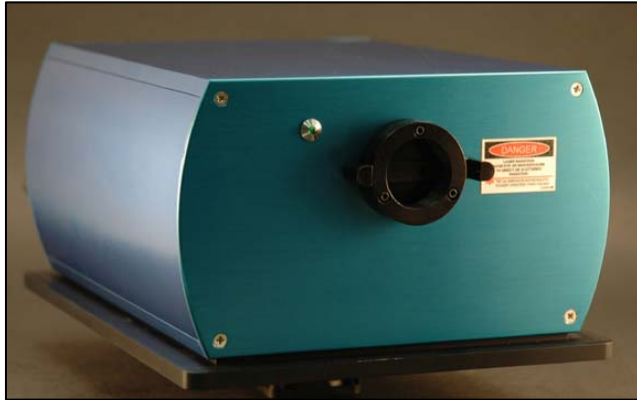


High Performance Spectrum Stabilized Laser Subsystem Model # I0785SR0100B

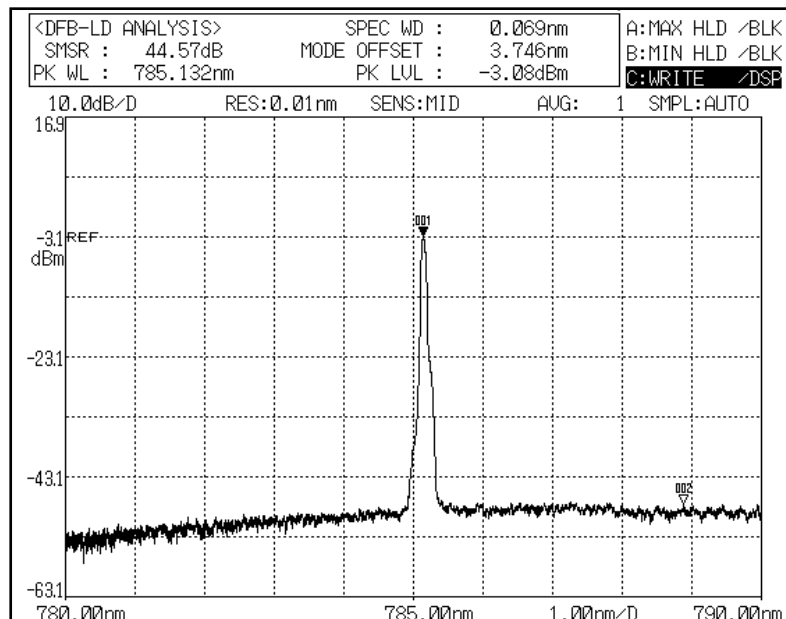


Features:

- Over 100 mW Open Beam Output Power
- Integral Laser Line Filter
- Spectral Linewidth < 1 MHz
- Temperature Stabilized Spectrum (< 0.007 nm/°C)
- Low Power consumption
- > 40 dB SMSR Typical
- Integral Laser Drive and TEC Control Electronics
- Remote Interlock

Innovative Photonic Solution's proprietary Spectrum Stabilized Laser features high output power with narrow spectral bandwidth. The laser's stabilized peak wavelength remains "locked" regardless of case temperature (+15 to +45 deg. C). Packaged in a custom housing specifically designed to interface with Renishaw's Raman Microscopes, these sources offer ultra narrow and stable spectral linewidth with side mode suppression ratios (SMSRs) better than 40 dB - thereby providing extremely high signal to noise ratio and making these sources ideal for Raman spectroscopy. The laser is integrated with high performance laser drive and temperature control electronics with an integral laser line filter and a collimated circularized output beam.

Typical Spectral Plot:



Typical 785 nm SS Laser Spectrum (SMSR > 40 dB)

Optical Performance Specifications:

Parameter	Unit	Min	Typ	Max	Notes
Optical output power	mw	100	120		
Output power stability	%		± 1		
Peak wavelength	nm	-0.05		0.05	
3 dB bandwidth (FWHM)	nm			100 MHz	
Peak wavelength drift	nm			± 0.10	over life
Optical signal-to-noise ratio (SMSR)	dB	35	45		
Warm-up time	sec			10	from cold start
	sec			1.5	from warm start

Electrical Performance Specifications:

Parameter	Unit	Min	Typ	Max	Notes
Supply voltage	V	110		220	AC
Power consumption	W		3.5	5	

Physical Specifications:

Parameter	Unit	Value
Output Beam Exit Port	type	Standard C-Mount Thread (1" - 32)
Module dimensions	inch	8 x 6 x 4
Module weight	Lbs	5
Case material	type	Anodized & Powder Coated Aluminum
Operating temperature	deg. C	-10 to +55 deg case temperature
Storage temperature range	deg. C	-20 to +80

Module Control Panel Interface:



Control Panel Features:

- Keyed Master Power Switch
- Momentary Laser Enable (defaults to laser off if interlock is broken or power is lost to laser)
- LED Status Indicator Lights
- Interlock Circuit
- AC Power Port

Module Operation Instructions:

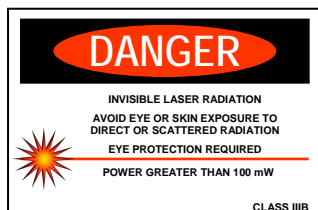
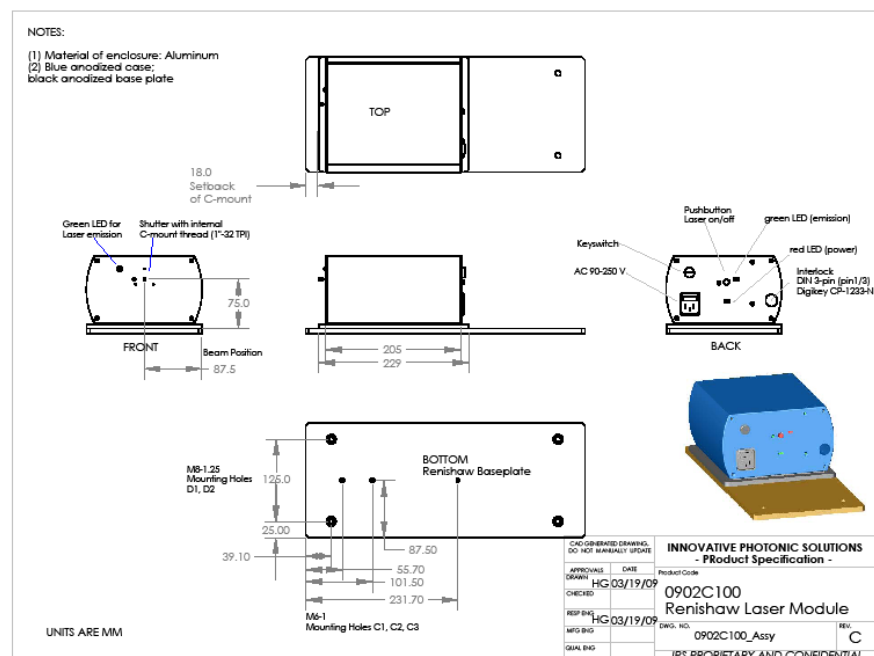
Turn On:

1. Mount laser module onto Renishaw laser mounting plate.
2. Attach Class I laser beam protective housing to threaded C-Mount on front of laser module.
3. Create a closed loop circuit with the provided interlock jack (connect door sensors and optical curtains as desired in a serial closed circuit design).
4. Assure that Master power key switch is in off (Vertical) position.
5. Plug AC power cord into 5 V DC jack on back of module and then into wall outlet.
6. Turn master power key switch into the on (horizontal) position. The master power indicator light should illuminate.
7. Toggle external laser enable switch mounted on side wall of module to the ON (I) position. The “laser on” indicator light should illuminate.

Turn Off:

1. Toggle external laser enable switch to the OFF (O) position.
2. Turn Master Power keys switch to off position.

Module Physical Dimensions:



OEM Laser Product

This laser module is designed for use as a component (or replacement) part and is thereby exempt from 21 CFR1040.10 and 1040.11 provisions.