

Single-Mode Digital Fiber Laser Module



Applications

This laser package is designed for OEM Integration or stand-alone use and is ideal for:

- High Resolution Raman Spectroscopy
- 2D Scanning Raman Microscopy

Key Features

- Wavelength Stabilized Spectrum
- High Power-Single-Mode Fiber Coupled Output
- Power adjustable
- Turn-Key Operation with USB Connectivity
- Narrow Spectral Linewidth (< 1 MHz FWHM)
- 40 dB SMSR Typical
- Output Power Stability (< 1% RMS)
- External DC Power supply
- UL/CE and IEC Certified - Future

Innovative Photonic Solution introduces a new high-power narrow-linewidth single-spatial-mode laser source ideally suited for 2D Scanning Raman Microscopy. This new product is based on IPS's proprietary wavelength-stabilized laser design and features high output power with narrow spectral bandwidth. The laser's stabilized peak wavelength remains "locked" regardless of case temperature (15 to 25 °C). Devices offer side-mode suppression ratios (SMSRs) better than 40 dB, thereby providing extremely high signal to noise ratio. The laser is integrated with high performance laser drive and temperature control electronics and integrated into a fully turn-key system with all safety features.

Standard Wavelength

785 nm

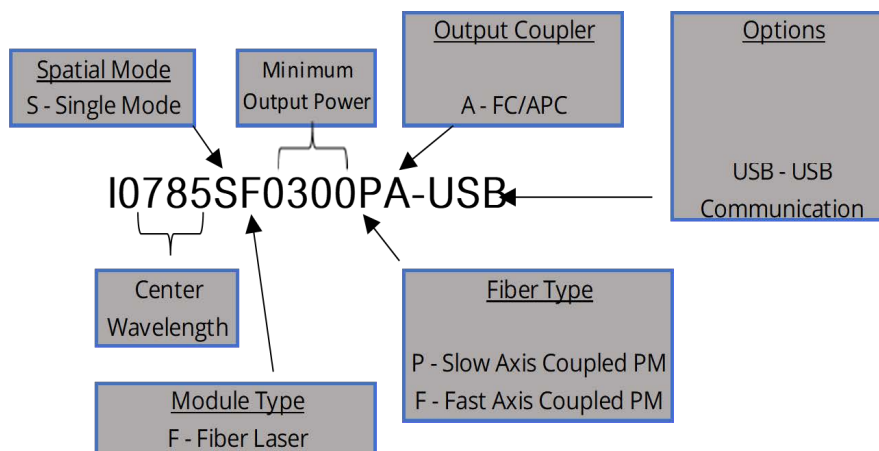
Specifications

Wavelength Tolerance	+/- 0.5 nm
Spectral Linewidth	< 1 MHz
SMSR	35 - 45 dB
Operation Range	25 °C
Output Power Stability (RMS)	< 1%
Warm-Up Time	10 seconds from cold start
	1.5 seconds from warm start

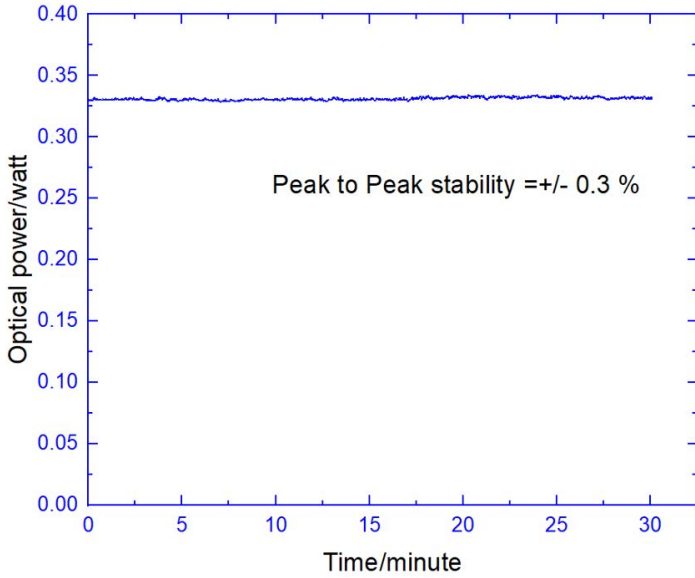
λ (nm)	Min. Power (mW)	Base Part Number
785	300	I0785SF0300PA-USB

Preliminary

Part Schema



Selected Data



Optical Fiber	PANDA PM850
Connector	FC/APC
Module Dimensions	315 mm x 205 mm x 145 mm
Module Weight	4 kg
Case Material	Anodized Aluminum / Plastic
Environment	1-80% Humidity, non-condensing
Storage Temperature	-50 to 90 °C
Regulatory	RoHS 2.0, IEC

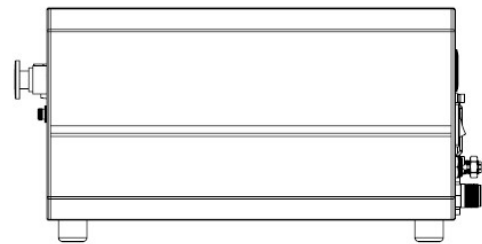
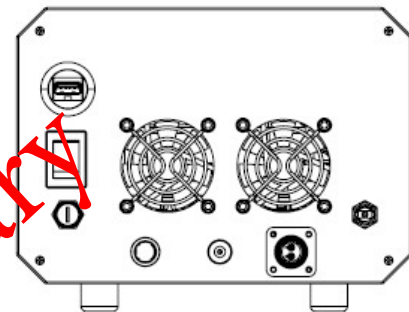
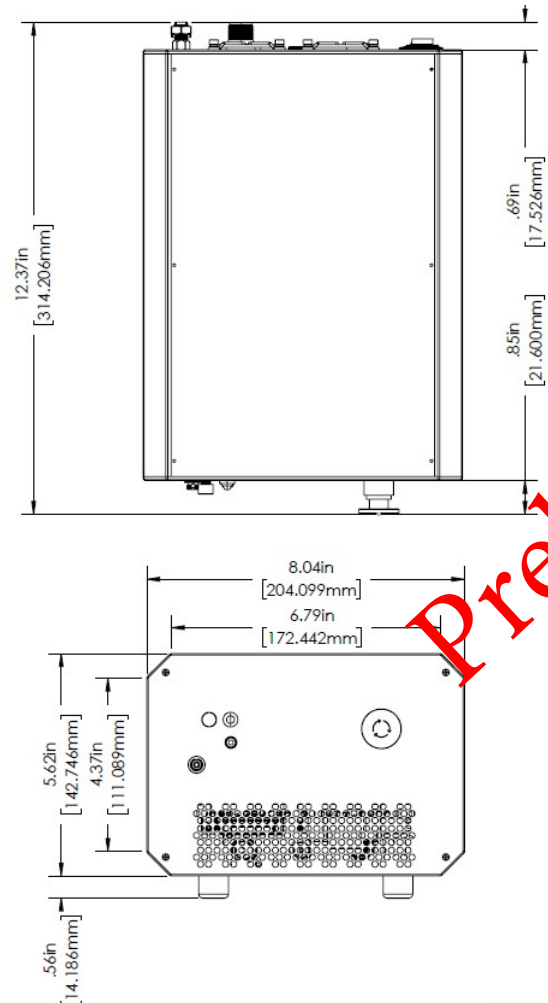
Custom Capability

- TBD

Electrical Specs

Input Power	24VDC, 1.1A
Fuse Rating	250V, 1.5 A, FastBlow
	5mm x 20mm, 1 each

Mechanical Drawings



Preliminary

Operational Notes

1. Power adjustment through user interface by adjusting drive current.
2. PC User interface, communication via USB C
3. Output beam TM Polarization with Single mode fiber

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