



Low Noise Diode Laser System (Visible Blue) DLLF Series

Data Sheet



Overview

The DLLF series is a family of visible blue diode lasers with less than 1% noise that can deliver up to 3500 mW output power. The laser series features a compact design, low noise, long operating lifetime, easy operation, and FDA-compliant system with driver. The laser is widely used in scientific research, biological applications, measurement, communication, spectrum analysis, and many other applications.

Features

- Blue wavelengths at 445nm, 447nm, 450nm, 454nm, 460nm, 462nm, 465nm, and 470nm
- CW operating mode
- Optical output power 1000mW to 3500mW
- Low noise
- Ultra-compact design
- FDA compliant

Applications

- Scientific research
- Measurement
- Communication
- Spectrum analysis

445-454 nm Specifications

Parameter	DLLF445		DLLF447		DLLF450		DLLF454
Wavelength	445 nm		447 nm		450 nm		454 nm
Wavelength tolerance	±5 nm		±5 nm		±5 nm		±5 nm
Output power	>1500 mW	>2000 mW, >3500 mW	>1500 mW	>2000 mW, >3500 mW	>1500 mW	>2000 mW, >3500 mW	>2000 mW
Operating mode	CW						
Transverse mode	Multimode		Multimode		Multimode		Multimode
Noise of amplitude (rms, 20Hz-20MHz)	<1%		<1%		<1%		<1%
Power stability (rms, over 4 hours)	<1%		<1%		<1%		<2%, <1%, <0.5%
Beam diameter at aperture (1/e ²)	~2.7x2.7 mm	~3.5x3.5 mm	~2.7x2.7 mm	~3.5x3.5 mm	~2.7x2.7 mm	~3.5x3.5 mm	~2.7x2.7 mm
Beam divergence, full angle	1.4x0.2 mrad		1.4x0.2 mrad		1.4x0.2 mrad		1.4x0.2 mrad
Polarization ratio	>50:1, Horizontal ±5 degree		>50:1, Horizontal ±5 degree		>50:1, Horizontal ±5 degree		>50:1 Horizontal ±5 degree
Warm-up time	<5 min		<5 min		<5 min		<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:

- 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.
- Specifications are subject to change without notice.

460-470 nm Specifications

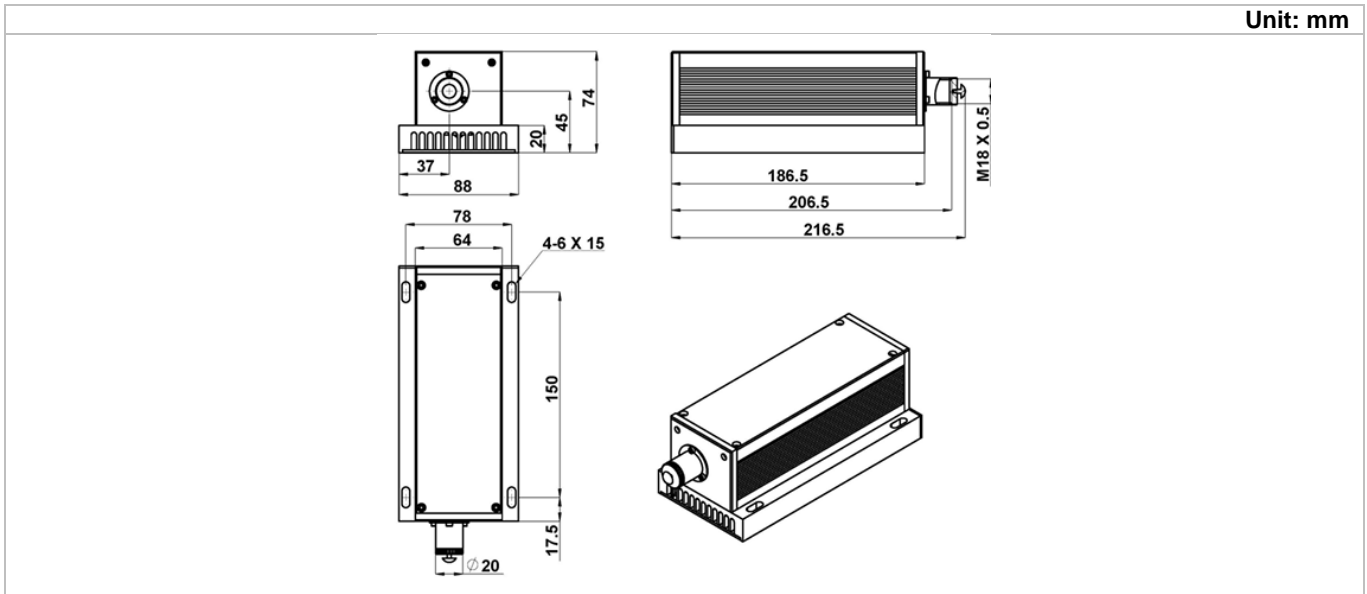
Parameter	DLLF460	DLLF462	DLLF465	DLLF470
Wavelength	460 nm	462 nm	465 nm	470 nm
Wavelength tolerance	±5 nm	±5 nm	±5 nm	±10 nm
Output power	>2000 mW	>2000 mW	>1000 mW, >1500 mW	>1000 mW, >1500 mW
Operating mode	CW			
Transverse mode	Multimode	Multimode	Multimode	Multimode
Noise of amplitude (rms, 20Hz-20MHz)	<1%	<1%	<1%	<1%
Power stability (rms, over 4 hours)	<2%, <1%, <0.5%	<2%, <1%, <0.5%	<2%, <1%, <0.5%	<2%, <1%, <0.5%
Beam diameter at aperture (1/e ²)	~2.7x2.7 mm	~2.7x2.7 mm	~2.7x2.7 mm	~2.7x2.7 mm
Beam divergence, full angle	1.4x0.2 mrad	1.4x0.2 mrad	1.4x0.2 mrad	1.4x0.2 mrad
Polarization ratio	>50:1, Horizontal ±5 degree	>50:1, Horizontal ±5 degree	>50:1, Horizontal ±5 degree	>50:1 Horizontal ±5 degree
Warm-up time	<5 min	<5 min	<5 min	<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:

- 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.
- Specifications are subject to change without notice.

DLLF Series Laser Head Dimensions

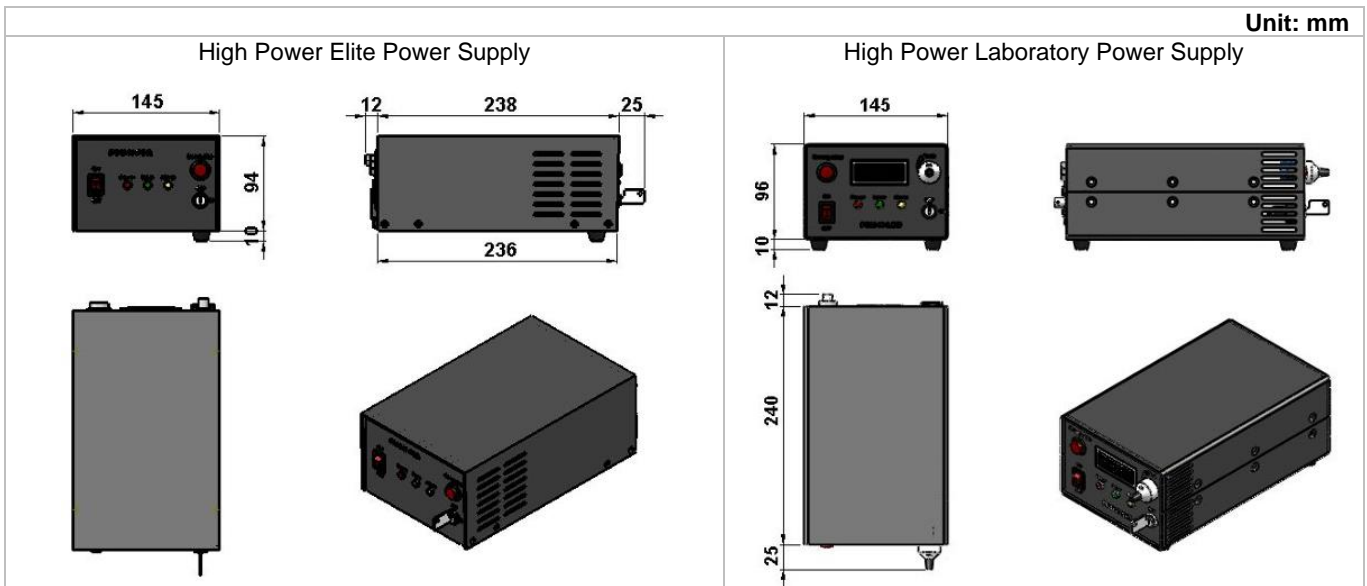
Unit: mm



Parameter	DLLF Series
Dimensions	216.5(L)x88(W) x74(H) mm ³
Weight	1.4 kg
Beam height from base plate	45 mm

DLLF Series Power Supply Dimensions

Unit: mm



Parameter	High Power Elite Power Supply	High Power Laboratory Power Supply
Dimensions	275(L) x145(W) x104(H) mm ³	277(L) x145(W) x106(H) mm ³
Weight	2.1 kg	2.3 kg
Input voltage	85-264VAC	85-264VAC
Feature	Standard	Adjustable power

Ordering Information

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

Part Number Configuration DLLF[1][2][3][4][5][6]						
DLLF = Laser Model Series	[1] = Wavelength	[2] = Output Power	[3] = Power Supply	[4] = Power Stability	[5] = Noise of Amplitude	[6] = Modulation
	445= 445nm 447= 447nm 450= 450nm 454= 454nm 460= 460nm 462= 462nm 465= 465nm 470= 470nm	1W= >1000mW 1H= >1500mW 2W= >2000mW 3W= >3000mW 3H= >3500mW	H=High Power Elite Power Supply M=High Power Laboratory Power Supply	2=<2% D=<1% S=<0.5%	1= <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.