



MW Series

Multi-Wavelength Free-Space Laser System (2-4 Wavelengths)

Data Sheet

Overview

The MW series Multiwavelength Free Space Output Laser combines two or more laser wavelengths into a single free-space output beam, providing a compact and versatile light source for scientific, biomedical, and industrial applications. Available with customizable wavelength combinations from 375nm to 1550nm, the system features an independent laser head and driver for easy integration, and stable CW operation.

Features

- Single free-space output beam with 2-4 combined wavelengths
- Customizable wavelength combinations from 375nm to 1550nm
- Continuous-wave (CW) operation
- Independent laser head and driver
- Excellent long-term stability
- Compact, space-saving design
- Easy OEM and laboratory integration
- Custom wavelength combinations and output powers available

Applications

- Spectral analysis
- Life science research
- Biomedical instrumentation
- Fluorescence excitation
- Microscopy
- Optical instrumentation
- Scientific research
- OEM system integration

MW Series (2 Wavelengths) Specifications

Parameter	MW4863	MW4864	MW4866	MW5063	MW5066	MW5263	MW5264
Wavelength combination	488/633 nm	488/640 nm	488/655 nm	505/633 nm	505/640 nm	505/665 nm	520/633 nm
Wavelength tolerance	±5/±5	±5/±5	±5/±5	±5/±5	±5/±5	±5/±5	±10/±5
Operating mode	CW						
Output power	20/20 mW	20/20 mW	20/20 mW	15/15 mW	15/15 mW	15/15 mW	15/15/ mW
Transverse mode	TEM ₀₀						
Power stability (rms, over 4 hours)	<3%, <2%, <1%						
Noise of amplitude (rms, 20Hz-20MHz)	<1%						
Beam diameter at aperture	<2.0 mm						
Beam divergence, full angle	<1.0 mrad						
Ellipticity	>0.90						
M ² factor	~1.1						
Warm-up time	<5 min						
Operating temperature	10-35°C						
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz						
Expected lifetime	10,000 hours						
Warranty period	10 months						
Parameter	MW5264	MW5266	MW4853H	MW4856H	MW4857H	MW4858H	MW4867H
Wavelength combination	520/640 nm	520/665 nm	488/532 nm	488/561 nm	488/577 nm	488/589 nm	488/671 nm
Wavelength tolerance	±10/±5	±10/±5	±5/±1	±5/±1	±5/±2	±5/±1	±5/±1
Operating mode	CW						
Output power	15/15 mW	15/15 mW	20/20 mW	20/20 mW	20/20 mW	20/20 mW	20/20 mW
Transverse mode	TEM ₀₀						
Power stability (rms, over 4 hours)	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<5%, <3%, <2%
Noise of amplitude (rms, 20Hz-20MHz)	<1%						
Beam diameter at aperture	<2.0 mm						
Beam divergence, full angle	<1.0 mrad						
Ellipticity	>0.90						
M ² factor	~1.1						
Warm-up time	<5 min						
Operating temperature	10-35°C						
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz						
Expected lifetime	10,000 hours						
Warranty period	10 months						



MW Series (2 Wavelengths) Specifications (Continued)

Parameter	MW5363H	MW5364H	MW5664H	MW5763H	MW5764H	MW5863H	MW5864H
Wavelength combination	532/633 nm	532/640 nm	561/640 nm	577/633 nm	577/640 nm	589/633 nm	589/640 nm
Wavelength tolerance	±1/±5	±1/±5	±1/±5	±2/±5	±2/±5	±1/±5	±1/±5
Operating mode	CW						
Output power	20/20 mW	20/20 mW	20/20 mW	20/20 mW	20/20 mW	20/20 mW	20/20 mW
Transverse mode	TEM ₀₀						
Power stability (rms, over 4 hours)	<3%, <2%, <1%						
Noise of amplitude (rms, 20Hz-20MHz)	<1%						
Beam diameter at aperture	<2.0 mm						
Beam divergence, full angle	<1.0 mrad						
Ellipticity	>0.90						
M ² factor	~1.1						
Warm-up time	<5 min						
Operating temperature	10-35°C						
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz						
Expected lifetime	10,000 hours						
Warranty period	10 months						



MW Series (3 Wavelengths) Specifications

Parameter	MW374853D	MW404853D	MW404863D	MW409815D	MW454852A
Wavelength combination	375/488/532 nm	405/488/532 nm	405/488/633 nm	405/980/1550 nm	450/488/520 nm
Wavelength tolerance	$\pm 5/\pm 5/\pm 1$	$\pm 5/\pm 5/\pm 1$	$\pm 5/\pm 5/\pm 5$	$\pm 5/\pm 5/\pm 5$	$\pm 5/\pm 5/\pm 5$
Operating mode	CW				
Output power	20/20/50 mW	50/20/50 mW	20/20/20 mW	15/15/15 mW	50/50/50 mW
Transverse mode	Near TEM ₀₀ / TEM ₀₀ / TEM ₀₀	TEM ₀₀	TEM ₀₀	TEM ₀₀	TEM ₀₀
Power stability (rms, over 4 hours)	<3%, <2%, <1%				
Noise of amplitude (rms, 20Hz-20MHz)	<1%				
Beam diameter at aperture	~1.0				
Beam divergence, full angle	<1.5 mrad				
Ellipticity	>0.90				
M ² factor	~1.1				
Warm-up time	<5 min				
Operating temperature	10-35°C				
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz				
Expected lifetime	10,000 hours				
Warranty period	10 months				
Parameter	MW475868B	MW485264A	MW485664B	MW486472E	MW536473A
Wavelength combination	473/589/685 nm	488/520/640 nm	488/561/640 nm	488/640/721 nm	532/640/730 nm
Wavelength tolerance	$\pm 1/\pm 1/\pm 5$	$\pm 5/\pm 5/\pm 5$	$\pm 5/\pm 1/\pm 5$	$\pm 5/\pm 5/\pm 1$	$\pm 1/\pm 5/\pm 5$
Operating mode	CW				
Output power	20/20/20 mW	50/50/50 mW	50/50/50 mW	50/50/50 mW	20/20/20 mW
Transverse mode	TEM ₀₀				
Power stability (rms, over 4 hours)	<3%, <2%, <1%				
Noise of amplitude (rms, 20Hz-20MHz)	<1%				
Beam diameter at aperture	~1.0				
Beam divergence, full angle	<1.5 mrad				
Ellipticity	>0.90				
M ² factor	~1.1				
Warm-up time	<5 min				
Operating temperature	10-35°C				
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz				
Expected lifetime	10,000 hours				
Warranty period	10 months				



MW Series (4 Wavelengths) Specifications

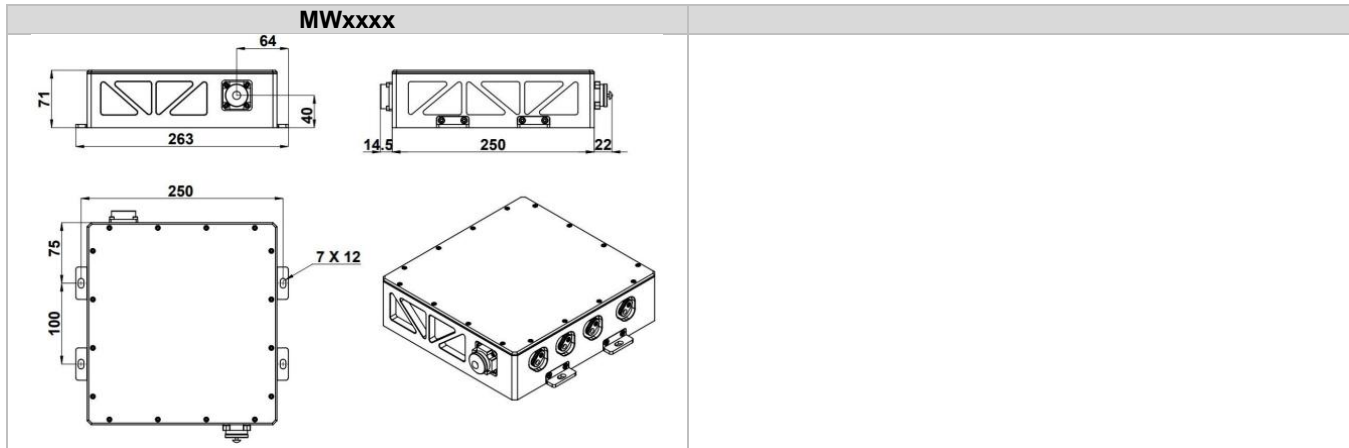
Parameter	MW40485363	MW40485364	MW40485663	MW40485664
Wavelength combination	405/488/532/633 nm	405/488/532/640 nm	405/488/561/633 nm	405/488/561/640 nm
Wavelength tolerance	$\pm 5/\pm 5/\pm 1/\pm 5$	$\pm 5/\pm 5/\pm 1/\pm 5$	$\pm 5/\pm 5/\pm 1/\pm 5$	$\pm 5/\pm 5/\pm 1/\pm 5$
Operating mode	CW			
Output power	20/20/20/20 mW	20/20/20/20 mW	20/20/20/20 mW	20/20/20/20 mW
Transverse mode	TEM ₀₀			
Power stability (rms, over 4 hours)	<3%, <2%, <1%			
Noise of amplitude (rms, 20Hz-20MHz)	<1%			
Beam diameter at aperture	~1.0			
Beam divergence, full angle	<1.5 mrad			
Ellipticity	>0.90			
M ² factor	~1.1			
Warm-up time	<5 min			
Operating temperature	10-35°C			
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours			
Warranty period	10 months			

Remarks:

- Customized configurations and modifications may be available.
- Specifications of the CW laser are based on the laser performance at full power output after the specified warmup period. The stability of output power may change when output power is adjusted at a different power level.
- Specifications are subject to change without notice.

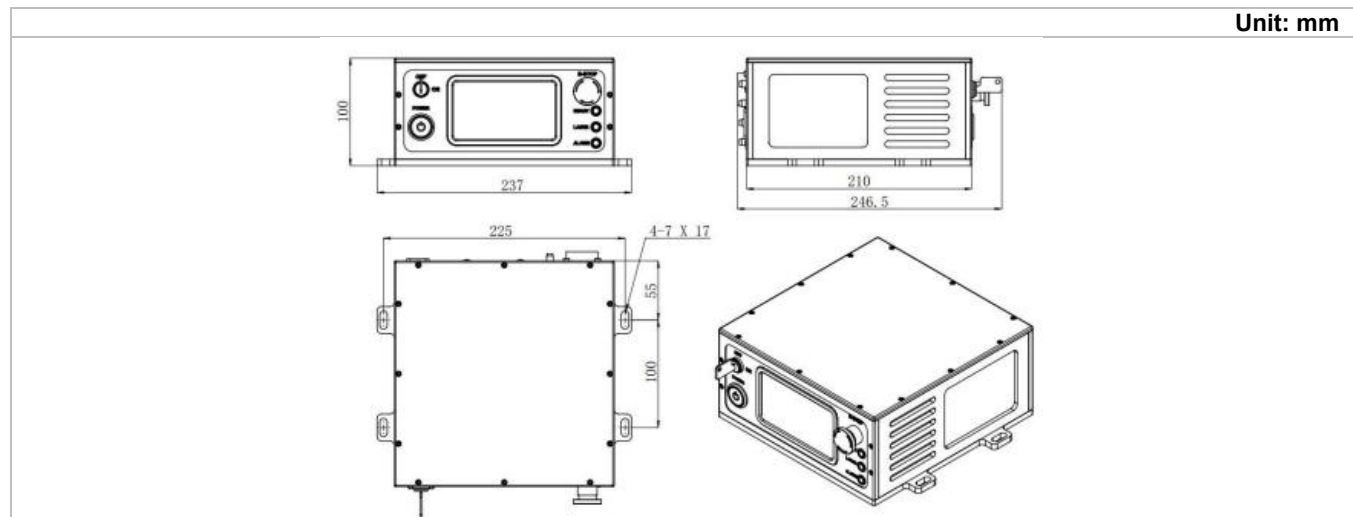
MW Series Laser Head Dimensions

		Unit: mm
MWxx	MWxxH	
MWxxxD	MWxxxA	
MWxxxB	MWxxxE	



Parameter	MWxx	MWxxH	MWxxxD	MWxxxA
Dimensions	190(L)×70(W) ×50(H) mm ³	338.5(L)×163(W) ×71(H) mm ³	239.5(L)×238(W) ×71(H) mm ³	238(L)×170(W) ×71(H) mm ³
Weight	1.0 kg	5.0 kg		
Beam height from base plate	27.4 mm	40 mm	40 mm	40 mm
Beam exit (from side)	35 mm	64 mm	64 mm	48 mm
Parameter	MWxxxB	MWxxxE	MWxxxx	
Dimensions	288(L)×240(W) ×72(H) mm ³	223(L)×274.5(W) ×71(H) mm ³	286.5(L)×263(W) ×71(H) mm ³	
Weight				
Beam height from base plate	40 mm	40 mm	40 mm	
Beam exit (from side)	70 mm	50 mm	64 mm	

MW Series Power Supply Dimensions



Parameter	RGB Laboratory Power Supply
Dimensions	246.5(L) × 237(W) × 100(H) mm ³
Weight	3.0 kg
Input voltage	100-240VAC

Ordering Information

For more information, please contact Lasermate directly at sales@lasermate.com.

Part Number Configuration MW[1][2]-[3][4]				
MW = Laser Model Series	[1] = Wavelength Combination	[2] = Laser Head Type	[3] = Power Stability	[4] = Modulation
			A= <5% E= <3% 2= <2% D= <1%	0=None T1=TTL 1Hz-1kHz T2=TTL 1kHz-10kHz T3=TTL 10kHz-30kHz A1=Analog 1Hz-1kHz A2=Analog 1kHz-10kHz A3=Analog 10kHz-30kHz

Note: The above specifications are subject to change without notice.

