

Stabilized Single-Frequency Fiber-Coupled L-Type

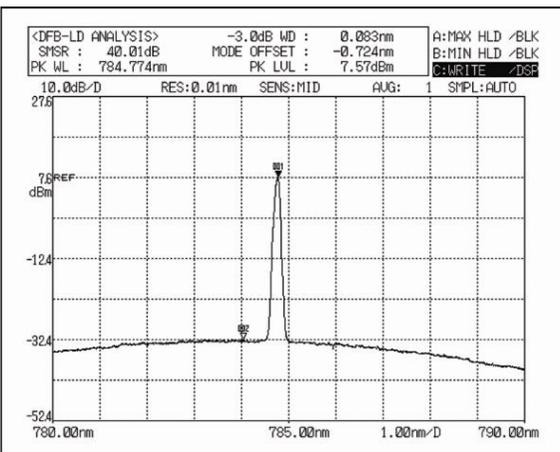


RPMC's proprietary Wavelength Stabilized Laser features high output power with narrow spectral bandwidth. The laser's stabilized peak wavelength remains "locked" regardless of case temperature (10 to 35 deg. C).

Devices can be spectrally tailored to suit application needs and offer 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 and pump laser applications.

The laser is integrated with high performance laser drive and temperature control electronics and integrated into a fully turn-key UL/CE and IEC certified system with all safety features.

In addition to benchtop functionality, the side panel can be opened and the "guts" of the laser (the U-type engine inside) can be removed so that a different wavelength can "drop in," or the U-type can be integrated as an OEM component into a user system once testing is done.



Typical 785 nm Stabilized Laser Spectrum

Features

- Wavelength Stabilized Spectrum
- Narrow Spectral Linewidth (< 100 MHz FWHM)
- High Power Single-mode Fiber Coupled Output
- TEM00, Single-spatial and single-longitudinal mode (SLM)
- Temperature Stabilized Spectrum (< 0.007 nm/°C)
- 40 dB SMSR Typical
- UL/CE and IEC Certified and Fully "turn-key"

Standard Wavelengths

- 780 nm
- 785 nm
- 808 nm
- 830 nm
- 976 nm
- 1030 nm
- 1053 nm
- 1064 nm

Additional wavelengths available upon request

General Optical Specifications

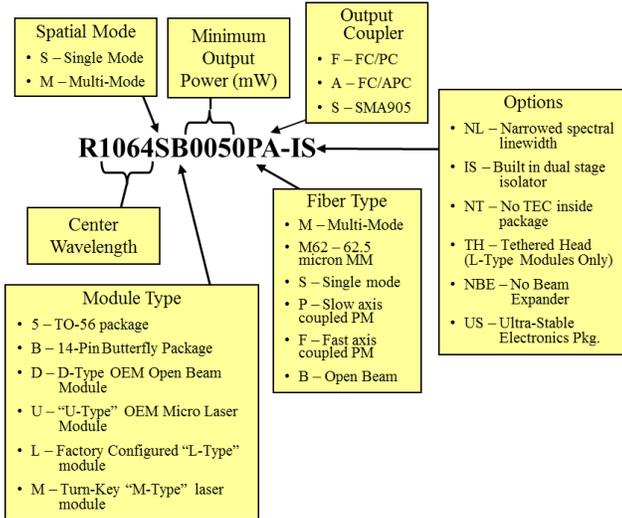
Wavelength Tolerance	+/- 0.5 nm
Spectral Linewidth ($\Delta\lambda$)	< 100 MHz
Wavelength Stability Range	10 C - 35 C
SMSR	35 -45 dB
Polarization Orientation	IPS standard is PM slow. The "P" in part number signifies PM slow. Substitute "F" for PM fast
Polarization Extinction Ratio (PER)	>17 dB
Output Power Stability	1% typical
Peak Wavelength Drift	+/- 7pm assuming TEC control +/- 0.1 degree C
Modulation Rate	CW to 1 KHz (for 10% power to CW) up to 10 kHz for 50% power
Warm-Up Time	10 seconds from cold start
	1.5 seconds from warm start

Physical Specifications

Optical Fiber Connector	Polarization Maintaining, Panda Type FC/APC
Module Dimensions	9.48 x 6.94 x 4.14 inches
Module weight	48 ounces
Case Material	Anodized Aluminum
Operating Temperature	10 to 35 degrees C
Environment	0-80% Humidity, non condensing
Storage Temperature	-10 to + 55 degrees C



Part Numbering Schema



Wavelength (nm)	Min. Power (mW)	Part number
780	50	R0780SL0050PA
785	50	R0785SL0050PA
808	50	R0808SL0050PA
830	50	R0830SL0050PA
976	220	R0976SL0220PA
1030	100	R1030SL0090PA
	250	R1030SL0250PA
1053	120	R1053SL0120PA
	300	R1053SL0300PA
1064	50 (integral dual-stage isolator)	R1064SL0050PA-IS
	120	R1064SL0120PA
	300	R1064SL0300PA

Operational Notes

- Do not retro-reflect beam! This can cause Catastrophic Optical Damage (COD) and is not covered under warranty.
- To adjust power output, RPMC recommends using Pulse Width Modulation (PWM) to adjust average power or using an external Neutral Density Filter. See Note 3.
- By using PWM, user can adjust average power from 10% to 100% in digital increments by setting pulse width and duty cycle. For example, if a 50% duty cycle is selected, the laser will be on 50% of the time, and off 50% of the time, making the average power equal to 50% of the CW output power. The sample will experience a lower average power. Rise/fall time is approximately 20 microseconds.
- RPMC can supply our Laser Control Unit (LCU-M) that will enable USB control and comes standard with PWM software.
- See Operation Manual for full operating and safety instructions. This document is meant to offer a product overview.

Electrical Requirements

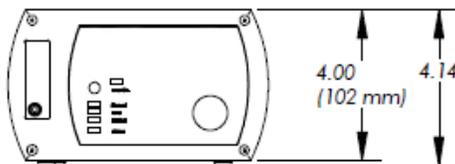
Input Power	100 – 240 VAC, 50 – 60 Hz, 0.4 A
Fuse Rating	250 V, 1 A, Fast Blow, 5 mm x 20 mm, 2 each



Mechanical Specifications

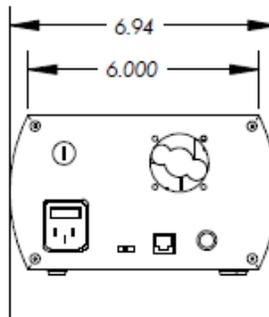


Front View

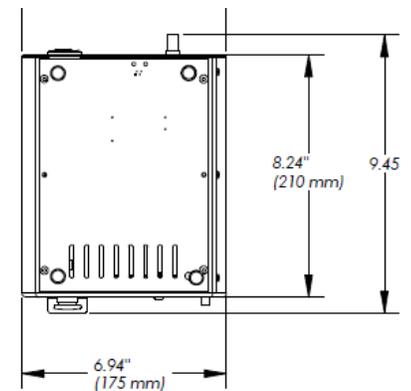


Side View

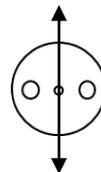
Back



Bottom View



PM Fast – If PM Fast is desired, this must be specified by replacing the “P” in the part number with “F”



PM Slow – RPMC Standard Polarization Orientation is in the PM Slow axis shown to the right

