



FC Series

Multimode Fiber Coupled Multi-Wavelength Laser

Data Sheet



Overview

The FC series Single-Channel Multiwavelength MM Fiber Coupled Laser combines two or more laser wavelengths into a single multimode fiber output, providing a compact and flexible light source for scientific, industrial, and biomedical applications. Available with customizable wavelength combinations from 375nm to 2200nm, the system offers stable optical output, CW operation, optional TTL/analog modulation, and easy integration into OEM and laboratory systems.

Features

- Single-channel multimode (MM) fiber output
- Customizable multiwavelength combinations (2 or more wavelengths)
- Available wavelengths from 375nm to 2200nm
- High output power (model dependent)
- SMA905 or FC fiber connector options
- 200 μm or 400 μm multimode fiber core
- CW operation with optional TTL and analog modulation
- Excellent power stability
- Compact, integrated laser system
- Custom wavelength combinations and fiber configurations available

Applications

- PCR detection
- Gene sequencing
- Fluorescence imaging
- Spectroscopy
- Biomedical research
- Life science instrumentation
- Optical sensing
- Industrial inspection
- OEM system integration
- Scientific research

FC Series (2 Wavelengths) Specifications

Parameter	FC3752	FC4048	FC4564	FC4566	FC4598	FC4514
Wavelength combination	375/520 nm	405/488 nm	450/640 nm	450/660 nm	450/980 nm	450/1470 nm
Wavelength tolerance	±5/±10 nm	±5/±5 nm	±5/±5 nm	±5/±5 nm	±5/±10 nm	±5/±10 nm
Output power after fiber	0.3/1.3 W	2/2 W	10/0.2 W	3/1.5 W	10/20 W	10/15 W
Operating mode	CW					
Power stability (rms, over 4 hours)	<3%, <2%, <1%					
Red pilot light	Available on request					
Output type	Single-channel output					
Fiber type	MM fiber					
Fiber core diameter	400/200 um	400/200 um	400 um	400/200 um	400 um	400 um
Fiber connector	SMA905/FC	SMA905/FC	SMA905	SMA905/FC	SMA905	SMA905
Fiber length	1 m					
Warm-up time	<5 min					
Operating temperature	10-35°C					
Input voltage	100-240 VAC					
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz					
Expected lifetime	10,000 hours					
Warranty period	10 months					
Parameter	FC6480	FC6498	FC6414	FC6419	FC8091	FC8098
Wavelength combination	640/808 nm	640/980 nm	640/1470 nm	640/1940 nm	808/915 nm	808/980 nm
Wavelength tolerance	±5/±10 nm	±5/±10 nm	±5/±10 nm	±5/±10 nm	±10/±10 nm	±10/±10 nm
Output power after fiber	0.2/15 W	0.2/20 W	0.2/30 W	0.2/12 W	30/30 W	30/30 W
Operating mode	CW					
Power stability (rms, over 4 hours)	<3%, <2%, <1%					
Red pilot light	Available on request					
Output type	Single-channel output					
Fiber type	MM fiber					
Fiber core diameter	400 um					
Fiber connector	SMA905					
Fiber length	1 m					
Warm-up time	<5 min					
Operating temperature	10-35°C					
Input voltage	100-240 VAC					
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz					
Expected lifetime	10,000 hours					
Warranty period	10 months					
Parameter	FC8010	FC8198	FC9810	FC9814	FC9819	
Wavelength combination	808/1064 nm	810/980 nm	980/1064 nm	980/1470 nm	980/1940 nm	
Wavelength tolerance	±10/±10 nm	±10/±10 nm	±10/±10 nm	±10/±10 nm	±10/±20 nm	
Output power after fiber	30/30 W	10/10 W	30/30 W	20/15 W	10/7 W	
Operating mode	CW					
Power stability (rms, over 4 hours)	<3%, <2%, <1%					
Red pilot light	Available on request					
Output type	Single-channel output					
Fiber type	MM fiber					
Fiber core diameter	400 um	400/200 um	400 um	400/200 um	400 um	
Fiber connector	SMA905					
Fiber length	1 m					
Warm-up time	<5 min					
Operating temperature	10-35°C					
Input voltage	100-240 VAC					
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz					
Expected lifetime	10,000 hours					
Warranty period	10 months					



FC Series (3 Wavelengths) Specifications

Parameter	FC375280	FC404866	FC455264	FC456480	FC456491	FC456498	FC456410
Wavelength combination	375/520/808 nm	405/488/660 nm	450/520/640 nm	450/640/808 nm	450/640/915 nm	450/640/980 nm	450/640/1064 nm
Wavelength tolerance	±5/±10/±10 nm	±5/±5/±5 nm	±5/±10/±5 nm	±5/±5/±10 nm	±5/±5/±10 nm	±5/±5/±10 nm	±5/±5/±10 nm
Output power after fiber	0.3/1.3/5 W	2/2/1.5 W	3/1.3/1 W	3/0.2/15 W	10/0.2/10 W	3/0.2/10 W	3/0.2/10 W
Operating mode	CW						
Power stability (rms, over 4 hours)	<3%, <2%, <1%						
Red pilot light	Available on request						
Output type	Single-channel output						
Fiber type	MM fiber						
Fiber core diameter	400/200 µm						
Fiber connector	SMA905/FC	SMA905/FC	SMA905/FC	SMA905	SMA905	SMA905	SMA905
Fiber length	1 m						
Warm-up time	<5 min						
Operating temperature	10-35°C						
Input voltage	100-240 VAC						
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz						
Expected lifetime	10,000 hours						
Warranty period	10 months						

Parameter	FC456680	FC758010	FC648091	FC649814	FC641419	FC809810	FC981419
Wavelength combination	450/660/808 nm	755/808/1064 nm	640/808/915 nm	640/980/1470 nm	640/1470/1940 nm	808/980/1064 nm	980/1470/1940 nm
Wavelength tolerance	±5/±5/±10 nm	±10/±10/±10 nm	±5/±10/±10 nm	±5/±10/±10 nm	±5/±10/±20 nm	±10/±10/±10 nm	±10/±10/±20 nm
Output power after fiber	3/1/8 W	0.3/0.3/0.3 W	0.2/8/10 W	0.2/30/30 W	0.2/15/7 W	20/20/20 W	15/15/7 W
Operating mode	CW						
Power stability (rms, over 4 hours)	<3%, <2%, <1%						
Red pilot light	Available on request						
Output type	Single-channel output						
Fiber type	MM fiber						
Fiber core diameter	400 µm						
Fiber connector	SMA905						
Fiber length	1 m						
Warm-up time	<5 min						
Operating temperature	10-35°C						
Input voltage	100-240 VAC						
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz						
Expected lifetime	10,000 hours						
Warranty period	10 months						



FC Series (4 Wavelengths) Specifications

Parameter	FC40485264	FC45526485	FC45648098	FC45649810	FC52667898
Wavelength combination	405/488/520/640 nm	450/520/640/852 nm	450/640/808/980 nm	450/640/980/1064 nm	520/660/785/980 nm
Wavelength tolerance	±5/±5/±10/±5 nm	±5/±10/±5/±10 nm	±5/±5/±10/±10 nm	±5/±5/±10/±10 nm	±10/±5/±10/±10 nm
Output power after fiber	2/2/1.3/1 W	3/1.3/1/1.5 W	3/0.2/8/10 W	3/0.2/10/10 W	1.3/1.5/4/10 W
Operating mode	CW				
Power stability (rms, over 4 hours)	<3%, <2%, <1%				
Red pilot light	Available on request				
Output type	Single-channel output				
Fiber type	MM fiber				
Fiber core diameter	400/200 um	400/200 um	400 um	400 um	400/200 um
Fiber connector	SMA905/FC	SMA905/FC	SMA905	SMA905	SMA905/FC
Fiber length	1 m				
Warm-up time	<5 min				
Operating temperature	10-35°C				
Input voltage	100-240 VAC				
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz				
Expected lifetime	10,000 hours				
Warranty period	10 months				
Parameter	FC64809110	FC64809810	FC64981014	FC83911013	
Wavelength combination	640/808/915/1064 nm	640/808/980/1064 nm	640/980/1064/1470 nm	830/915/1064/1310 nm	
Wavelength tolerance	±5/±10/±10/±10 nm	±5/±10/±10/±10 nm	±5/±10/±10/±10 nm	±10/±10/±10/±20 nm	
Output power after fiber	0.2/8/10/10 W	0.2/10/15/10 W	0.2/15/15/15 W	2.5/5/10/4 W	
Operating mode	CW				
Power stability (rms, over 4 hours)	<3%, <2%, <1%				
Red pilot light	Available on request				
Output type	Single-channel output				
Fiber type	MM fiber				
Fiber core diameter	400 um	400 um	400 um	400/200 um	
Fiber connector	SMA905	SMA905	SMA905	SMA905/FC	
Fiber length	1 m				
Warm-up time	<5 min				
Operating temperature	10-35°C				
Input voltage	100-240 VAC				
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz				
Expected lifetime	10,000 hours				
Warranty period	10 months				



FC Series (5 Wavelengths) Specifications

Parameter	FC40485264 10	FC45526485	FC45648098	FC45649810	FC6480919810	FC6480919810
Wavelength combination	405/488/520/640/1064 nm	405/520/660/808/1550 nm	450/520/640/915/1320 nm	488/520/690/785/940 nm	640/808/915/980/1064 nm	1030/1064/1270/1310/1532 nm
Wavelength tolerance	$\pm 5/\pm 5/\pm 10/\pm 5/\pm 10$ nm	$\pm 5/\pm 10/\pm 5/\pm 10/\pm 20$ nm	$\pm 5/\pm 10/\pm 5/\pm 10/\pm 10$ nm	$\pm 5/\pm 10/\pm 5/\pm 10/\pm 5$ nm	$\pm 5/\pm 10/\pm 10/\pm 10/\pm 10$ nm	$\pm 10/\pm 10/\pm 10/\pm 20/\pm 10$ nm
Output power after fiber	2/2/1.3/1/10 W	2/1.3/1.5/5/2.5 W	3/1.3/1/5/4 W	2/1.3/1/4/5 W	0.2/8/10/10/10 W	5/10/4/4/1 W
Operating mode	CW					
Power stability (rms, over 4 hours)	<3%, <2%, <1%					
Red pilot light	Available on request					
Output type	Single-channel output					
Fiber type	MM fiber					
Fiber core diameter	400/200 μ m	400/200 μ m	400/200 μ m	400/200 μ m	400 μ m	400/200 μ m
Fiber connector	SMA905/FC	SMA905/FC	SMA905/FC	SMA905/FC	SMA905	SMA905/FC
Fiber length	1 m					
Warm-up time	<5 min					
Operating temperature	10-35°C					
Input voltage	100-240 VAC					
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz					
Expected lifetime	10,000 hours					
Warranty period	10 months					

FC Series (6 Wavelengths) Specifications

Parameter	FC374052667898	FC40526483101 5	FC45526673881 0	FC45648091981 0	FC528086101013	FC697680859198
Wavelength combination	375/405/520/660/785/980 nm	405/520/640/830/1064/1550 nm	450/520/660/730/885/1064 nm	450/640/808/915/980/1064 nm	520/808/860/1030/1064/1310 nm	690/760/808/852/915/980 nm
Wavelength tolerance	$\pm 5/\pm 5/\pm 10/\pm 5/\pm 10/\pm 10$ nm	$\pm 5/\pm 10/\pm 5/\pm 10/\pm 10/\pm 20$ nm	$\pm 5/\pm 10/\pm 5/\pm 5/\pm 5/\pm 10$ nm	$\pm 5/\pm 5/\pm 10/\pm 10/\pm 10/\pm 10$ nm	$\pm 10/\pm 10/\pm 10/\pm 10/\pm 10/\pm 20$ nm	$\pm 5/\pm 10/\pm 10/\pm 10/\pm 10/\pm 10$ nm
Output power after fiber	0.3/2/1.3/1.5/4/10 W	2/1.3/1/2.5/10/2.5 W	3/1.3/1.5/1.5/2.5/10 W	3/0.2/8/10/10/10 W	1.3/5/7/5/10/4 W	1/5/5/1.5/5/10 W
Operating mode	CW					
Power stability (rms, over 4 hours)	<3%, <2%, <1%					
Red pilot light	Available on request					
Output type	Single-channel output					
Fiber type	MM fiber					
Fiber core diameter	400/200 μ m	400/200 μ m	400/200 μ m	400 μ m	400/200 μ m	400/200 μ m
Fiber connector	SMA905/FC	SMA905/FC	SMA905/FC	SMA905	SMA905/FC	SMA905/FC
Fiber length	1 m					
Warm-up time	<5 min					
Operating temperature	10-35°C					
Input voltage	100-240 VAC					
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz					
Expected lifetime	10,000 hours					
Warranty period	10 months					



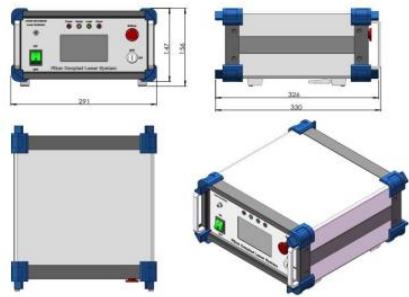
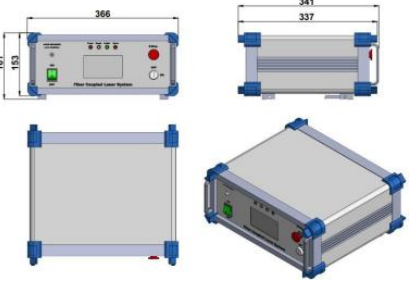
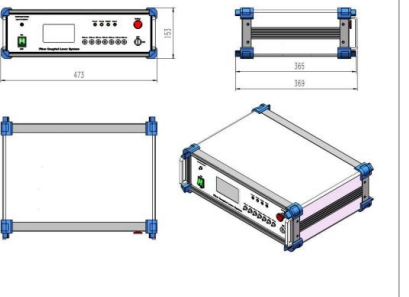
FC Series (7 Wavelengths) Specifications

Parameter	FC37404552646698	FC40526480941114	FC45526678981013	FC52838810101315	FC69748391981518
Wavelength combination	375/405/450/520/640/660/980 nm	405/520/640/808/940/1125/1470 nm	450/520/660/785/980/1064/1320 nm	520/830/885/1030/1064/1310/1550 nm	690/740/830/915/980/1550/1870 nm
Wavelength tolerance	$\pm 5/\pm 5/\pm 5/\pm 10/\pm 5/\pm 10$ nm	$\pm 5/\pm 10/\pm 5/\pm 10/\pm 5/\pm 10/\pm 10$ nm	$\pm 5/\pm 10/\pm 5/\pm 10/\pm 10/\pm 10$ nm	$\pm 10/\pm 10/\pm 5/\pm 10/\pm 10/\pm 20/\pm 20$ nm	$\pm 5/\pm 10/\pm 10/\pm 10/\pm 10/\pm 20/\pm 20$ nm
Output power after fiber	0.3/2/3/1.3/1/1.5/10 W	2/1.3/1/5/5/4/1.5 W	3/1.3/1.5/4/10/10/4 W	1.3/2.5/2.5/5/10/4/2.5 W	1.5/2/2.5/5/10/2.5/0.5 W
Operating mode	CW				
Power stability (rms, over 4 hours)	<3%, <2%, <1%				
Red pilot light	Available on request				
Output type	Single-channel output				
Fiber type	MM fiber				
Fiber core diameter	400/200 μ m				
Fiber connector	SMA905/FC				
Fiber length	1 m				
Warm-up time	<5 min				
Operating temperature	10-35°C				
Input voltage	100-240 VAC				
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.

FC Series Laser System Dimensions

Unit: mm		
FC Series (2-3 Wavelengths)	FC Series (4-6 Wavelengths)	FC Series (7 Wavelengths)
		

Parameter	FC Series (2-3 Wavelengths)	FC Series (4-6 Wavelengths)	FC Series (7 Wavelengths)
Dimensions	330(L)×291(W) ×156(H) mm ³	341(L)×366(W) ×161(H) mm ³	369(L)×473(W) ×153(H) mm ³

Ordering Information

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

Part Number Configuration FC[1]-[2][3][4][5][6]						
FC = Laser Model Series	[1] = Wavelength Combination	[2] = Output Power	[3] = Power Stability	[4] = Modulation	[5] = Fiber	[6] = Red Pilot Light
			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	A= 400um MMF, SMA905 B= 200um MMF, SMA905 F= 400um MMF, FC G= 200um MMF, FC	R= Yes Blank = No

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