pm 5$					
Typical output power (mW)	60	100	160	100	40	170
Power stability (%) (8hrs, $\pm 3^{\circ}\text{C}$)	<1					
RMS noise (%) (20Hz-20MHz)	<0.1					
Pk-Pk noise (%) (20Hz-20MHz)	<1					
Beam quality (M^2) (TEM00)	1.3	<1.2	<1.2	<1.1	<1.1	<1.2
Beam diameter @ $1/e^2$ (mm) *	0.7 / 0.8 / 1.1 / 1.2 ± 0.1					
Beam divergence (mrad, full-angle)	1.2	1	1.2	1.2	1.2	1.3
Beam roundness (%)	90					
Polarization ratio	50:1 / 100:1					
Polarization orientation	Vertical $\pm 5.0^{\circ}$					
Pointing stability ($\mu\text{rad}/^{\circ}\text{C}$) **	<30					
Pointing stability ($\mu\text{rad}/^{\circ}\text{C}$) (over temp.)	<5					
Warm-up time (minute) (from cold start)	<3					
Optical window filter	OD5					
Height of static beam output (mm)	19 ± 0.5					
Static beam collimation (mrad) (angle)	± 2.5					
Static beam collimation (mm) (position)	± 0.5					
Laser safety classification	3B					

* 200mm from output window

** over 2 hours after warm-up and $\Delta T = \pm 3^{\circ}\text{C}$

Electrical

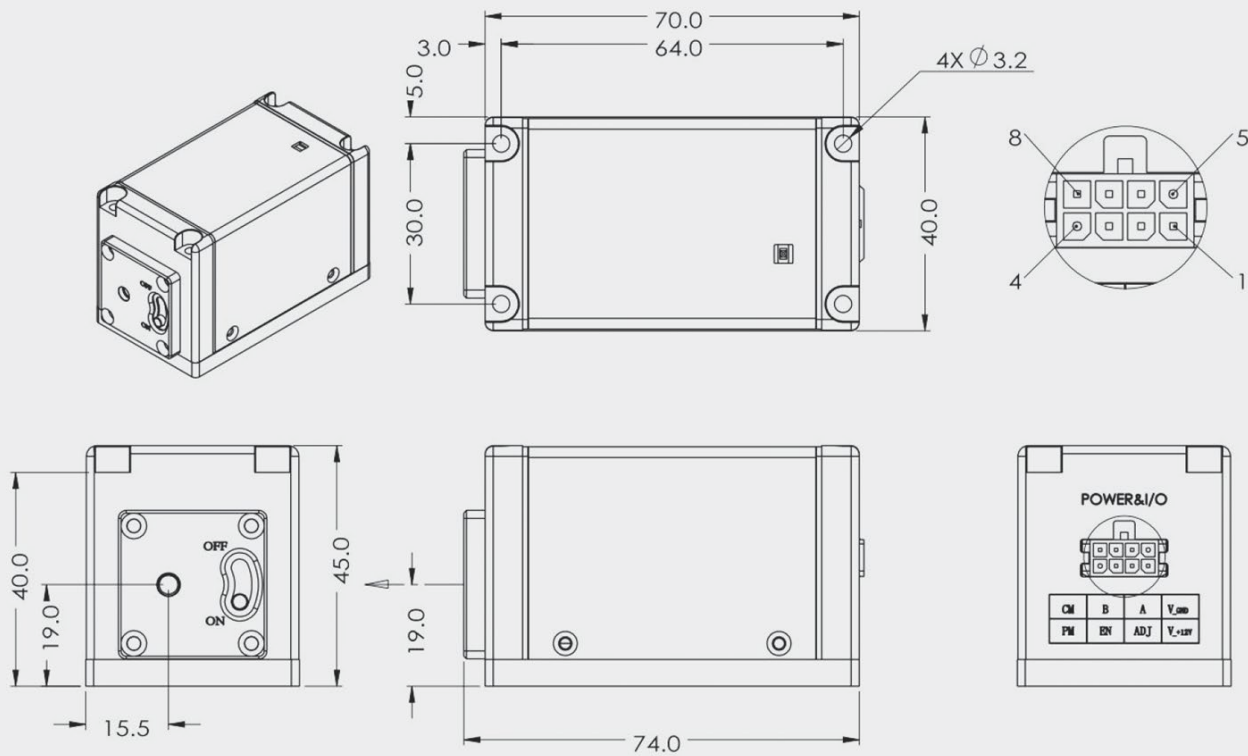
Supply voltage (VDC)	5 / 9 / 12
Power consumption (W)	<50
Power input connector	43045-0800
Control interface connectors	RS232 or RS485

Environmental

Dimensions (mm)	70 x 40 x 45
Weight (g)	250
Baseplate operating temperature ($^{\circ}\text{C}$)	10~40
Non-operating condition ($^{\circ}\text{C}$)	-20~+60
Shock (G, 11ms) (non-operating)	25
Vibration (G, 5Hz-500MHz) (non-operating)	2
Humidity (%) (non-condensing)	10~90

Dimensions

Unit: mm



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