



High Power Fiber Coupled Diode Laser System

FCL-B Series

Data Sheet



Overview

The FCL-B series is a line of fiber coupled diode lasers that can deliver high output power levels up to 30 W. The laser series is available in the wavelength range from 1060nm to 1940nm 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 1060nm to 1940nm
- CW operating mode
- High output power 1W to 30W
- 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

1060-1320 nm Specifications

Parameter	FCL1060B	FCL1208B	FCL1270B	FCL1275B	FCL1278B	FCL1320B
Wavelength	1060 nm	1208 nm	1270 nm	1275 nm	1278 nm	1320 nm
Wavelength tolerance	±10 nm	±10 nm	±10 nm	±10 nm	±10 nm	±10 nm
Operating mode	CW					
Output power after fiber	~30W	~12W	~15W	~15W	~15W	~15W
Power stability (rms, over 4 hours)	<2%, <1%, <0.5%					
Fiber core diameter	400um, 600um					
Fiber numerical aperture	0.22 NA					
Fiber connector	SMA905					
Fiber length	2 m					
Output power control	0-100%, adjustable by knob					
LED display	Diode current					
Operating temperature	10-40°C					
Red pilot light option	Available					
Input power	100-240VAC, 50 to 60 Hz					
Cooling method	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.

1380-1710 nm Specifications

Parameter	FCL1380B	FCL1470B	FCL1532B	FCL1550B	FCL1600B	FCL1710B
Wavelength	1380 nm	1470 nm	1532 nm	1550 nm	1600 nm	1710 nm
Wavelength tolerance	±5 nm	±10 nm	±10 nm	±10 nm	±20 nm	±10 nm
Operating mode	CW					
Output power after fiber	~15W	~10W, ~15W	~10W, ~15W	~10W, ~15W	~10W, ~15W	~6W
Power stability (rms, over 4 hours)	<2%, <1%, <0.5%					
Fiber core diameter	400um, 600um					
Fiber numerical aperture	0.22 NA					
Fiber connector	SMA905					
Fiber length	2 m					
Output power control	0-100%, adjustable by knob					
LED display	Diode current					
Operating temperature	10-40°C					
Red pilot light option	Available					
Input power	100-240VAC, 50 to 60 Hz					
Cooling method	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.

1870-1940 nm Specifications

Parameter	FCL1870B	FCL1908B	FCL1920B	FCL1940B
Wavelength	1870 nm	1908 nm	1920 nm	1940 nm
Wavelength tolerance	±10 nm	±10 nm	±10 nm	±10 nm
Operating mode	CW			
Output power after fiber	>1W, >2W, >3W, >4W, >5W, >6W	>10W, >15W, >20W	>10W, >15W, >20W	>10W, >15W, >20W
Power stability (rms, over 4 hours)	<2%, <1%, <0.5%			
Fiber core diameter	400um, 600um			
Fiber numerical aperture	0.22 NA			
Fiber connector	SMA905			
Fiber length	2 m			
Output power control	0-100%, adjustable by knob			
LED display	Diode current			
Operating temperature	10-40°C			
Red pilot light option	Available			
Input power	100-240VAC, 50 to 60 Hz			
Cooling method	Air cooled			
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours			
Warranty period	10 months			

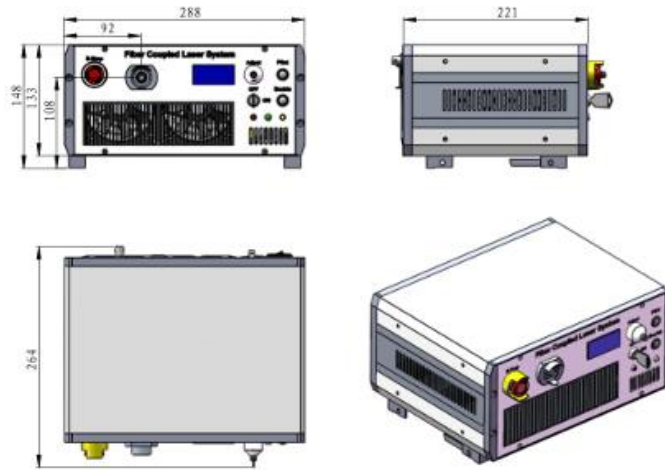
Remarks:

- 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.

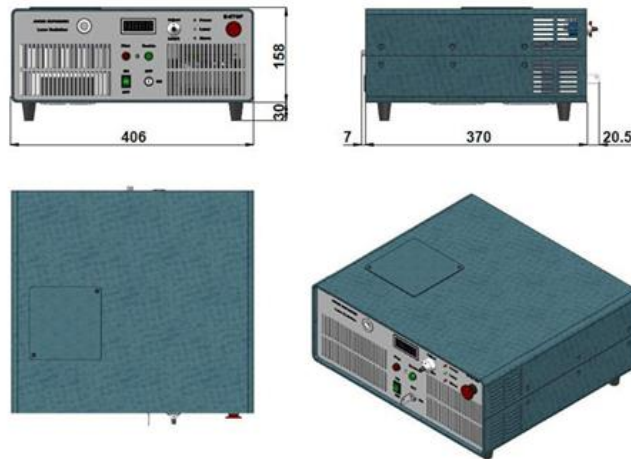
FCL-B Series Laser Dimensions

Unit: mm

1060 nm



FCL-B Series Laser



Parameter	1060 nm	FCL-B Series
Dimensions	288(L)×264(W) ×148(H) mm ³	406(L)×370(W) ×188(H) mm ³
Weight	7.1 kg	<15 kg

Ordering Information

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

Part Number Configuration FCL[1]B[2][3][4][5][6]							
FCL = Laser Model Series	[1] = Wavelength	B = Version	[2] = Output Power	[3] = Power Stability	[4] = Modulation	[5] = Red Pilot Light	[6] = Fiber
	1060= 1060nm 1208= 1208nm 1270= 1270nm 1275= 1275nm 1278= 1278nm 1320= 1320nm 1380= 1380nm 1470= 1470nm 1532= 1532nm 1550= 1550nm 1600= 1600nm 1710= 1710nm 1870= 1870nm 1908= 1908nm 1920= 1920nm 1940= 1940nm		1W= >1W 2W= >2W 3W= >3W 4W= >4W 5W= >5W 6W= >6W 10W= ~10W 12W= ~12W 15W= ~15W 16W= ~16W 20W= ~20W 25W= ~25W 30W= ~30W 40W= ~40W	2= <2% D= <1% S= <0.5%	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 M= 600um MM fiber, SMA905

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