CW Diode Laser System (Visible Red-IR)
DLH Series

Data Sheet

Overview

The DLH Visible-IR series is a family of visible red and infrared diode lasers that can deliver up to 5000 mW output power. The laser series is available in a wide range of wavelengths and features a compact design, long operating lifetime, easy operation, and FDA-compliant system with driver. The laser is widely used in measurement, laser lighting show, spectrum analysis, collimation, laser medical treatment, optical instrument, laser display, and many other applications.

Features

- Visible-IR wavelength range
- CW operating mode
- Optical output power 50mW to 5000mW
- Ultra-compact design
- FDA compliant

Applications

- Laser lighting show
- Measurement
- Spectrum analysis
- Collimation
- Laser medical treatment
- Scientific experiment
- Optical instrument
- Laser display

665-793 nm Specifications

Parameter	DLH665	DLH750	DLH760	DLH793
Wavelength	665 nm	750 nm	760 nm	793 nm
Wavelength tolerance	±5 nm	±10 nm	±10 nm	±10 nm
Output power	>1000 mW, >1500 mW, >2000 mW	>3000 mW, >4000 mW, >5000 mW	>100 mW, >300 mW, >500 mW, >1000 mW, >1500 mW, >2000 mW	>3000 mW, >4000 mW
Operating mode	CW	CW	CW	CW
Transverse mode	Multimode	Multimode	Multimode	Multimode
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 ($1/e^2$)	~5x8 mm	~5x8 mm	~5x8 mm	~5x8 mm
Beam divergence, full angle	<3.0 mrad	<3.0 mrad	<3.0 mrad	<3.0 mrad
Warm-up time	<5 min	<5 min	<5 min	<5 min
Operating temperature	10-35°C	10-35°C	10-35°C	10-35°C
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months	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.

800-860 nm Specifications

Parameter	DLH800	DLH808	DLH825	DLH860
Wavelength	800 nm	808 nm	825 nm	860 nm
Wavelength tolerance	±5 nm	±10 nm	±5 nm	±10 nm
Output power	>1000 mW, >2000 mW, >2500 mW	>5000 mW	>500 mW, >1000 mW, >1500 mW, >2000 mW, >2500 mW	>2000 mW, >2500 mW, >3000 mW, >4000 mW
Operating mode	CW	CW	CW	CW
Transverse mode	Multimode	Multimode	Multimode	Multimode
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 ($1/e^2$)	~5x8 mm	~5x8 mm	~5x8 mm	~5x8 mm
Beam divergence, full angle	<3.0 mrad	<3.0 mrad	<3.0 mrad	<3.0 mrad
Warm-up time	<5 min	<5 min	<5 min	<5 min
Operating temperature	10-35°C	10-35°C	10-35°C	10-35°C
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months	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.

915-980 nm Specifications

Parameter	DLH915	DLH940	DLH975	DLH980
Wavelength	915 nm	940 nm	975 nm	980 nm
Wavelength tolerance	±5 nm	±5 nm	±10 nm	±10 nm
Output power	>2000 mW	>2000 mW	>3000 mW, >5000 mW	>3000 mW, >5000 mW
Operating mode	CW	CW	CW	CW
Transverse mode	Multimode	Multimode	Multimode	Multimode
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 ($1/e^2$)	~5x8 mm	~5x8 mm	~5x8 mm	~5x8 mm
Beam divergence, full angle	<3.0 mrad	<3.0 mrad	<3.0 mrad	<3.0 mrad
Warm-up time	<5 min	<5 min	<5 min	<5 min
Operating temperature	10-35°C	10-35°C	10-35°C	10-35°C
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months	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.

1060-1420 nm Specifications

Parameter	DLH1060	DLH1120	DLH1310	DLH1420
Wavelength	1060 nm	1120 nm	1310 nm	1420 nm
Wavelength tolerance	±10 nm	±20 nm	±20 nm	±20 nm
Output power	>1000 mW, >2000 mW	>1500 mW, >2000 mW, >2500 mW	>1000 mW, >2000 mW, >3000 mW	>800 mW, >1000 mW, >1500 mW
Operating mode	CW	CW	CW	CW
Transverse mode	Multimode	Multimode	Multimode	Multimode
Power stability (rms, over 4 hours)	<2%, <1%	<2%, <1%	<2%, <1%	<2%, <1%
Beam diameter at aperture ($1/e^2$)	~5x8 mm	~5x8 mm	~5x8 mm	~5x8 mm
Beam divergence, full angle	<3.0 mrad	<3.0 mrad	<3.0 mrad	<3.0 mrad
Warm-up time	<5 min	<5 min	<5 min	<5 min
Operating temperature	10-35°C	10-35°C	10-35°C	10-35°C
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months	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.

1430-1870 nm Specifications

Parameter	DLH1430	DLH1470	DLH1550	DLH1870
Wavelength	1430 nm	1470 nm	1550 nm	1870 nm
Wavelength tolerance	±10 nm	±20 nm	±20 nm	±20 nm
Output power	>800 mW, >1000 mW, >1500 mW	>800 mW, >1000 mW, >1500 mW	>600 mW, >800 mW, >1000 mW	>100 mW, >200 mW, >300 mW, >500 mW, >800 mW
Operating mode	CW	CW	CW	CW
Transverse mode	Multimode	Multimode	Multimode	Multimode
Power stability (rms, over 4 hours)	<2%, <1%	<2%, <1%	<2%, <1%	<2%, <1%
Beam diameter at aperture ($1/e^2$)	~5x8 mm	~5x8 mm	~5x8 mm	~5x8 mm
Beam divergence, full angle	<3.0 mrad	<3.0 mrad	<3.0 mrad	<3.0 mrad
Warm-up time	<5 min	<5 min	<5 min	<5 min
Operating temperature	10-35°C	10-35°C	10-35°C	10-35°C
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months	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.

1900-1930 nm Specifications

Parameter	DLH1900	DLH1910	DLH1920	DLH1930
Wavelength	1900 nm	1910 nm	1920 nm	1930 nm
Wavelength tolerance	±20 nm	±20 nm	±20 nm	±20 nm
Output power	>100 mW, >200 mW, >300 mW, >500 mW	>100 mW, >200 mW, >300 mW, >500 mW	>100 mW, >200 mW, >300 mW, >500 mW	>100 mW, >200 mW, >300 mW, >500 mW, >600 mW
Operating mode	CW	CW	CW	CW
Transverse mode	Multimode	Multimode	Multimode	Multimode
Power stability (rms, over 4 hours)	<2%, <1%	<2%, <1%	<2%, <1%	<2%, <1%
Beam diameter at aperture ($1/e^2$)	~5x8 mm	~5x8 mm	~5x8 mm	~5x8 mm
Beam divergence, full angle	<3.0 mrad	<3.0 mrad	<3.0 mrad	<3.0 mrad
Warm-up time	<5 min	<5 min	<5 min	<5 min
Operating temperature	10-35°C	10-35°C	10-35°C	10-35°C
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months	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.

2160-2230 nm Specifications

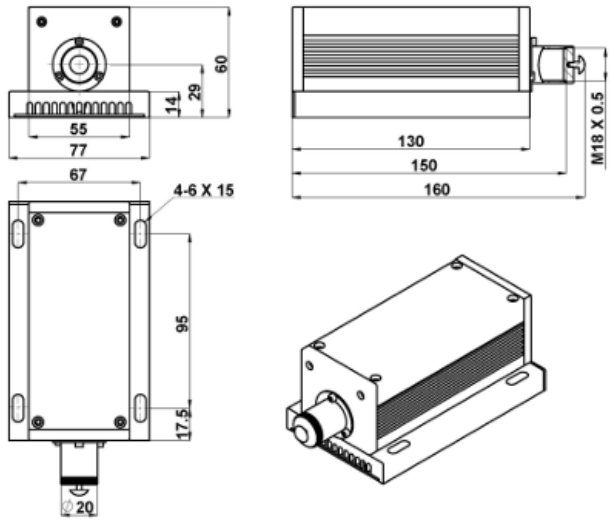
Parameter	DLH2160	DLH2180	DLH2200	DLH2230
Wavelength	2160 nm	2180 nm	2200 nm	2230 nm
Wavelength tolerance	±20 nm	±20 nm	+30/-50 nm	±20 nm
Output power	>50 mW, >100 mW, >300 mW, >400 mW	>50 mW, >100 mW, >300 mW, >400 mW	>50 mW, >100 mW, >300 mW, >400 mW	>50 mW, >100 mW, >300 mW, >400 mW
Operating mode	CW	CW	CW	CW
Transverse mode	Multimode	Multimode	Multimode	Multimode
Power stability (rms, over 4 hours)	<2%, <1%	<2%, <1%	<2%, <1%	<2%, <1%
Beam diameter at aperture ($1/e^2$)	~5x8 mm	~5x8 mm	~7x8 mm	~7x8 mm
Beam divergence, full angle	<3.0 mrad	<3.0 mrad	<5.0 mrad	<5.0 mrad
Warm-up time	<5 min	<5 min	<5 min	<5 min
Operating temperature	10-35°C	10-35°C	10-35°C	10-35°C
Modulation option	TTL/Analog: 1Hz-1kHz, 1kHz-10kHz, 10kHz-30kHz			
Expected lifetime	10,000 hours	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months	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.

DLH Series Laser Head Dimensions

Unit: mm

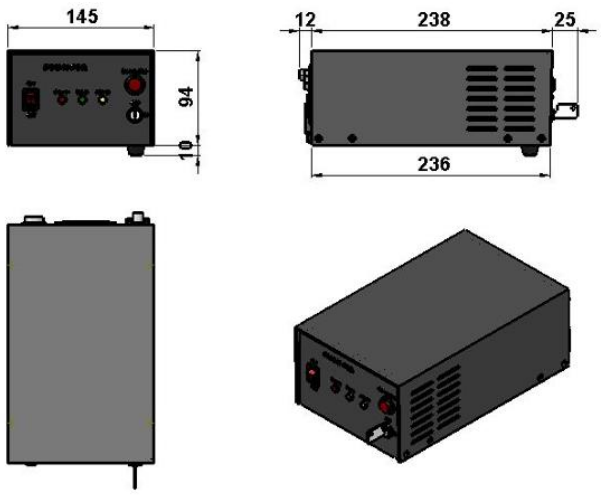


Parameter	DLH Series
Dimensions	160(L)×77W) ×60(H) mm^3
Weight	0.9 kg
Beam height from base plate	29 mm

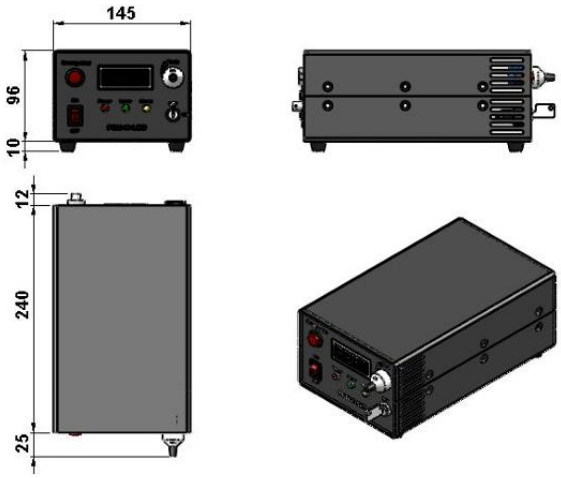
DLH Series Power Supply Dimensions

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	2.1 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 **DLH[1][2][3][4][5]**					
DLH = Laser Model Series	**[1] = Wavelength**	**[2] = Output Power**	**[3] = Power Supply**	**[4] = Power Stability**	**[5] = Modulation**
		50= >50mW 100= >100mW …. 800= >800mW 1W= >1000mW 1H= >1500mW 2W= >2000mW 2H= >2500mW 3W= >3000mW 3H= >3500mW 4W= >4000mW 5W= >5000mW	H=High Power Elite Power Supply M=High Power Laboratory Power Supply	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

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