



MS Series

Multi-Wavelength Single-Mode Fiber Coupled Laser System

Data Sheet



Overview

The MS Series Multi-Wavelength Single-Mode Fiber Coupled Laser System combines 2 to 4 laser wavelengths into a single single-mode (SM) fiber output, providing a compact, stable, and high-quality laser source for precision scientific and research applications. Available with customizable wavelength combinations from 320nm to 1064nm, the system delivers excellent beam quality, high stability, and flexible integration for laboratory and OEM instrumentation.

Features

- Combines 2 to 4 wavelengths into a single-mode fiber output
- Customizable wavelength combinations from 320nm to 1064nm
- Single-mode fiber output with FC connector
- Continuous-wave (CW) operation
- Optional TTL and analog modulation
- Excellent power stability
- Separate laser head and driver for easy integration
- Compact, air-cooled design
- Custom wavelength combinations, output powers, and fiber lengths available

Applications

- Fluorescence microscopy
- Confocal microscopy
- Raman spectroscopy
- Optical instrumentation
- Life science research
- Biomedical imaging
- Precision spectroscopy
- Scientific research
- OEM integration

MS Series (2 Wavelengths) Specifications

Parameter	MS4853B	MS4856B	MS4857B	MS4858B	MS4863	MS4864	MS4867B
Wavelength combination	488/532 nm	488/561 nm	488/577 nm	488/589 nm	488/633 nm	488/640 nm	488/671 nm
Wavelength tolerance	±5/±1 nm	±5/±1 nm	±5/±2 nm	±5/±1 nm	±5/±5nm	±5/±5nm	±5/±1 nm
Operating mode	CW						
Output power after fiber	20/50 mW	20/20 mW	20/20 mW	20/20 mW	20/20 mW	20/50 mW	20/30 mW
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%
Transverse mode	TEM ₀₀ (single mode fiber output)						
Noise of amplitude (rms, 20Hz-20MHz)	<1%						
M ² factor after fiber	<1.1						
Polarization ratio	Random (>30:1 after PM fiber optional)						
Fiber type	SM fiber (PM fiber optional)						
Fiber core diameter	4-9 um						
Fiber NA	0.10-0.15						
Fiber connector	FC/PC or FC/APC						
Fiber length	1 m						
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						

MS Series (2 Wavelengths) Specifications (Continued)

Parameter	MS5364B	MS5378B	MS5310B	MS5664B	MS5678B	MS5763B	MS5764B
Wavelength combination	532/640 nm	532/785 nm	532/1064 nm	561/640 nm	561/785 nm	577/633 nm	577/640 nm
Wavelength tolerance	±1/±5 nm	±1/±5 nm	±1/±5 nm	±1/±5 nm	±1/±5 nm	±2/±5 nm	±2/±5 nm
Operating mode	CW						
Output power after fiber	50/50 mW	50/30 mW	100/200 mW	20/50 mW	20/30 mW	20/20 mW	20/50 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%						
Transverse mode	TEM ₀₀ (single mode fiber output)						
Noise of amplitude (rms, 20Hz-20MHz)	<1%						
M ² factor after fiber	<1.1						
Polarization ratio	Random (>30:1 after PM fiber optional)						
Fiber type	SM fiber (PM fiber optional)						
Fiber core diameter	4-9 um						
Fiber NA	0.10-0.15						
Fiber connector	FC/PC or FC/APC						
Fiber length	1 m						
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						

MS Series (2 Wavelengths) Specifications (Continued)

Parameter	MS5778B	MS5863B	MS5864B	MS5878B	MS6378	MS6478	MS6410B
Wavelength combination	577/785 nm	589/633 nm	589/640 nm	589/785 nm	633/785 nm	640/785 nm	640/1053 nm
Wavelength tolerance	±2/±5 nm	±1/±5 nm	±1/±5 nm	±1/±5 nm	±5/±5 nm	±5/±5 nm	±5/±1 nm
Operating mode	CW						
Output power after fiber	20/30 mW	20/20 mW	20/50 mW	20/30 mW	20/30 mW	50/30 mW	50/200 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%						
Transverse mode	TEM ₀₀ (single mode fiber output)						
Noise of amplitude (rms, 20Hz-20MHz)	<1%						
M ² factor after fiber	<1.1						
Polarization ratio	Random (>30:1 after PM fiber optional)						
Fiber type	SM fiber (PM fiber optional)						
Fiber core diameter	4-9 um						
Fiber NA	0.10-0.15						
Fiber connector	FC/PC or FC/APC						
Fiber length	1 m						
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						

MS Series (2 Wavelengths) Specifications (Continued)

Parameter	MS6416	MS6416B	MS6413	MS6415	MS6778B	MS9810	MS9816
Wavelength combination	640/1064 nm	640/1064 nm	640/1310 nm	640/1550 nm	671/785 nm	980/1030 nm	980/1064 nm
Wavelength tolerance	±5/±5 nm	±5/±5 nm	±5/±5 nm	±5/±5 nm	±1/±5 nm	±5/±5 nm	±5/±5 nm
Operating mode	CW						
Output power after fiber	50/200 mW	50/1000 mW	50/20 mW	50/100 mW	30/30 mW	500/200 mW	500/200 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%, <1%	<3%, <2%, <1%
Transverse mode	TEM ₀₀ (single mode fiber output)						
Noise of amplitude (rms, 20Hz-20MHz)	<1%						
M ² factor after fiber	<1.1						
Polarization ratio	Random (>30:1 after PM fiber optional)						
Fiber type	SM fiber (PM fiber optional)						
Fiber core diameter	4-9 μm						
Fiber NA	0.10-0.15						
Fiber connector	FC/PC or FC/APC						
Fiber length	1 m						
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						

MS Series (2 Wavelengths) Specifications (Continued)

Parameter	MS9813	MS9815	MS1010B	MS1013	MS1315
Wavelength combination	980/1310 nm	980/1550 nm	1053/1064 nm	1064/1310 nm	1310/1550 nm
Wavelength tolerance	±5/±5 nm	±5/±5 nm	±1/±5 nm	±5/±5 nm	±5/±5 nm
Operating mode	CW				
Output power after fiber	500/20 mW	500/100 mW	200/200 mW	200/20 mW	20/100 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%				
Transverse mode	TEM ₀₀ (single mode fiber output)				
Noise of amplitude (rms, 20Hz-20MHz)	<1%				
M ² factor after fiber	<1.1				
Polarization ratio	Random (>30:1 after PM fiber optional)				
Fiber type	SM fiber (PM fiber optional)				
Fiber core diameter	4-9 μm				
Fiber NA	0.10-0.15				
Fiber connector	FC/PC or FC/APC				
Fiber length	1 m				
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				

MS Series (3 Wavelengths) Specifications

Parameter	MS455365	MS485364	MS485663	MS485664	MS485864
Wavelength combination	450/532/650 nm	488/532/640 nm	488/561/633 nm	488/561/640 nm	488/589/640 nm
Wavelength tolerance	$\pm 5/\pm 1/\pm 5$ nm	$\pm 5/\pm 1/\pm 5$ nm	$\pm 5/\pm 1/\pm 5$ nm	$\pm 5/\pm 1/\pm 5$ nm	$\pm 5/\pm 1/\pm 5$ nm
Operating mode	CW				
Output power after fiber	20/50/40 mW	20/50/50 mW	20/20/20/ mW	20/20/50 mW	20/40/50 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%				
Transverse mode	TEM ₀₀ (single mode fiber output)				
Noise of amplitude (rms, 20Hz-20MHz)	<1%				
M ² factor after fiber	<1.1				
Polarization ratio	Random (>30:1 after PM fiber optional)				
Fiber type	SM fiber (PM fiber optional)				
Fiber core diameter	4-9 μ m				
Fiber NA	0.10-0.15				
Fiber connector	FC/PC or FC/APC				
Fiber length	1 m				
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	MS536469	MS536410	MS586310	MS647885	
Wavelength combination	532/640/690 nm	532/640/1064 nm	589/634/1030 nm	640/785/852 nm	
Wavelength tolerance	$\pm 1/\pm 5/\pm 5$ nm	$\pm 1/\pm 5/\pm 5$ nm	$\pm 1/\pm 5/\pm 5$ nm	$\pm 5/\pm 5/\pm 5$ nm	
Operating mode	CW				
Output power after fiber	40/40/40 mW	50/50/100 mW	40/30/100 mW	50/20/30 mW	
Power stability (rms, over 4 hours)	<3%, <2%, <1%				
Transverse mode	TEM ₀₀ (single mode fiber output)				
Noise of amplitude (rms, 20Hz-20MHz)	<1%				
M ² factor after fiber	<1.1				
Polarization ratio	Random (>30:1 after PM fiber optional)				
Fiber type	SM fiber (PM fiber optional)				
Fiber core diameter	4-9 μ m				
Fiber NA	0.10-0.15				
Fiber connector	FC/PC or FC/APC				
Fiber length	1 m				
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				



MS Series (4 Wavelengths) Specifications

Parameter	MS53647885	MS58641010	MS73808597
Wavelength combination	532/640/785/852 nm	589/640/1030/1064 nm	730/808/852/976 nm
Wavelength tolerance	$\pm 1/\pm 5/\pm 5/\pm 5$ nm	$\pm 1/\pm 5/\pm 5/\pm 5$ nm	$\pm 5/\pm 5/\pm 5/\pm 5$ nm
Operating mode	CW		
Output power after fiber	80/50/30/30 mW	40/50/100/100 mW	15/100/30/100 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%		
Transverse mode	TEM ₀₀ (single mode fiber output)		
Noise of amplitude (rms, 20Hz-20MHz)	<1%		
M ² factor after fiber	<1.1		
Polarization ratio	Random (>30:1 after PM fiber optional)		
Fiber type	SM fiber (PM fiber optional)		
Fiber core diameter	4-9 μ m		
Fiber NA	0.10-0.15		
Fiber connector	FC/PC or FC/APC		
Fiber length	1 m		
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:

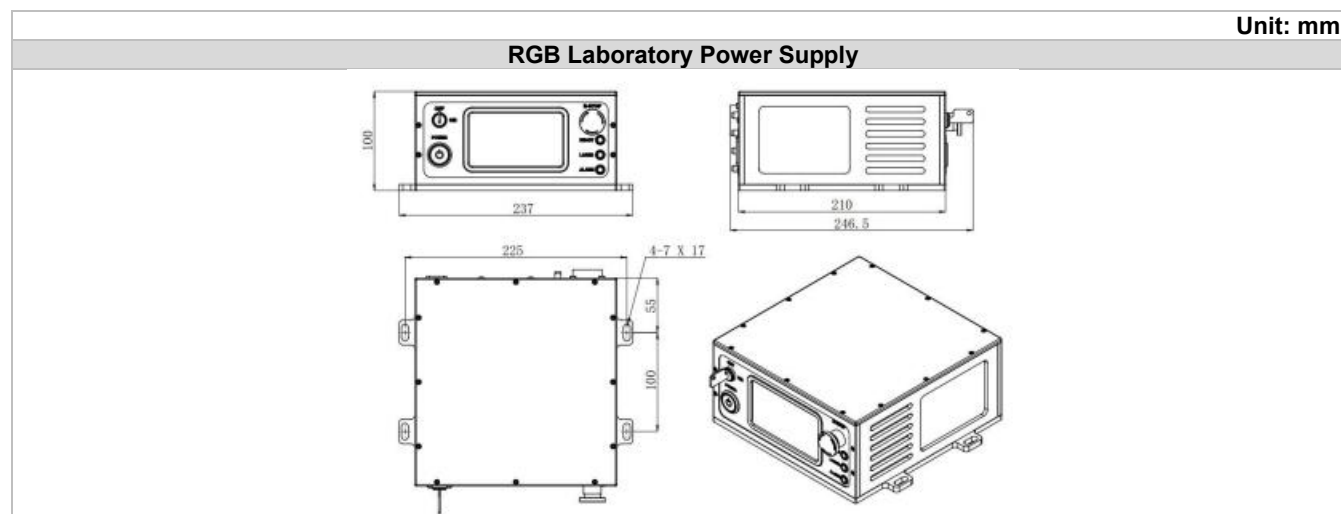
- Customized configurations and modifications may be available.
- Specifications of the CW laser are based on the laser performance at full power output after the specified warmup period. The stability of output power may change when output power is adjusted at a different power level.
- Specifications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

MS Series Laser Head Dimensions

MS Series (2 Wavelengths)		MS-B Series (2 Wavelengths)		Unit: mm
MS Series (3-4 Wavelengths)				

Parameter	MS Series (2 Wavelengths)	MS-B Series (2 Wavelengths)	MS Series (3-4 Wavelengths)
Dimensions	190(L)×70(W) ×50(H) mm ³	324.5(L)×163(W) ×71(H) mm ³	323.5(L)×213(W) ×71(H) mm ³
Weight	1.0 kg	5.0 kg	6.0 kg
Beam height from base plate	27.4 mm	40 mm	40 mm
Beam exit (from side)	35 mm	64 mm	64 mm

MS Series Power Supply Dimensions



Parameter	RGB Laboratory Power Supply
Dimensions	246.5(L) × 237(W) × 100(H) mm ³
Weight	5.0 kg
Input voltage	100-240VAC

Ordering Information

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

Part Number Configuration					
MS[1][2]-[3][4][5]					
MS = Laser Model Series	[1] = Wavelength	[2] = Laser Head Type	[3] = Power Stability	[4] = Modulation	[5] = Fiber
			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	L= 4um SMF, FC/PC P= 6um SMF, FC/PC N= 9um SMF, FC/PC S= 4um SMF, FC/APC PF= PM fiber, FC/APC

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

