Low Noise DPSS Laser System
DPLU Series

Data Sheet

Overview

The DPLU series is a family of near infrared diode pumped solid state (DPSS) lasers with less than 1% noise and can deliver up to 3000 mW output power. The DPLU laser series features an ultra-compact design, low noise, long lifetime, easy operation, and FDA-compliant system with driver. The DPLU series laser is widely used in scientific experiment, optical instrument, optical sensor, measurement, communication, spectrum analysis, and many other applications.

Features

- Wide portfolio of 12 different wavelengths in the infrared spectral range
- CW operating mode
- Optical output power 30mW to 3000mW
- Ultra-compact design
- FDA compliant

Applications

- Scientific experiment
- Optical instrument
- Optical sensor
- Measurement
- Communication
- Spectrum analysis

914-1085 nm Specifications

Parameter	DPLU914		DPLU946		DPLU1047		DPLU1053		DPLU1064	DPLU1085	
Wavelength	914±1 nm		946±1 nm		1047±1 nm		1053±1 nm		1064±1 nm	1085±2 nm	
Output power	>100 mW	>200 mW, >300 mW	>100 mW	>300 mW	>100 mW, >300 mW, >500 mW	>800 mW, >1000 mW	>300 mW, >500 mW	>800 mW, >1000 mW, >1500 mW	>1500 mW, >2000 mW, >3000 mW	>100 mW, >200 mW, >300 mW	>500 mW, >800 mW, >1000 mW
Transverse mode	TEM_{00}		TEM_{00}		TEM_{00}		TEM_{00}		TEM_{00}	TEM_{00}	
Operating mode	CW										
Power stability (rms, over 4 hours)	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%	<5%, <3%	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%, <1%	<3%, <2%, <1%	<5%, <3%, <2%
Noise of amplitude (rms, 1Hz-20MHz)	<1%		<1%		<1%		<1%		<1%	<1%	
Spectral linewidth	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm
M^2 factor	<1.2		<1.5		<1.5		<1.5		<1.5	<1.5	
Beam diameter at aperture ($1/e^2$)	~1.5 mm		~1.5 mm		~1.5 mm		~1.5 mm		~1.5 mm	~1.5 mm	
Beam divergence, full angle	<1.5 mrad		<1.5 mrad		<1.5 mrad		<1.5 mrad		<1.5 mrad	<1.5 mrad	
Polarization ratio	>100:1		/		>100:1		>100:1		>100:1	>100:1	
Warm-up time	<5min		<5min		<5min		<5min		<5min	<5min	
Pointing stability after warm-up	<0.05 mrad		<0.05 mrad		<0.05 mrad		<0.05 mrad		<0.05 mrad	<0.05 mrad	
Operating temperature	10-35°C										
Expected lifetime	10,000 hours										
Warranty period	10 months										

Remarks:

- The laser head needs to be used on a heat sink with good heat dissipation.
- 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.

1112-1444 nm Specifications

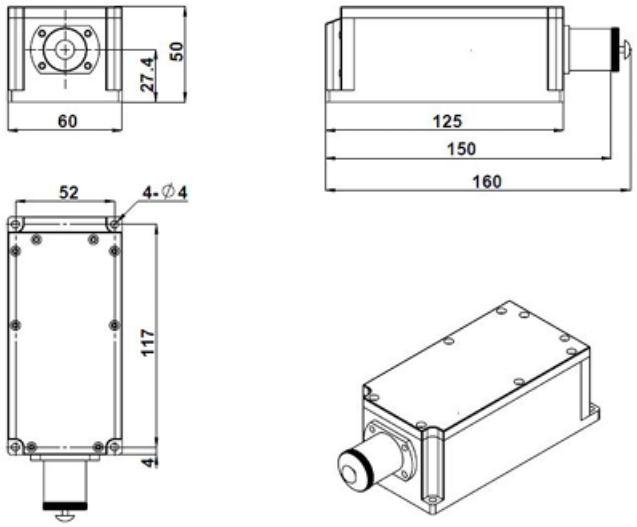
Parameter	DPLU1112		DPLU1122		DPLU1313		DPLU1319		DPLU1342		DPLU1444	
Wavelength	1112±3 nm		1122±3 nm		1313±1 nm		1319±1 nm		1342±1 nm		1444±2 nm	
Output power	>50 mW	>100 mW	>50 mW, >100 mW	>200 mW, >300 mW	>100 mW, >300 mW, >500 mW	>800 mW, >1000 mW	>100 mW, >200 mW	>300 mW, >500 mW	>100 mW, >200 mW, >300 mW, >500 mW	>800 mW, >1000 mW, >1500 mW, >2000 mW	>30 mW, >50 mW, >80 mW, >100 mW	>200 mW, >300 mW, >400 mW
Transverse mode	TEM_{00}		TEM_{00}		TEM_{00}		TEM_{00}		TEM_{00}		TEM_{00}	
Operating mode	CW											
Power stability (rms, over 4 hours)	<3%, <2%	<5%, <3%	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%	<5%, <3%
Noise of amplitude (rms, 1Hz-20MHz)	<1%		<1%		<1%		<1%		<1%		<1%	
Spectral linewidth	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm, <0.006 nm	<1.0 nm, <0.2 nm	<1.0 nm, <0.2 nm	
M^2 factor	<1.5		<1.5		<1.2		<1.5		<1.2		<1.5	
Beam diameter at aperture ($1/e^2$)	~1.5 mm		~1.5 mm		~1.5 mm		~1.5 mm		~1.5 mm		~1.5 mm	
Beam divergence, full angle	<1.5 mrad		<1.5 mrad		<1.5 mrad		<1.5 mrad		<1.5 mrad		<1.5 mrad	
Polarization ratio	/		/		>100:1		>100:1		>100:1		>100:1	
Warm-up time	<5min		<5min		<5min		<5min		<5min		<5min	
Pointing stability after warm-up	<0.05 mrad		<0.05 mrad		<0.05 mrad		<0.05 mrad		<0.05 mrad		<0.05 mrad	
Operating temperature	10-35°C											
Expected lifetime	10,000 hours											
Warranty period	10 months											

Remarks:

- The laser head needs to be used on a heat sink with good heat dissipation.
- 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.

DPLU Series Laser Head Dimensions

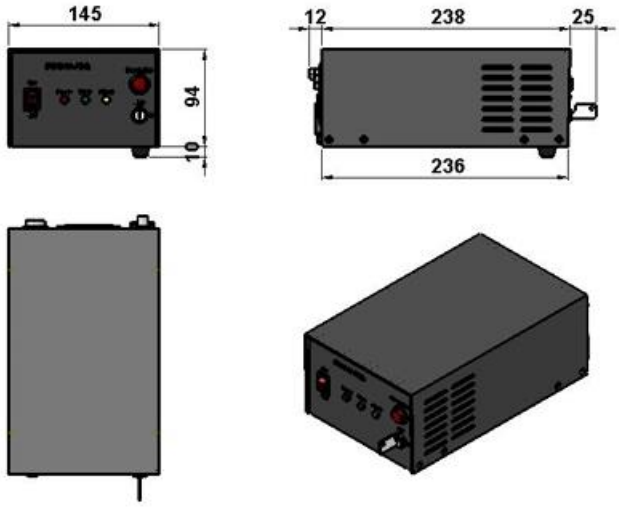
Unit: mm



Parameter	DPLU Series
Dimensions	160(L)×60(W) ×50(H) mm^3
Weight	0.9 kg
Beam height from base plate	27.4 mm
Beam exit (from side)	30 mm

DPLU Series Power Supply Dimensions

Unit: mm



Parameter	High Power Elite Power Supply
Dimensions	275(L) ×145(W) ×104(H) mm^3
Weight	2.3 kg
Input voltage	90-264VAC

Ordering Information

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

Part Number Configuration DPLU[1][2][3][4][5][6]						
DPLU = Laser Model Series	**[1] = Wavelength**	**[2] = Output Power**	**[3] = Power Supply**	**[4] = Power Stability**	**[5] = Noise of Amplitude**	**[6] = Spectral Linewidth**
	914= 914nm 946= 946nm 1047= 1047nm 1053= 1053nm 1064= 1064nm 1085= 1085nm 1112= 1112nm 1122= 1122nm 1313= 1313nm 1319= 1319nm 1342= 1342nm 1444= 1444nm	30= >30mW … 1W= >1000mW 1H= >1500mW 2W= >2000mW 3W= >3000mW	H=High Power Elite Power Supply	A=<5% E=<3% 2=<2% D=<1%	1= <1%	S= <1.0nm K= <0.2nm P= <0.006nm

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