



Fan-less Low Noise DPSS Laser System

DPLFN Series (UV-Visible)

Data Sheet



Overview

The DPLFN UV-visible series is a family of ultraviolet, blue, green, yellow, orange, and red diode pumped solid state (DPSS) lasers with less than 1% noise that can deliver up to 1500 mW output power. The laser series features a compact design, low noise, long lifetime, easy operation, and FDA-compliant system with driver. The laser is widely used in collimation, laser medical treatment, scientific experiment, optical instrument, and many other applications.

Features

- Ultraviolet, blue, green, yellow, orange, and red spectral range
- CW operating mode
- Optical output power 3mW to 1500mW
- Low noise
- Ultra-compact design
- FDA compliant

Applications

- Collimation
- Laser medical treatment
- Scientific experiment
- Optical instrument

355-526.5 nm Specifications

Parameter	DPLFN355	DPLFN360	DPLFN473		DPLFN522	DPLFN523		DPLFN526	
Wavelength	355±1 nm	360±1 nm	473±1 nm		522±1 nm	523.5±1 nm		526.5±1 nm	
Output power	>3 mW, >5 mW, >10 mW	>10 mW, >20 mW, >30 mW, >50 mW	>50 mW, >100 mW	>200 mW, >300 mW, >400 mW, >500 mW	>10 mW, >30 mW, >50 mW, >80 mW, >100 mW	>30 mW, >50 mW, >80 mW, >100 mW, >200 mW, >300 mW	>500 mW, >800 mW	>30 mW, >50 mW, >80 mW, >100 mW, >200 mW	>300 mW
Transverse mode	Near TEM ₀₀	Near TEM ₀₀	TEM ₀₀		Near TEM ₀₀	Near TEM ₀₀		Near TEM ₀₀	
Operating mode	CW								
Noise of amplitude (rms, 1Hz-20MHz)	<1%	<1%	<1%		<1%	<1%		<1%	
Power stability (rms, over 4 hours)	<10%, <5%	<3%, <2%, <1%, <0.5%	<3%, <2%, <1%	<5%, <3%, <2%	<5%, <3%	<5%, <3%, <2%	<5%, <3%	<3%, <2%, <1%	<5%, <3%
Spectral linewidth	<0.2 nm, <0.003 nm	<0.2 nm	<0.2 nm, <0.003 nm	<0.2 nm	<0.2 nm, <0.003 nm	<0.2 nm, <0.003 nm		<0.2 nm, <0.003 nm	
M ² factor	<1.2 mm	<1.2 mm	<1.2	<1.5	<1.5	<1.5		<1.5	
Beam diameter at aperture (1/e ²)	<1.5 mrad	<1.0 mrad	~2.0 mm	~3.0 mm	~2.0 mm	~2.0 mm		~2.0 mm	
Beam divergence, full angle	<1.5	<1.5	<1.5 mrad		<1.5 mrad	<1.5 mrad		<1.5 mrad	
Polarization ratio	>50:1, Horizontal	>50:1, Horizontal	>100:1 Vertical		>100:1 Vertical	>100:1 Vertical		>100:1 Vertical	
Warm-up time	<10min	<10min	<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	
Max. laser head base plate temp	50°C	50°C	50°C		50°C	50°C		50°C	
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.

532-588 nm Specifications

Parameter	DPLFN532		DPLFN543	DPLFN550	DPLFN556	DPLFN561	DPLFN588
Wavelength	532±1 nm		543±1 nm	550±1 nm	556±1 nm	561±1 nm	588±1 nm
Output power	>500 mW	>1000 mW, >1500 mW	>30 mW, >50 mW, >100 mW, >150 mW, >200 mW	>30 mW, >50 mW, >80 mW	>30 mW, >50 mW, >100 mW, >150 mW, >200 mW	>200 mW, >300 mW, >400 mW	>200 mW, >300 mW
Transverse mode	TEM ₀₀		TEM ₀₀	TEM ₀₀	TEM ₀₀	TEM ₀₀	TEM ₀₀
Operating mode	CW						
Noise of amplitude (rms, 1Hz-20MHz)	<1%, <0.5%		<1%	<1%	<1%	<1%	<1%, <0.5%
Power stability (rms, over 4 hours)	<3%, <2%, 1%	<5%, <3%, <2%	<3%, <2%, 1%	<5%, <3%, <2%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%, <0.5%
Spectral linewidth	<0.1 nm, <0.003 nm	<0.1 nm	<0.2 nm, <0.003 nm	<0.2 nm, <0.003 nm	<0.2 nm, <0.003 nm	<0.2 nm, <0.003 nm	<0.2 nm, <0.003 nm
M ² factor	<1.2, <1.1	<1.2	<1.2	<1.5	<1.2	<1.2	<1.2
Beam diameter at aperture (1/e ²)	<2.0 mm		<2.0 mm	<2.0 mm	<2.0 mm	<2.0 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 Vertical	>100:1 Horizontal	>100:1, Vertical	>100:1, Vertical	>100:1, Vertical	>100:1, Vertical	>100:1, Horizontal
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
Max. laser head base plate temp	50°C		50°C	50°C	50°C	50°C	50°C
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.
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589-670 nm Specifications

Parameter	DPLFN589	DPLFN594	DPLFN607		DPLFN639		DPLFN660	DPLFN670		
Wavelength	589±1 nm	594±1 nm	607±1 nm		639±1 nm		660±1 nm	670±0.5 nm		
Output power	>200 mW, >300 mW	>10 mW, >20 mW, >30 mW, >50 mW, >80 mW, >100 mW	>30 mW, >50 mW, >100 mW	>200 mW, >300 mW, >400 mW	>100 mW, >200 mW, >300 mW	>500 mW, >800 mW, >1000 mW	>30 mW, >50 mW, >100 mW, >200 mW	>50 mW, >100 mW, >150 mW	>200 mW, >300 mW	
Transverse mode	TEM ₀₀	TEM ₀₀	TEM ₀₀		TEM ₀₀		TEM ₀₀	TEM ₀₀	Near TEM ₀₀	
Operating mode	CW	CW	CW		CW		CW	CW		
Noise of amplitude (rms, 1Hz-20MHz)	<1%, <0.5%	<1%	<1%		<1%, <0.5%	<1%	<1%, <0.5%	<1%, <0.5%		
Power stability (rms, over 4 hours)	<3%, <2%, <1%, <0.5%	<5%, <3%, <2%	<3%, <2%, <1%, <0.5%		<3%, <2%, <1%, <0.5%		<3%, <2%, <1%	<3%, <2%, <1%		
Spectral linewidth	<0.2 nm, <0.003 nm	<0.2 nm	<0.2 nm, <0.003 nm	<0.2 nm	<0.2 nm, <0.003 nm	<0.2 nm	<0.2 nm, <0.003 nm	<0.2 nm, <0.003 nm	<0.2 nm	
M ² factor	<1.2	<1.5	<1.5		<1.2, <1.1	<1.2	<1.2	<1.2	<2.0	
Beam diameter at aperture (1/e ²)	<1.5 mm	<1.5 mm	<1.5 mm		<1.0 mm		<2.0 mm	<2.0 mm		
Beam divergence, full angle	<1.5 mrad	<2.0 mrad	<2.0 mrad		<1.5 mrad		<1.2 mrad	<1.2 mrad		
Polarization ratio	>100:1, Horizontal	>100:1, Horizontal	>100:1, Vertical		>100:1, Horizontal		>100:1, Horizontal	>100:1, Horizontal		
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		
Max. laser head base plate temp	50°C	50°C	50°C		50°C		50°C	50°C		
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.
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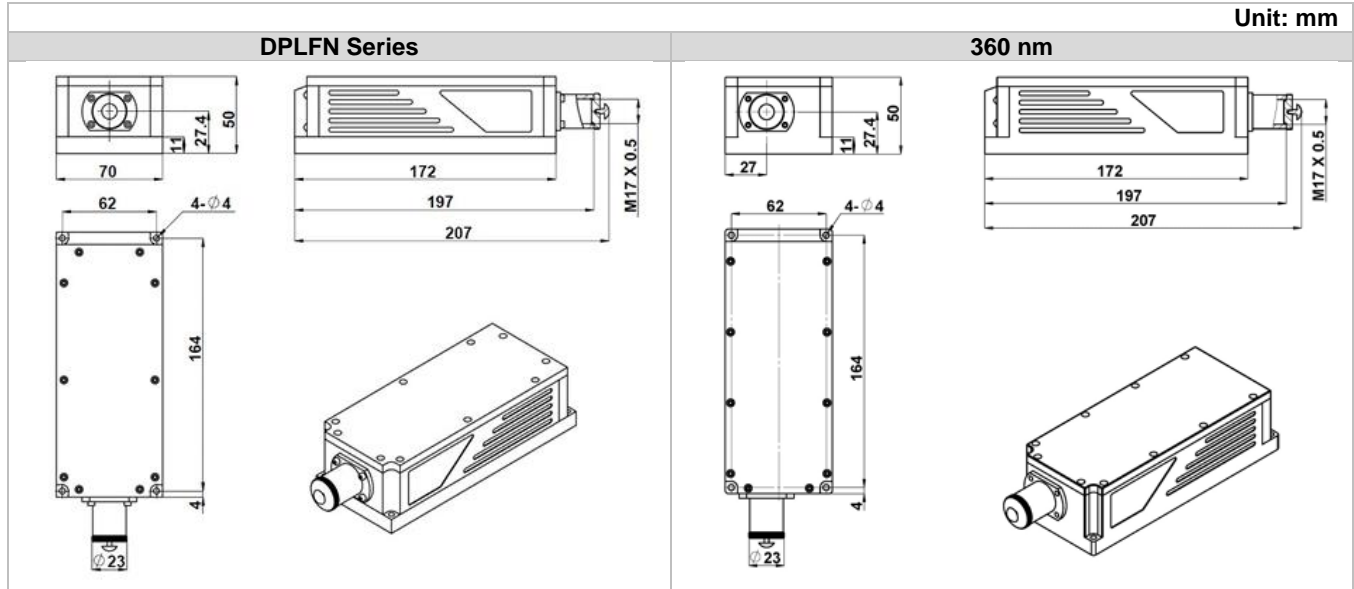
671-721 nm Specifications

Parameter	DPLFN671		DPLFN698		DPLFN721
Wavelength	671±1 nm		698±1 nm		721±1
Output power	>500 mW	>800 mW, >1000 mW	>100 mW, >200 mW, >300 mW	>500 mW, >800 mW, >1000 mW	>50 mW, >100 mW
Transverse mode	Near TEM ₀₀		TEM ₀₀	Near TEM ₀₀	TEM ₀₀
Operating mode	CW		CW		CW
Noise of amplitude (rms, 1Hz-20MHz)	<1%		<1%		<1%, <0.5%
Power stability (rms, over 4 hours)	<3%, <2%, <1%	<3%, <2%	<3%, <2%	<5%, <3%	<3%, <2%, <1%, <0.5%
Spectral linewidth	<0.2 nm, <0.003 nm	<0.2 nm	<0.2 nm, <0.003 nm	<0.2 nm	<0.2 nm, <0.003 nm
M ² factor	<1.2, <1.1	<1.2	<1.5		<1.2
Beam diameter at aperture (1/e ²)	~2.0 mm		~2.0 mm		<2.0 mm
Beam divergence, full angle	<1.5 mrad		<1.5 mrad		<1.2 mrad
Polarization ratio	>100:1, Vertical		>100:1, Horizontal		>100:1, Horizontal
Warm-up time	<5min		<5min		<5min
Pointing stability after warm-up	<0.05 mrad		<0.05 mrad		<0.05 mrad
Max. laser head base plate temp	50°C		50°C		50°C
Operating temperature	10-35°C				
Expected lifetime	10,000 hours				
Warranty period	10 months				

Remarks:

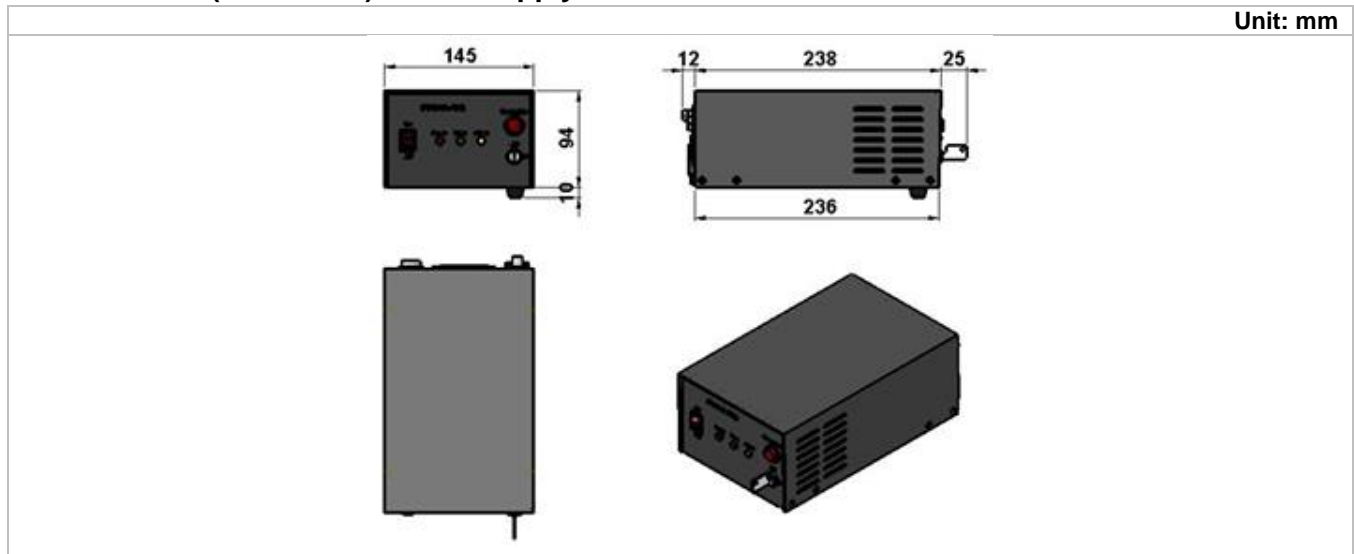
- The laser head needs to be used on a heat sink with good heat dissipation.
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DPLFN Series (UV-Visible) Laser Head Dimensions



Parameter	DPLFN Series	360 nm
Dimensions	197(L)×70(W) ×50(H) mm ³	197(L)×70(W) ×50(H) mm ³
Weight	1.5 kg	1.5 kg
Beam height from base plate	27.4 mm	27.4 mm
Beam exit (from side)	35 mm	27 mm

DPLFN Series (UV-Visible) Power Supply Dimensions



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 DPLFN[1][2][3][4][5][6]						
DPLFN = Laser Model Series	[1] = Wavelength	[2] = Output Power	[3] = Power Supply	[4] = Power Stability	[5] = Noise of Amplitude	[6] = Spectral Linewidth
	355= 355nm 360= 360nm 473= 473nm 522= 522nm ... 679= 679nm 698= 698nm 721= 721nm	3= >3mW 5= >5mW 10= >10mW ... 1W= >1000mW 1H= >1500mW	H=High Power Elite Power Supply	A=<5% E=<3% 2=<2% D=<1% S=<0.5%	1= <1% L= <0.5%	L=<0.1nm K=<0.2nm J=<0.003nm

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