Spectrum Stabilized Fiber Coupled Laser Source

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The SSFL 785 nm Spectrum Stabilized Fiber Coupled Laser Source provides a powerful and extremely stable laser source that is ideal for scientific applications including Raman Spectroscopy. The unit contains a fiber-coupled high-power diode that is spectrally narrowed and wavelength-stabilized by incorporating a Volume Bragg Grating (VGB). It outputs over 300 mW and 500mW at 785 nm laser having wavelength stabilized within 0.5 nm.

Extreme care should be taken when operating this unit to avoid potentially hazardous exposure to both eyes and skin. Users should wear eye protection when operating this unit and should avoid exposure to the output beam.

Features

- High Reliability
- High Stability
- Cost Effective

Applications

- R&D Applications
- Instrumentations
- Sensors

Specifications

Parameter	Min	Typical	Max	Unit
Wavelength		785		nm
Center Wavelength Tolerance	-0.5	0	0.5	nm
Output Power		300		mW
		500		mW
Linewidth		0.1	0.15	nm
Power Consumption		1	3	W
CDRH Class	Class IV			
Humidity	<80, no-condensing			%
Operating Temperature	10 ~ 35			°C
Storage Temperature	-40 ~ 85			°C
Fiber Type	105 µm Core, NA 0.22			
Fiber Connector	FC/PC			

Rev 12/25/24

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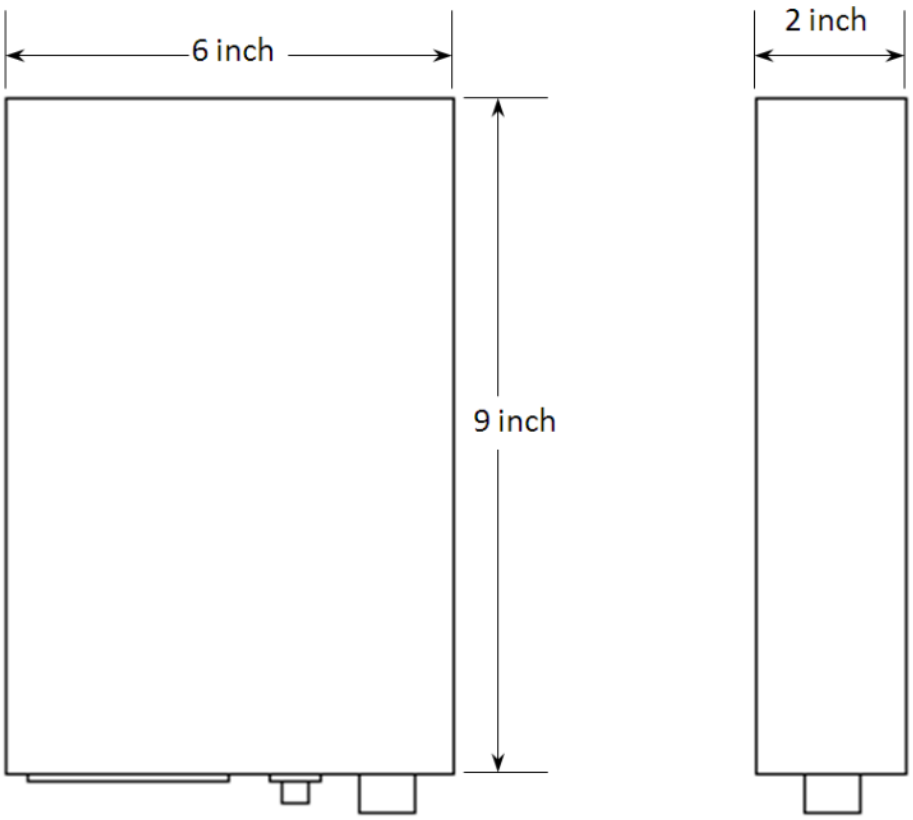
Mechanical Dimension



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information

	☐	☐☐☐☐	☐	☐	☐	☐
Prefix	**Package**	**Wavelength**	**Laser Type**	**Fiber Type**	**Optical Power**	**Connector**
SSFL-	Standard = 1 Special = 0	785 nm = 0785 1600 nm = 1600 1620 nm = 1620	Phase Grating = 1	105 µm = 1 Special = 0	300mW = 1 500mW = 2	FC/PC = 1

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Application Notes

Fiber Core Alignment
Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness
Fibers with smaller core diameters (<5 μm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power
Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

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