

Single-Frequency Fiber-Coupled Turnkey L-Type

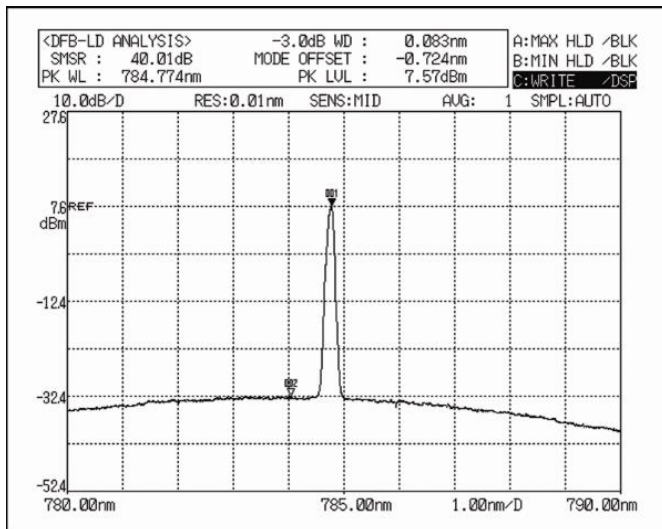


Innovative Photonic Solution's proprietary Wavelength Stabilized Laser features high power density with narrow spectral bandwidth. The stabilized peak wavelength remains "locked" regardless of case temperature (10 to 35 deg. C).

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

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

- 633 nm
- 638 nm
- 780 nm
- 783 nm
- 785 nm
- 808 nm
- 830 nm
- 976 nm
- 1030 nm
- 1053 nm
- 1064 nm
- 1064.X 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	Standard is PM slow The "P" in part number denotes PM slow. Substitute "F" for PM fast.
Polarization Extinction Ratio (PER)	>17 dB, 20 dB typical
Output Power Stability	< 1% typical
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

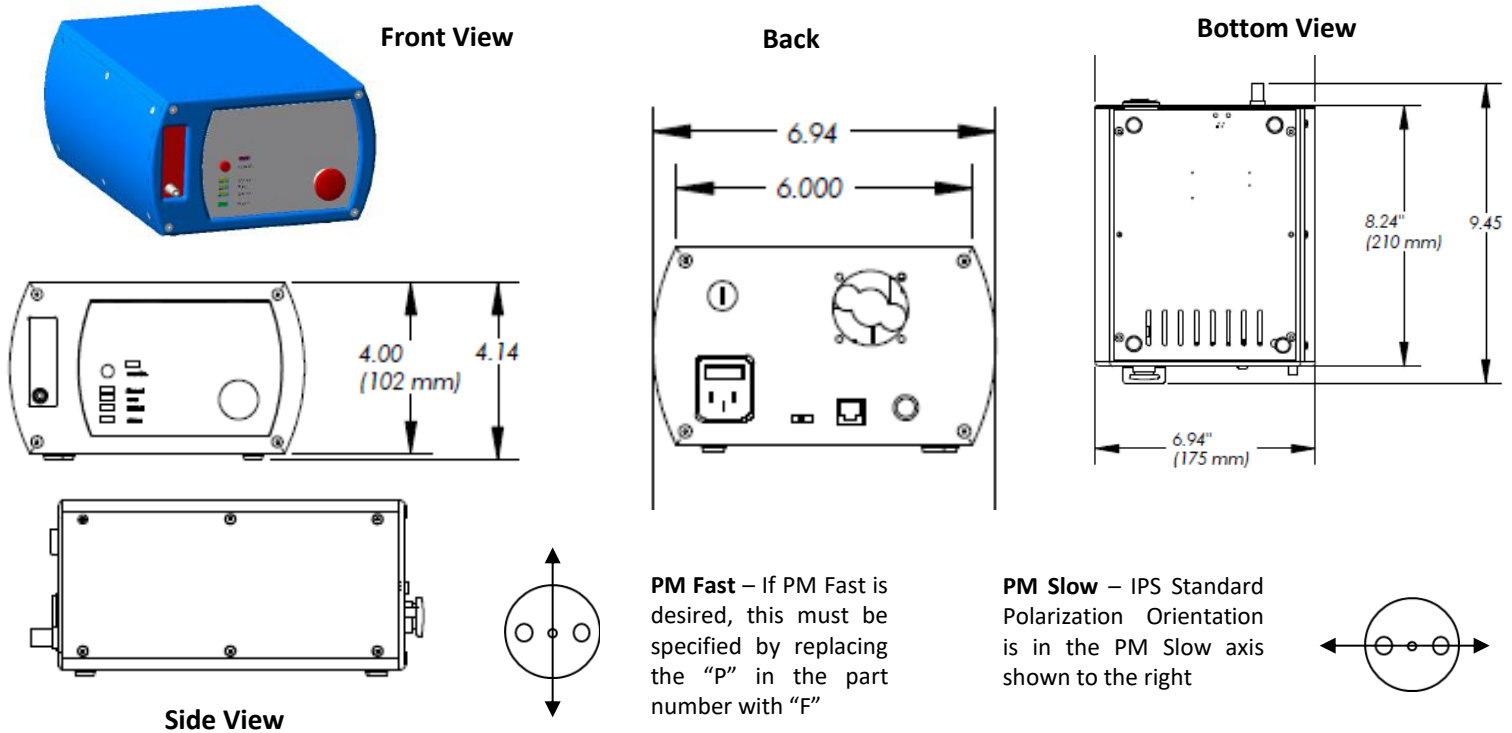
Optical Fiber Connector	Polarization Maintaining, Panda Type FC/APC
Module Dimensions	9.48 x 6.94 x 4.14 inches
Module weight	48 ounces
Case Material	Anodized Aluminum
Operating Temperature Environment	10 to 35 degrees C 0-80% Humidity, non condensing
Storage Temperature	-10 to + 55 degrees C

Electrical Requirements

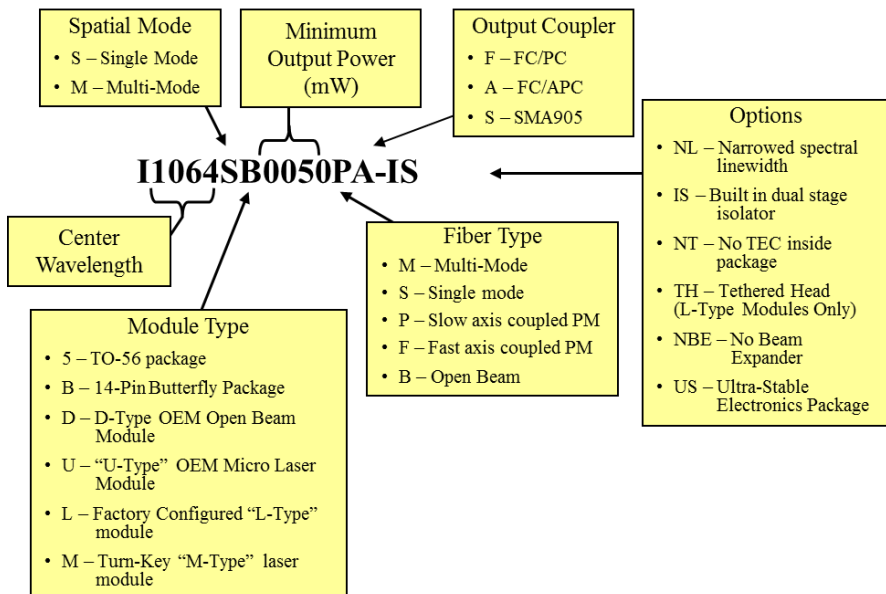
Input Power	100 – 240 VAC, 50 – 60 Hz, 0.4 A
Fuse Rating	250 V, 1 A, Fast Blow, 5 mm x 20 mm, 2 each

Wavelength (nm)	Min. Power (mW)	Part number	Polarization
633	20	I0633SL0020PA	PM Slow
		I0633SL0020SA	Random
638	25	I0638SL0025PA	PM Slow
		I0638SL0025SA	Random
780	50	I0780SL0050PA	PM Slow
		I0780SL0050SA	Random
783	50	I0783SL0050PA	PM Slow
		I0783SL0050SA	Random
785	50	I0785SL0050PA	PM Slow
		I0785SL0050SA	Random
808	50	I0808SL0050PA	PM Slow
		I0808SL0050SA	Random
830	50	I0830SL0050PA	PM Slow
		I0830SL0050SA	Random
976	220	I0976SL0220PA	PM Slow
		I0976SL0220SA	Random
	500	I0976SL0500PA	PM Slow
		I0976SL0500SA	Random
1030	35 (integral dual- stage isolator)	I1030SL0035PA-IS	PM Slow
		I1030SL0035SA-IS	Random
	100	I1030SL0100PA	PM Slow
		I1030SL0100SA	Random
	280	I1030SL0280PA	PM Slow
		I1030SL0280SA	Random
1053	50 (integral dual- stage isolator)	I1053SL0050PA-IS	PM Slow
		I1053SL0050SA-IS	Random
	120	I1053SL0120PA	PM Slow
		I1053SL0120SA	Random
	300	I1053SL0300PA	PM Slow
		I1053SL0300SA	Random
1064	50 (integral dual- stage isolator)	I1064SL0050PA-IS	PM Slow
		I1064SL0050SA-IS	Random
	120	I1064SL0120PA	PM Slow
		I1064SL0120SA	Random
	300	I1064SL0300PA	PM Slow
		I1064SL0300SA	Random
1064.X (Substitute 0, 1, 2, 3, 4, or 5 for X. Wavelength tolerance for 1064.X will be +/- 0.1 nm)	50 (integral dual- stage isolator)	I1064.XSL0050PA-IS	PM Slow
		I1064.XSL0050SA-IS	Random
	120	I1064.XSL0120PA	PM Slow
		I1064.XSL0120SA	Random
	300	I1064.XSL0300PA	PM Slow
		I1064.XSL0300SA	Random

Mechanical Specifications



Part Numbering Schema



Operational Notes

- To adjust power output, IPS 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.
- IPS 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.

