



High Power Fiber Coupled Diode Laser System

FCL-C Series

Data Sheet



Overview

The FCL-C series is a line of fiber coupled diode lasers that can deliver high output power levels up to 50 W. The laser series is available in the wavelength range from 375nm to 660nm and features an integrated laser diode, fiber coupling optics, laser power supply, LD current and temperature control in one box. Its compact dimensions and convenient functions, including but not limited to power adjustment, temperature control, and LED display make the laser suitable for pumping, scientific research, industrial and medical applications.

Features

- Wavelength range from 375nm to 660nm
- CW operating mode
- High output power 2W to 50W
- Compact dimension
- LED display
- Power adjustable

Applications

- Holographic, photography optogenetics
- Fluorescence excitation
- Raman spectrum measurement
- Interference measuring method
- Bioengineering
- Laser communication
- Photoelectric inspection
- Photodynamic therapy
- Material analysis
- Stage, landmark

375-455 nm Specifications

Parameter	FCL375C	FCL444C	FCL445C	FCL447C	FCL450C	FCL455C
Wavelength	375 nm	444 nm	445 nm	447 nm	450 nm	455 nm
Wavelength tolerance	±5 nm	±1 nm	±5 nm	±5 nm	±5 nm	±5 nm
Operating mode	CW					
Output power after fiber	2-10W	25-40W	30-40W	30-50W	30-40W	30-50W
Power stability (rms, over 4 hours)	<1%					
Fiber core diameter	400um					
Fiber numerical aperture	0.22 NA					
Fiber connector	SMA905/FC					
Fiber length	2 m					
Output power control	0-100%, adjustable by knob					
LED display	Diode current					
Warm-up time	<5 mins					
Operating temperature	10-40°C	10-40°C	10-40°C	25+/-3°C	10-40°C	25+/-3°C
Red pilot light option	Available					
Input power	100-240VAC, 50 to 60 Hz					
Cooling method	Air cooled	Air cooled / Water cooled	Air cooled	Air cooled	Air cooled	Air cooled
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz					
Expected lifetime	10,000 hours					
Warranty period	10 months					

Remarks:

- The laser can be run from 0-30kHz. However, the laser will be adjusted such that the waveform and performance is good at the requested specified range.
- Specifications of the CW laser is 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.

460-660 nm Specifications

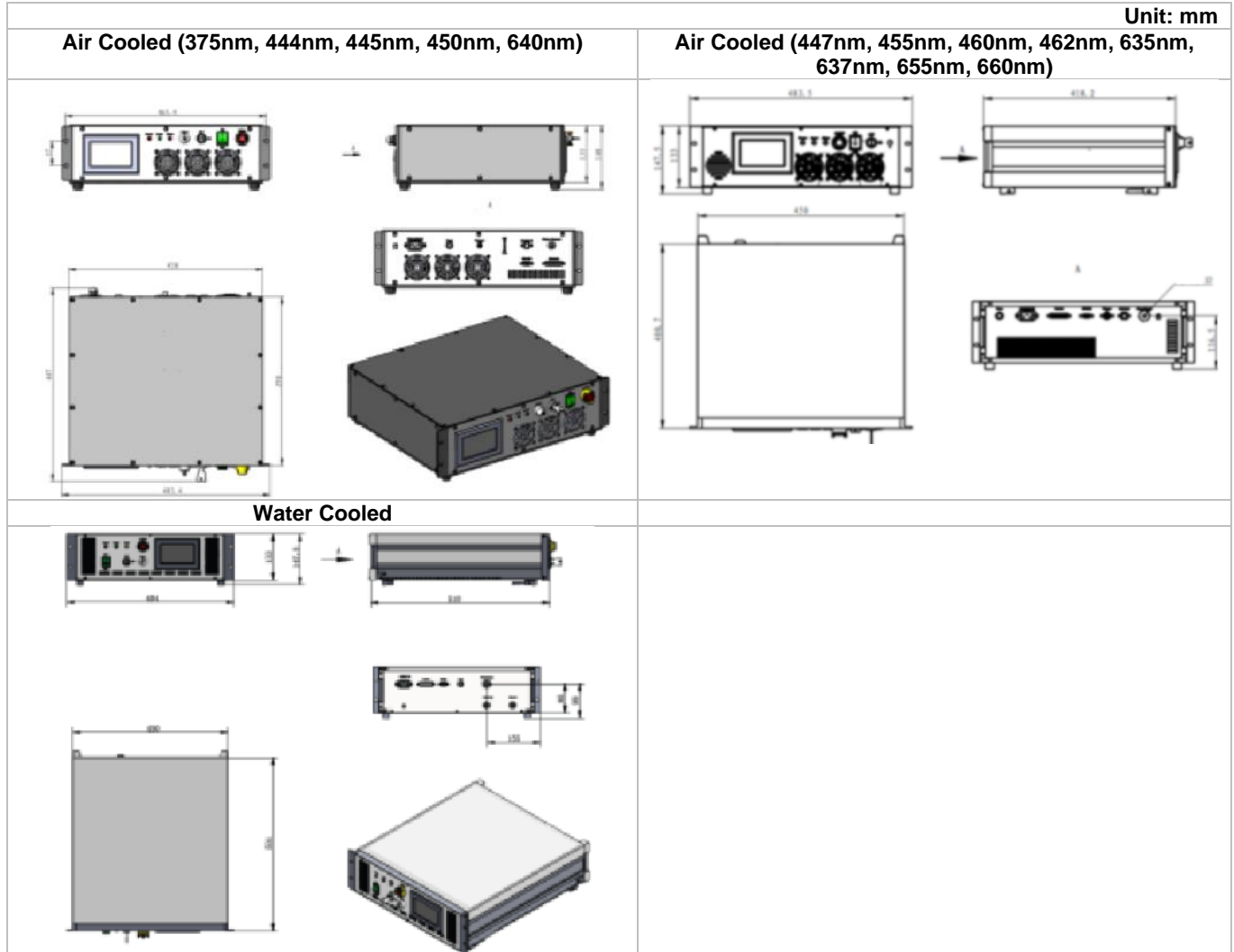
Parameter	FCL460C	FCL462C	FCL635C	FCL637C	FCL640C	FCL655C	FCL660C
Wavelength	460 nm	462 nm	635 nm	637 nm	640 nm	655 nm	660 nm
Wavelength tolerance	±5 nm	±5 nm	±5 nm	±5 nm	±5 nm	±5 nm	±5 nm
Operating mode	CW						
Output power after fiber	30-50W	30-40W	2-40W	3-30W	3-30W	2-8W	1-8W
Power stability (rms, over 4 hours)	<1%						
Fiber core diameter	400um						
Fiber numerical aperture	0.22 NA						
Fiber connector	SMA905/FC						
Fiber length	2 m						
Output power control	0-100%, adjustable by knob						
LED display	Diode current						
Warm-up time	<5 mins						
Operating temperature	25+/-3°C	25+/-3°C	25+/-3°C	10-40°C	10-40°C	25+/-3°C	25+/-3°C
Red pilot light option	Available						
Input power	100-240VAC, 50 to 60 Hz						
Cooling method	Air cooled	Air cooled	Air cooled / Water cooled	Air cooled / Water cooled	Air cooled / Water cooled	Air cooled / Water cooled	Air cooled / Water cooled
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz						
Expected lifetime	10,000 hours						
Warranty period	10 months						

Remarks:

- The laser can be run from 0-30kHz. However, the laser will be adjusted such that the waveform and performance is good at the requested specified range.
- Specifications of the CW laser is 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.

FCL-C Series Laser Dimensions

Unit: mm



Parameter	Air Cooled (375nm, 444nm, 445nm, 450nm, 640nm)	Air Cooled (447nm, 455nm, 460nm, 462nm, 635nm, 637nm, 655nm, 660nm)	Water Cooled
Dimensions	447(L)×483.4(W) ×148(H) mm ³	418.2(L)×483.5(W) ×147.5(H) mm ³	518(L)×450(W) ×147.5(H) mm ³
Beam height from base plate		116.5 mm	99 mm

Ordering Information

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

Part Number Configuration FCL[1]C[2][3][4][5][6]							
FCL = Laser Model Series	[1] = Wavelength	C = Version	[2] = Output Power	[3] = Power Stability	[4] = Modulation	[5] = Red Pilot Light	[6] = Fiber
	375= 375nm 444= 444nm 445= 445nm 447= 447nm 450= 450nm 455= 455nm 460= 460nm 462= 462nm 635= 635nm 637= 637nm 640= 640nm 655= 655nm 660= 660nm			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	R= Yes N= No	A= 400um MM fiber, SMA905 F= 400um MM fiber, FC connector

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