



## **405nm-808nm Line Laser Modules for Machine Vision, 5-30VDC, Dia. 20mm, IP67 Water and Dust Resistant**

### **MVEF Series**



### **Overview**

The Lasermate MVEF series laser diode module is a line laser module designed for applications that require a wavelength in the 405nm to 808nm spectral range and output power up to 180mW. The laser module is constructed with features of precision fringes, uniform power distribution, clear edge, and high stability. With its industrial-suited design, high reliability and stable performance, the laser is the ideal solution for applications in various 2D/3D visual field applications, inspection systems and medical treatment, etc.

### **Features**

- Wavelength range: 405-808nm
- Diameter:  $\Phi 20$  mm
- IP67, water and dust resistant
- Supply voltage 5-30VDC (with protection from wrong connection)
- Modulation frequency up to 100kHz
- Straight deviation <0.1%

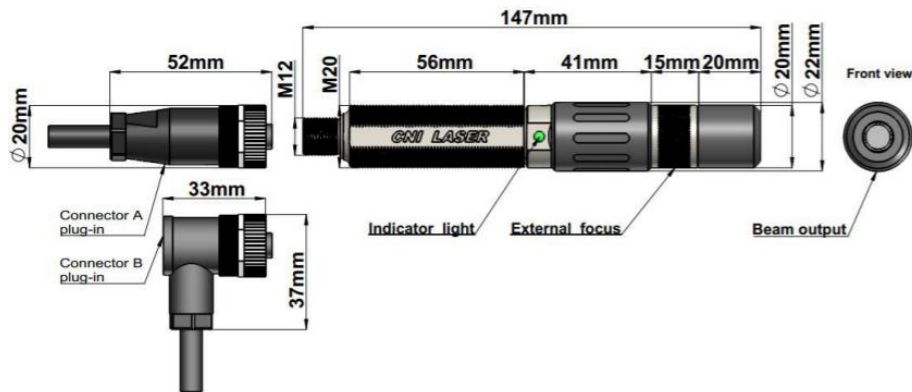
### **Applications**

- 2D/3D visual field applications
- Inspection systems
- Medical treatment

**Specifications (T<sub>op</sub> = 25°C)**

Model Number	MVEF405-XA30-LY	MVEF520-XA30-LY	MVEF637-XA30-LY	MVEF660-XA30-LY	MVEF785-XA30-LY	MVEF808-XA30-LY
Wavelength (nm)	405	520	637	660	785	808
Wavelength tolerance (nm) typical	±5	±5	±5	±5	±10	±10
Output power (mW)	~50 (X=50), ~100 (X=100), ~150 (X=150), ~180 (X=180)	~30 (X=30), ~50 (X=50), ~80 (X=80)	~50 (X=50), ~100 (X=100), ~150 (X=150)	~50 (X=50), ~100 (X=100), ~150 (X=150), ~180 (X=180)	~30 (X=30), ~50 (X=50), ~100 (X=100)	~30 (X=30), ~50 (X=50), ~100 (X=100)
Linewidth at <250mm	40-200um					
Linewidth at 1m	<1.0mm					
Line angle	7° (Y=7), 10° (Y=10), 15° (Y=15), 30° (Y=30), 45° (Y=45), 50° (Y=50), 60° (Y=60), 75° (Y=75), 90° (Y=90)					
Working distance (mm)	5-2000 (adjustable)					
Laser operation mode	CW					
Luminance uniformity	85%					
Straightness error	Less than 0.1%					
85% peak power proportion in cross-section	95%					
Temperature and power stability	Less than 0.5%					
Expected lifetime (hrs)	10,000					
Operating voltage	5-30V DC with protection from wrong connection					
Current (max)	300mA					
Modulation	TTL modulation Analog input adjusting power					
Modulation frequency	TTL up to 100kHz Analog up to 30kHz					
Connection	4-pin M12 plug and cable with flying leads					
Operating temperature (°C)	-10 to +45					
Storage temperature (°C)	-20 to +80					
Humidity	<90%, non-condensing					
Dissipated heat (W)	<1W					
Protection class	IP67, dust and waterproof					
Connector A/B	M12 plug, 4 pins (two types are optional)					
Thread	M20					
Length (mm)	147mm					
Diameter head (mm)	22mm					
Material	Aluminum					

## Outline Dimensions (unit: mm)



### Additional Notes

- The MVEF series laser modules are designated solely as OEM components for incorporation into the customer's end products. Therefore, it is the customer's responsibility to comply with the appropriate requirements of FDA 21CFR, section 1040.10 and 1040.11 for complete laser products. For the code of FDA regulations, please refer to [FDA Performance Standards for Light-Emitting Products](#) for detailed information.
- Additional heat sink may be needed if the laser module is operated continuously for a long period of time.
- Specifications are subject to change without notice.

### Accessories

#### Module Mount

The module mounts are used for 20mm diameter diode modules. To install, first screw a nut on the barrel of the laser; then put the laser into the mount and install a nut to fasten the laser. The mount base reserved holes for users to fix the laser on the flat and heat-dissipating surface. Moreover, the module mount can be tilted about 45°.

#### Mount Specifications

##### Mount Option 1

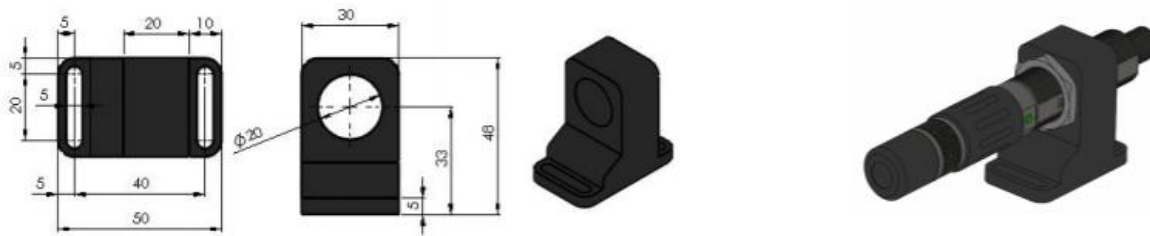
- Module mount size: 50mm x 30mm x 48mm
- Applicable models diameter size: 20mm
- Mounting hole: 20mm x 5mm
- Mounting hole distance: 40mm

##### Mount Option 2

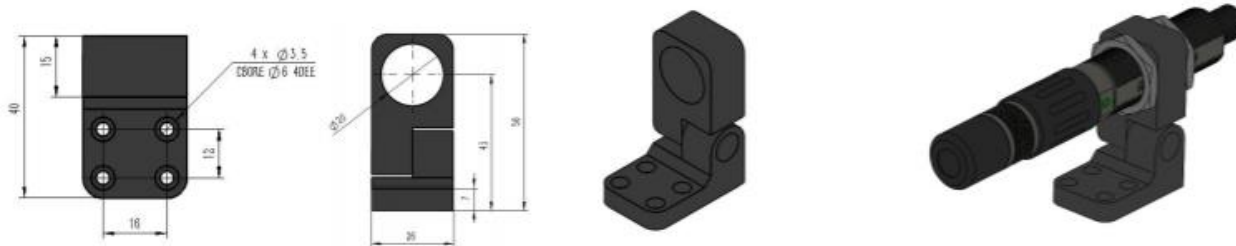
- Module mount size: 40mm x 26mm x 56mm
- Applicable models diameter size: 20mm
- Mounting hole: Dia. 3.5mm
- Mounting hole distance: 16mm x 12mm

Outline Dimensions of Mount (unit: mm)

Mount Option 1



Mount Option 2



Connector of Cable for Power Adapter Option 2

- Headset connector: Easy connect and disconnect

Power Adapter

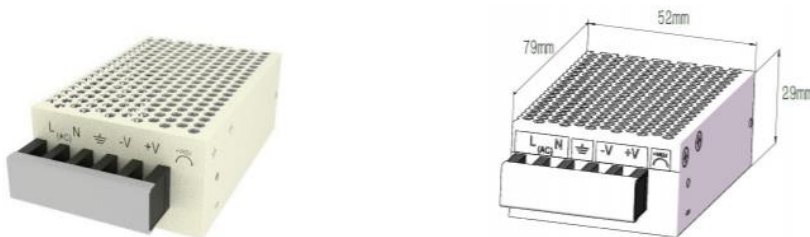
Power Adapter Option 1

The power supply with CE-marking provides a well-regulated 12VDC. This auto-ranging power module can be connected to any 100-240VAC 50-60Hz supply.

Specifications

- Input voltage: 100-240V AC 50-60Hz
- Output voltage: DC 12V 2.1A
- Adapter size: 79mm x 52mm x 29mm

Dimensions of Power Adapter Option 1 (unit: mm)



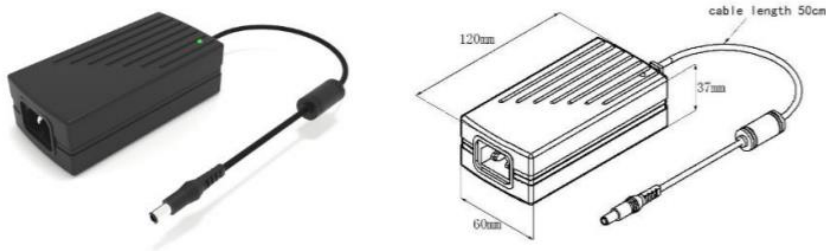
Power Adapter Option 2

The universal laser diode module power supply with CE-marking provides a well-regulated 5VDC. The auto-ranging power module can be connected to any 85-264 VAC 47/63 Hz supply. There is an IEC 60320 input socket and a 0.5m output cable terminated with an easy connect/disconnect jack socket. The headset connector is compatible with the power supply jack.

## Specifications

- Input voltage: 85-264V AC 47/63Hz
- Output voltage: DC 5V 5A
- Adapter size: 120mm x 60mm x 37mm
- Adapter cable length: 0.5m
- Cable connector: Easy connect/disconnect jack

Dimensions of Power Adapter Option 2 (unit: mm)



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