CW DPSS Laser System
DPH Series

Data Sheet

Overview

The DPH series is a line of diode pumped solid state (DPSS) lasers in the visible blue and near infrared spectral range that can provide output power levels up to 2mW (blue) and 3000mW (near infrared). The DPH laser series features a compact design, long lifetime, easy operation, and FDA-compliant system with driver. The blue DPH series laser is widely used in fluorescence sensors, Raman spectrum, laser printing, holography, laser display, submarine communication, biomedicine, laser lighting show, and many other applications. The DPH infrared series laser is used in scientific experiment, optical instrument, optical sensor, measurement, communication, spectrum analysis, and many other applications.

Features

- Blue at 491nm, Infrared at 912nm, 914nm, 946nm, 1040nm, 1047nm, 1053nm, 1064nm, 1112nm, 1122nm, 1177nm, 1313nm, 1319nm, 1335nm, 1338nm, 1342nm, and 1413nm
- CW operating mode
- Optical output power 1mW to 3000mW
- Ultra-compact design
- FDA compliant

Applications

- Fluorescence sensors
- Raman spectrum
- Laser printing
- Holography
- Laser display
- Submarine communication
- Biomedicine
- Laser lighting show
- Scientific experiment
- Optical instrument
- Optical sensor
- Communication
- Spectrum analysis

491-1047 nm Specifications

Parameter	DPH491	DPH912	DPH914	DPH946	DPH1040	DPH1047
Wavelength	491±1 nm	912±1 nm	914±1 nm	946±1 nm	1040±1 nm	1047±1 nm
Output power	>1 mW, >2 mW	>100 mW, >200 mW, >300 mW, >400 mW, >500 mW, >800 mW	>100 mW, >200 mW, >300 mW, >500 mW, >800 mW	>100 mW, >300 mW, >500 mW, >800 mW	>30 mW, >50 mW, >80 mW, >100 mW	>100 mW, >300 mW, >500 mW, >800 mW, >1000 mW
Transverse mode	Near TEM_{00}	Near TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}
Operating mode	CW					
Power stability (rms, over 4 hours)	<10%	<5%, <3%, <2%	<3%, <2%, <1%	<3%, <2%, <1%	<5%, <3%, <2%	<3%, <2%, <1%
M^2 factor	<1.2	<1.5	<2.0	<2.0	<2.0	<2.0
Beam diameter at aperture ($1/e^2$)	~1.5 mm	~1.2 mm	~1.2 mm	~1.2 mm	~1.2 mm	~1.2 mm
Beam divergence, full angle	<1.5 mrad	<2.0 mrad	<2.0 mrad	<2.0 mrad	<2.0 mrad	<2.0 mrad
Polarization ratio	>100:1	>100:1	>100:1	>100:1	>100:1	>100:1
Warm-up time	<5 min	<5 min	<5 min	<5 min	<5 min	<5 min
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					
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.

1053-1313 nm Specifications

Parameter	DPH1053	DPH1064	DPH1112		DPH1122	DPH1177	DPH1313
Wavelength	1053±1 nm	1064±1 nm	1112±3 nm		1122±3 nm	1177±2 nm	1313±1 nm
Output power	>300 mW, >500 mW, >800 mW, >1000 mW, >1500 mW	>2000 mW, >3000 mW	>50 mW, >100 mW, >200 mW	>300 mW, >400 mW, >500 mW	>50 mW, >100 mW, >300 mW, >500 mW, >800 mW, >1000 mW	>50 mW, >80 mW, >100 mW, >200 mW, >300 mW, >400 mW	>100 mW, >300 mW, >500 mW, >800 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%	<3%, <2%, <1%	<3%, <2%, <1%	<5%, <3%, <2%	<5%, <3%, <2%	<3%, <2%, <1%	<3%, <2%, <1%
M^2 factor	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0
Beam diameter at aperture ($1/e^2$)	~1.2 mm	~1.2 mm	~1.2 mm		~1.2 mm	~1.2 mm	~1.2 mm
Beam divergence, full angle	<2.0 mrad	<2.0 mrad	<2.0 mrad		<2.0 mrad	<2.0 mrad	<2.0 mrad
Polarization ratio	>100:1	>100:1	>100:1		/	>100:1	>100:1
Warm-up time	<5 min	<5 min	<5 min		<5 min	<5 min	<5 min
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						
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.

1319-1413 nm Specifications

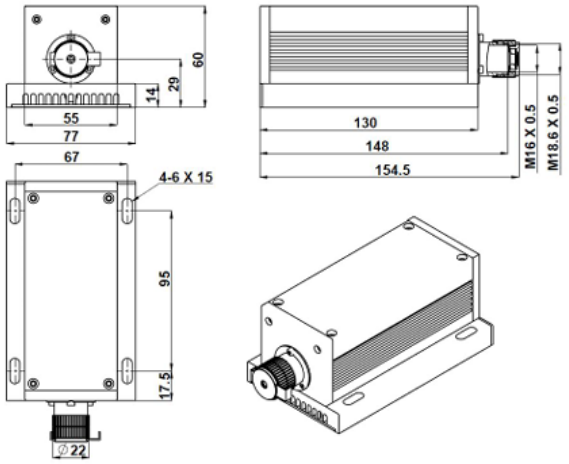
Parameter	DPH1319	DPH1335	DPH1338	DPH1342	DPH1413
Wavelength	1319±1 nm	1335±1 nm	1338±1 nm	1342±1 nm	1413±1 nm
Output power	>1500 mW	>100 mW, >200 mW, >300 mW, >400 mW, >500 mW	>100 mW, >200 mW, >300 mW, >400 mW, >500 mW	>1500 mW, >2000 mW	>30 mW, >50 mW, >80 mW, >100 mW, >200 mW, >300 mW
Transverse mode	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}
Operating mode	CW				
Power stability (rms, over 4 hours)	<5%, <3%, <2%	<5%, <3%, <2%	<5%, <3%, <2%	<3%, <2%, <1%	<5%, <3%
M^2 factor	<2.0	<2.0	<2.0	<2.0	<2.0
Beam diameter at aperture ($1/e^2$)	~1.5 mm	~1.5 mm	~1.5 mm	~1.5 mm	~1.5 mm
Beam divergence, full angle	<2.0 mrad	<2.0 mrad	<2.0 mrad	<2.0 mrad	<2.0 mrad
Polarization ratio	>100:1	>100:1	>100:1	>100:1	>100:1
Warm-up time	<5 min	<5 min	<5 min	<5 min	<5 min
Pointing stability after warm-up	<0.05 mrad				
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.

DPH Series Laser Head Dimensions

Unit: mm

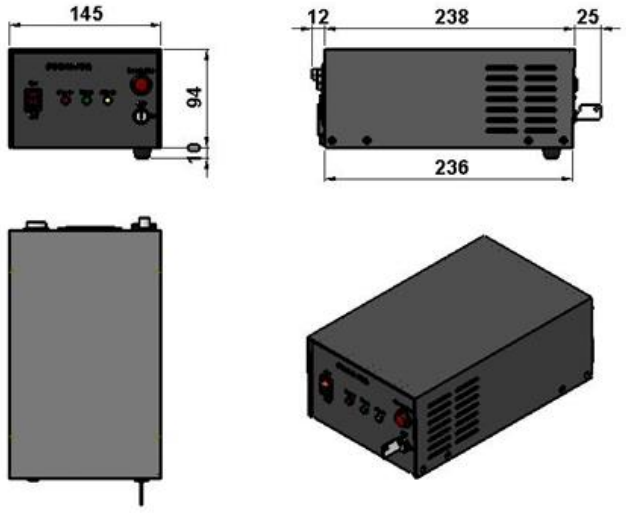


Parameter	DPH Series
Dimensions	154.5(L)×77(W) ×60(H) mm^3
Weight	0.9 kg
Beam height from base plate	29 mm

DPH Series Power Supply Dimensions

Unit: mm

High Power Elite Power Supply



High Power Laboratory Power Supply

Parameter	High Power Elite Power Supply	High Power Laboratory Power Supply
Dimensions	275(L) ×145(W) ×104(H) mm^3	277(L) ×145(W) ×106(H) mm^3
Weight	2.3 kg	2.6 kg
Input voltage	90-264VAC	90-264VAC
Feature	Standard	Adjustable power

Ordering Information

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

Part Number Configuration DPH[1][2][3][4][5]					
DPH = Laser Model Series	**[1] = Wavelength**	**[2] = Output Power**	**[3] = Power Supply**	**[4] = Power Stability**	**[5] = Modulation**
		1= >1mW … 800= >800mW 1W= >1000mW 1H= >1500mW 2W= >2000mW 3W= >3000mW	H= High Power Elite Power Supply M= High Power Laboratory Power Supply	B=<10% A=<5% E=<3% 2=<2% D=<1%	0=None T1=TTL 1Hz-1kHz T2=TTL 1kHz-10kHz T3=10kHz-30kHz A1=Analog 1Hz-1kHz A2=Analog 1kHz-10kHz A3=10kHz-30kHz

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