

## LLS-0532-CF LABSPEC SERIES INFORMATION SHEET

The LLS-0532 Series of Low-Noise Diode-Pumped Solid-State (DPSS) Lasers are ideal for applications requiring 1mW to 15W of 532nm laser light with a high level of long-term output power stability, low optical noise and long operating lifetime at an aggressively competitive cost. These lasers are commonly used for fluorescence excitation, PIV, and a broad spectrum of other applications. The driver is available as a complete FDA-compliant system or as an O.E.M. component with significantly reduced dimensions in 80-260VAC, 12VDC, or 5VDC input voltage. Please ask for an information sheet for other models.



### KEY FEATURES:

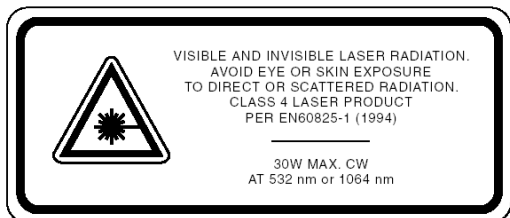
- Air cooled – no need for water cooling or external chiller
- Lightweight, compact design
- Efficient DPSS technology runs on standard AC power (85 – 264 V, 47 – 63 Hz)
- >10,000 hours continuous maintenance-free operating life
- Remote on/off control via TTL input
- FDA CDRH Compliant Class IIb / Class IV enclosure
- 48-hour replacement coverage available for an additional fee

### CUSTOM OPTIONS:

- Fiber coupling – The LLS-0532 series can be fiber-coupled to the customer's choice of fiber optic cable; the most common types of connectors are FC and SMA-905. Unless otherwise specified, armored fiber will be used to avoid damage during transport and use. Please see the fiber coupling efficiency chart on Page 4 to ensure sufficient output power for your application.
- Custom optics – The output beam can be shaped per the customer's requirements, including customizable beam diameter, divergence and ellipticity. Line-generating optics can be installed to match the customer's requirements.
- Operating Voltage – By special request, the LLS-0532 series can be configured to run on either AC or DC current at nearly any voltage that the customer requires.

**SPECIFICATIONS:** (Please see model number/ SKU reference table on Page 5 for full model number/SKU.)

Dimensional Drawing Reference (see below)		A	B	C	D
Model	LLS-0532-	CFM-____-__	CFH-01000-__	CFE-02000-__	CFW____-__
Wavelength (nm)		532 (+/-1)	532 (+/-1)	532 (+/-1)	532 (+/-1)
Actual Centre Wavelength (nm)		531.65	531.65	531.65	531.65
Output Power		<5 mW, >10mW, >30 mW, >100 mW, >200 mW, >500 mW	>1 W	>2 W	>5 W, >8 W, >10 W, >12 W, >15 W
Output Power Stability <sup>1</sup> (RMS/4 hrs.)		<5%, <3%, <1%	<5%, <3%, <1%	<5%, <3%, <1%	<5%, <3%, <1%
Noise amplitude (RMS, 1-20 MHz)		<1%	<1%	<1%	<1%
Warm-up time (min)		<15	<15	<15	<15
M <sup>2</sup> Factor		<1.2	<2.0	<2.0	3.0-6.0
Beam Divergence (mrad)		<1.5	<2.0	<2.0	<2.0
Beam diameter at aperture (mm)		~2.0	~3.0	~3.0	~4.0
Beam height from base (mm)		24.8	29.0	45.0	93.5
Spectral linewidth (nm)		0.20	0.12	0.20	0.20
Polarization ratio		>100:1	>100:1	>100:1	>100:1
Pointing stability after warm-up (mrad)		<0.05	<0.05	<0.05	<0.05
Operating temperature (°C)		10-35	10-35	10-35	10-35
Transverse Mode		TEM <sub>00</sub>	Near TEM <sub>00</sub>	Near TEM <sub>00</sub>	Near TEM <sub>00</sub>
MTTF (hours)		>10000	>10000	>10000	>10000
Limited Warranty		1 year	1 year	1 year	1 year
Operating Mode		CW	CW	CW	CW
Power Supply		90-264VAC	90-264VAC	90-264VAC	90-264VAC



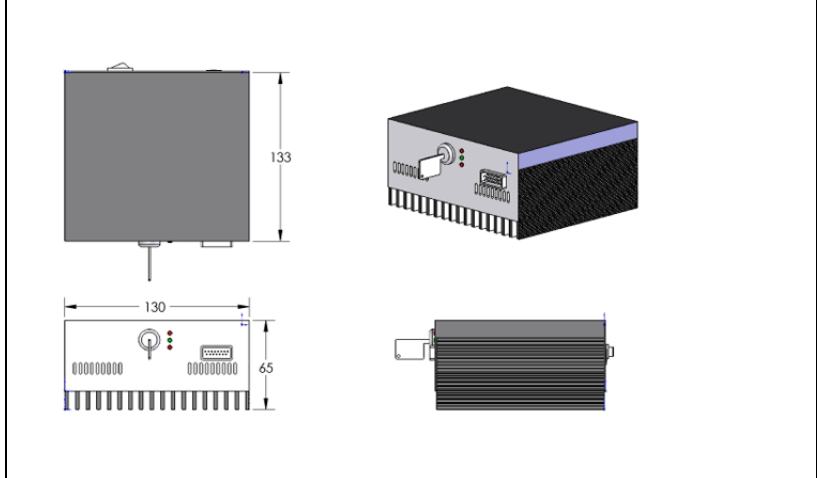
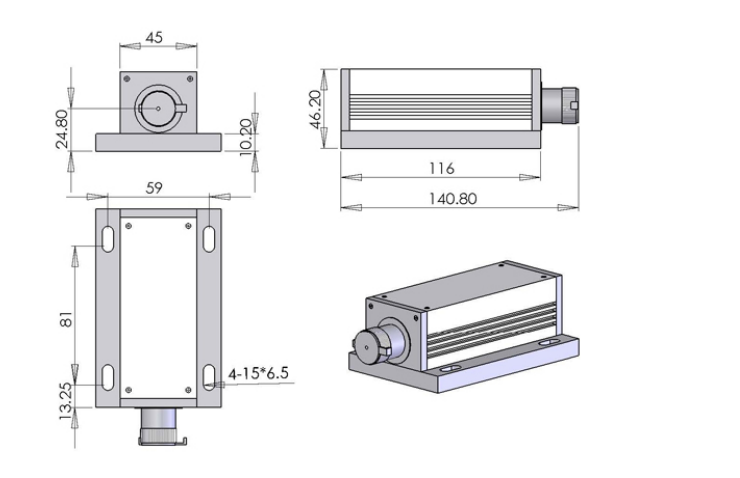
<sup>1</sup> Stability values guaranteed only after operating continuously at full power for a minimum of 15 minutes.

**DIMENSIONAL DRAWINGS (please refer to model number in specifications chart above):**

**A LLS-0532-CFM-\_\_\_\_\_ -**

Weight: 0.6kg

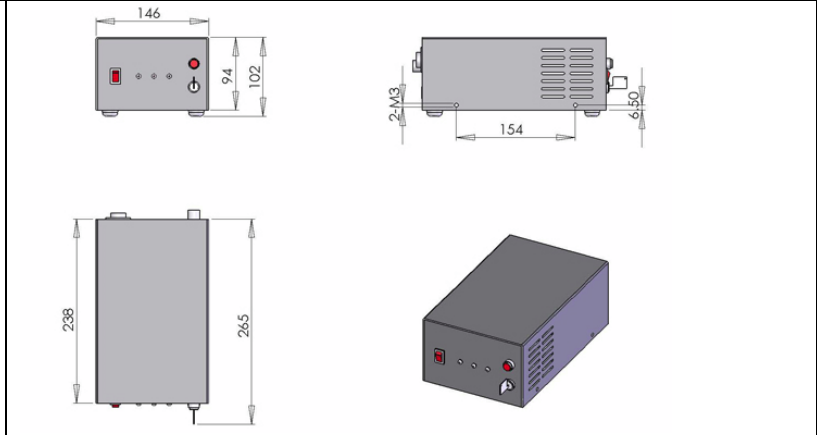
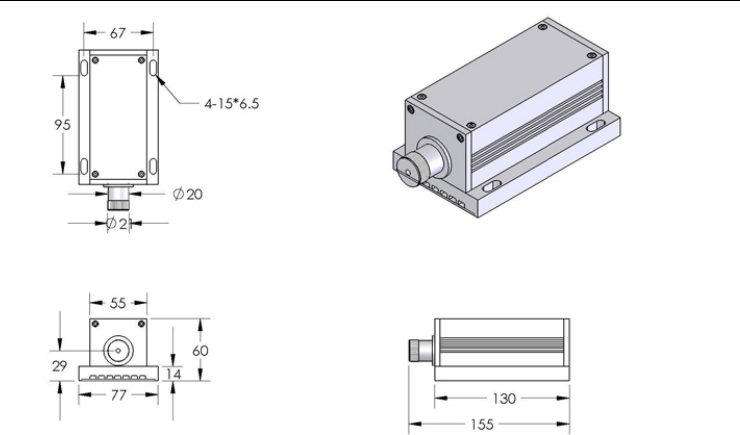
Weight: 1.2kg



**B LLS-0532-CFH-01000-\_\_**

Weight: 0.9kg

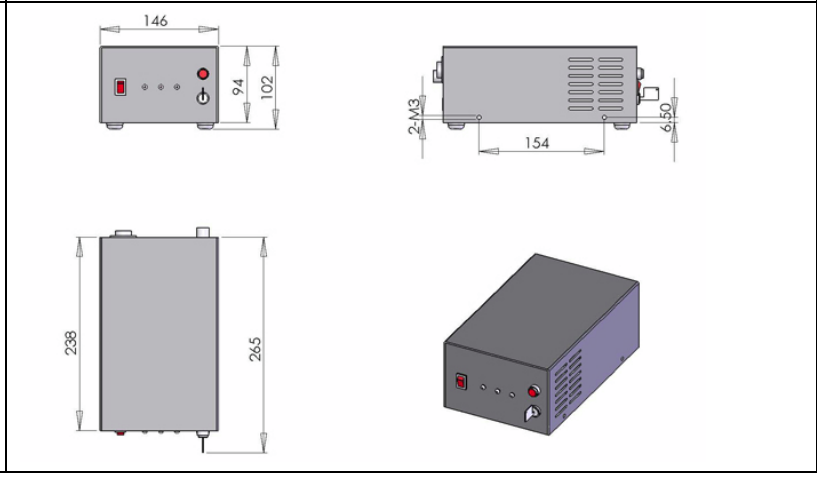
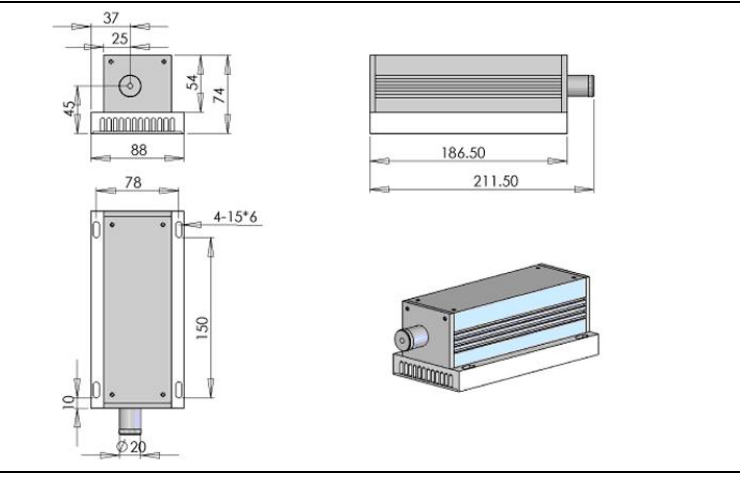
Weight: 2.3kg



**C LLS-0532-CFF-02000-\_\_**

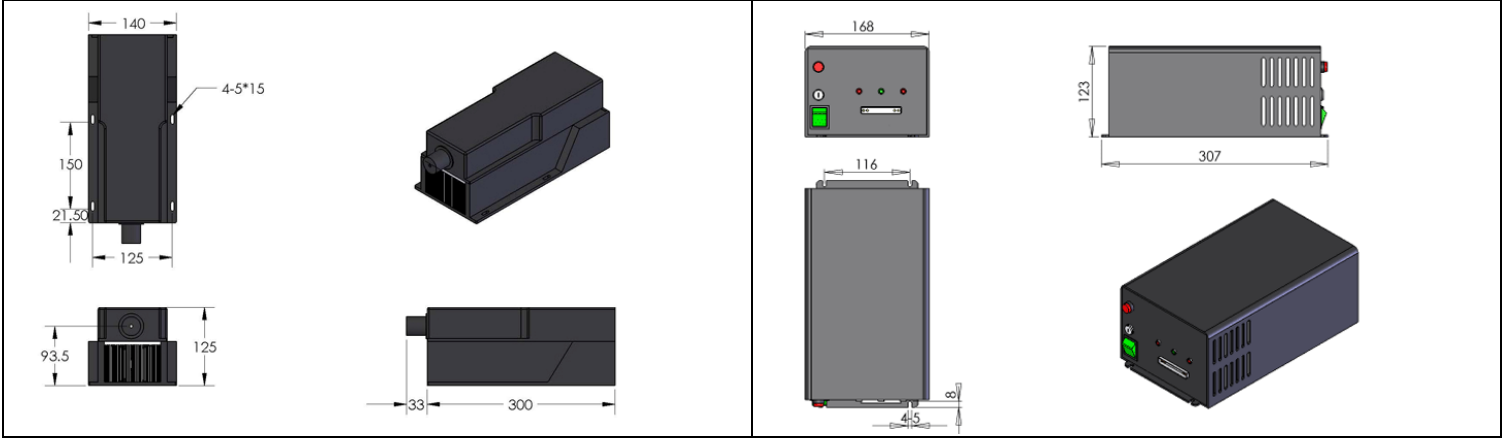
Weight: 1.6kg

Weight: 2.3kg



Weight: 6.1kg

Weight: 5.1kg



**FIBER COUPLING OPTIONS:**

1. Fiber connector only: Please specify connector type (SMA-905 or FC) and the core diameter of the fiber you will be using.
2. Permanent coupling: Fiber cable will be aligned for maximum efficiency and permanently bonded in place to ensure reliability.
3. Detachable coupling: Fiber cable will be removable from coupler and can be swapped for a different cable. As this allows some variability in alignment, coupling efficiency will be slightly less than outlined below. (Not available for coupling to Single Mode fibers).

<b>Fiber Type:</b>	Single Mode	Multi Mode	Multi Mode	Multi Mode
<b>Core Diameter:</b>	4-9µm	≥100µm	≥200µm	≥400µm
<b>Coupling Efficiency:</b>	>15%	>50%	>80%	>90%
<b>Example using &gt;100mW laser:</b>	>15mW fiber output	>50mW fiber output	>80mW fiber output	>90mW fiber output

**MODEL NUMBER / SKU REFERENCE**

<b>LLS-0532 SERIES MODEL NUMBER / SKU REFERENCE</b>			
Output Power	Stability		
	<5%	<3%	<1%
	<b>Lab Spec</b>		
<5mW	LLS-0532-CFM-0003A-05 SKU# L530005FX	LLS-0532-CFM-0003A-03 SKU# L530003FX	LLS-0532-CFM-0003A-01 SKU# L530001FX
>10mW	LLS-0532-CFM-00010-05 SKU# L530105FX	LLS-0532-CFM-00010-03 SKU# L530103FX	LLS-0532-CFM-00010-01 SKU# L530101FX
>30mW	LLS-0532-CFM-00030-05 SKU# L530305FX	LLS-0532-CFM-00030-03 SKU# L530303FX	LLS-0532-CFM-00030-01 SKU# L530301FX
>100mW	LLS-0532-CFM-00100-05 SKU# L531005FX	LLS-0532-CFM-00100-03 SKU# L531003FX	LLS-0532-CFM-00100-01 SKU# L531001FX
>200mW	LLS-0532-CFM-00200-05 SKU# L532005FX	LLS-0532-CFM-00200-03 SKU# L532003FX	LLS-0532-CFM-00200-01 SKU# L532001FX
>500mW	LLS-0532-CFM-00500-05 SKU# L535005FX	LLS-0532-CFM-00500-03 SKU# L535003FX	LLS-0532-CFM-00500-01 SKU# L535001FX
>1.0W	LLS-0532-CFH-01000-05 SKU# L5310B5FX	LLS-0532-CFH-01000-03 SKU# L5310B3FX	LLS-0532-CFH-01000-01 SKU# L5310B1FX
>2.0W	LLS-0532-CFF-02000-05 SKU# L5320B5FX	LLS-0532-CFF-02000-03 SKU# L5320B3FX	LLS-0532-CFF-02000-01 SKU# L5320B1FX
>4.0W	LLS-0532-CFN-04000-05 SKU# L5340B5FX	LLS-0532-CFN-04000-03 SKU# L5340B3FX	LLS-0532-CFN-04000-01 SKU# L5340B1FX
>6.0W	LLS-0532-CFW-06000-05 SKU# L5360B5FX	LLS-0532-CFW-06000-03 SKU# L5360B3FX	LLS-0532-CFW-06000-01 SKU# L5360B1FX
>8.0W	LLS-0532-CFW-08000-05 SKU# L5380B5FX	LLS-0532-CFW-08000-03 SKU# L5380B3FX	LLS-0532-CFW-08000-01 SKU# L5380B1FX
>10.0W	LLS-0532-CFW-10000-05 SKU# L5310C5FX	LLS-0532-CFW-10000-03 SKU# L5310C3FX	LLS-0532-CFW-10000-01 SKU# L5310C1FX
>12.0W	LLS-0532-CFW-12000-05 SKU# L5312C5FX	LLS-0532-CFW-12000-03 SKU# L5312C3FX	LLS-0532-CFW-12000-01 SKU# L5312C1FX
>15.0W	LLS-0532-CFW-15000-05 SKU# L5315C5FX	LLS-0532-CFW-15000-03 SKU# L5315C3FX	LLS-0532-CFW-15000-01 SKU# L5315C1FX

FOR FURTHER INQUIRIES PLEASE CONTACT:

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