Integrated Raman Probe

www.rpmclasers.com

Applications

This laser package is designed for turn-key operation and is ideal for:

- High Resolution Raman Spectroscopy
  - Portable Raman
  - Process Raman

Our Integrated Raman Probe includes an integrated wavelength stabilized laser source with Raman filter packs, beam shaping optics and high efficiency Raman spectra collection optics. The probe interfaces with any fiber coupled spectrometer and simplifies operation and set-up. The Integrated Raman Probe incorporates our wavelength stabilized hybrid external cavity laser (HECL) with a proprietary optical design to offer unmatched performance (typically 3 - 5x higher collection efficiency over traditional Raman probes). RPMC's Integrated Raman Probe also comes complete with a UL/CE, and IEC compliant control box - providing a variety of power control options including modulation capability (TTL & analog) and a USB computer interface.

Key Features

- 3-5X Higher Throughput than Standard Raman Probes (sample dependent)
- 785 nm Standard Wavelength Stabilized Excitation Source
- Additional wavelengths available upon request (405* nm, 638 nm, 808 nm, 830 nm, 1064 nm)
- High Throughput Optical Design with Low Wavenumber Cut-on
- User Friendly Ergonomic Design
- OEM Version Available

*Unstabilized

Standard Wavelength

785nm

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Specifications

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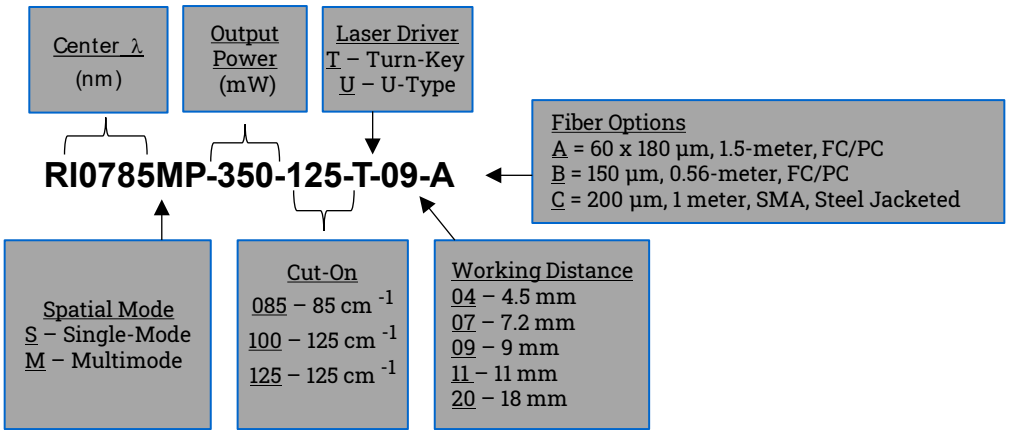
Parameter	Unit
Standard Excitation Source	Integral multimode 785nm stabilized laser <0.1nm FWHM bandwidth
Custom Excitation Source	405nm (unstabilized), 808nm, 830nm, and 1064nm
Collection Fiber	1.5m long proprietary high throughput fiber
Cut-on	85 cm^{-1}, 100 cm^{-1} , or 125 cm^{-1}
Electronic Connection	DB9 cable with safety interlock
Power Control	Manual power adjustment knob, Analog/TTL modulation via BNC connector, or MicroUSB
Power Supply	3 - 5 A max, 5VDC RPMC's' turn-key system comes standard with a US outlet plug. Europe, UK, and Australia outlet plugs are available as accessories upon request
Shaft Material	316L Stainless Steel
Fiber Bend Radius	4 inches
Working Distance	4.5mm, 7.2mm, 9mm, 11mm, and 18mm (+/- 0.5mm) available Custom distances available upon request.
Operating Temperature	15 °C to to 35 °C
Storage Temperature	-20 °C to 80 °C
Humidity	0-80% non-condensing

Parameter	Unit	Min	Typ	Max	Notes
Output Power Stability	%		+/- 1		
Wavelength Tolerance	nm	-0.5		+0.5	+/- 0.5nm from chosen center wavelength
3 dB bandwidth (FWHM)	nm		0.1	0.15	
Wavelength Stablility	Seconds			180	Cold Start - to <1 wavenumber
				1	Warm Start - to <1 wavenumber
				3	Warm Start - to <0.1 wavenumber

Part Schema



Accessories

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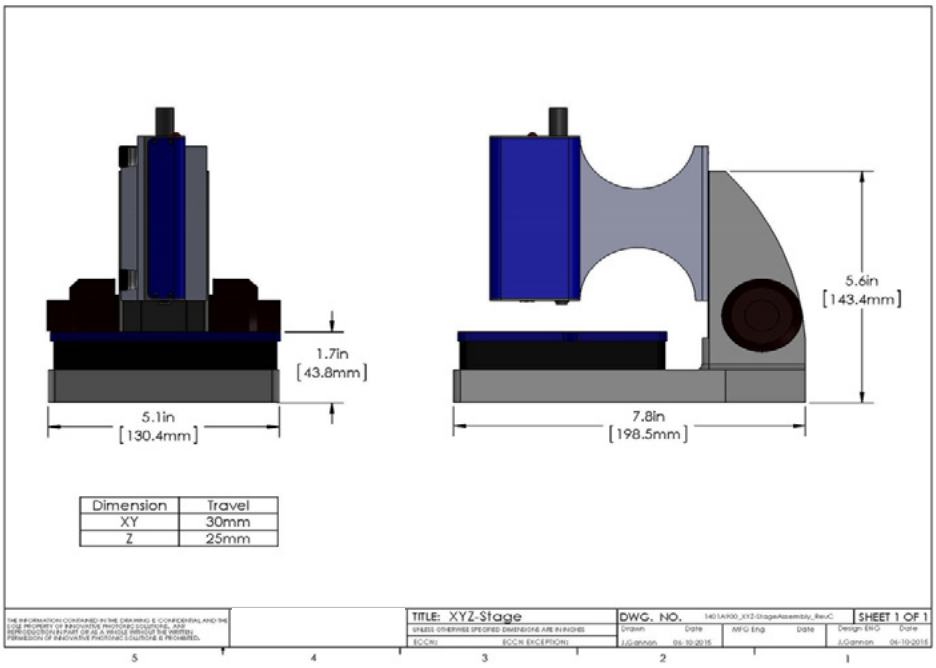
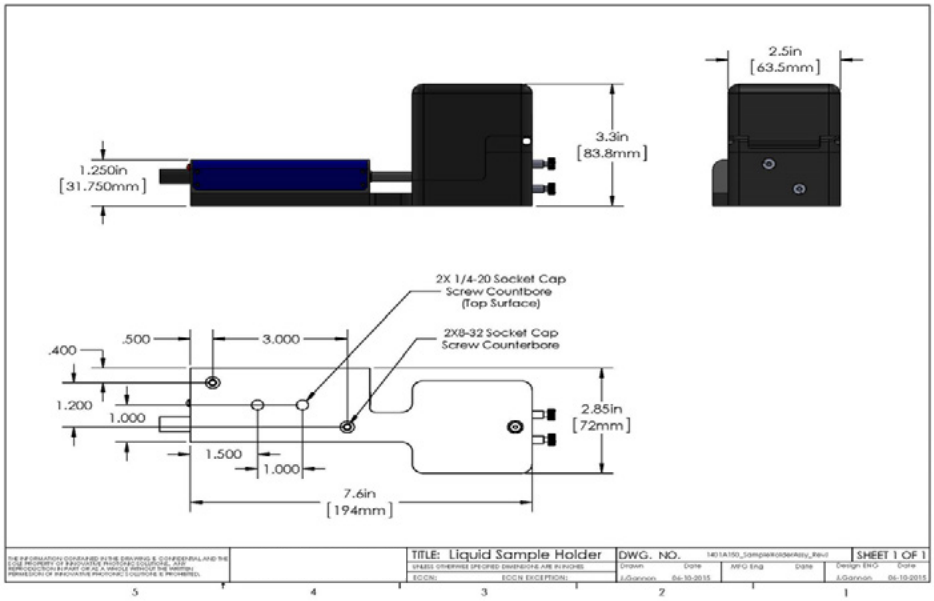


- Manually adjustable X-Y-Z stage for use with RPMC Integrated Raman Probe
- Comes standard with specialized lens tube for use with RPMC Integrated Raman Probe and XYZ Stage
- The Z adjust allows for precise focusing of laser on the sample, while the X-Y adjust allows for easy sampling of multiple points object
- The stage allows for 30mm of travel in X and Y
- Minimal assembly required



- Double-pass liquid sample holder is meant for use with RPMC Integrated Raman Probe (IRP) with standard 40.5mm long lens tube with 9mm working distance lens
- Light tight liquid sample holder with Innovative sampling chamber containing an adjustable gold coated mirror increasing signal collection by 3X
- Liquid Sample Holder provides additional 3X higher throughput when IRP and double-pass mirror are used
- Liquid sample holder is compatible with most common cuvette and vial sizes

Mechanical Drawings

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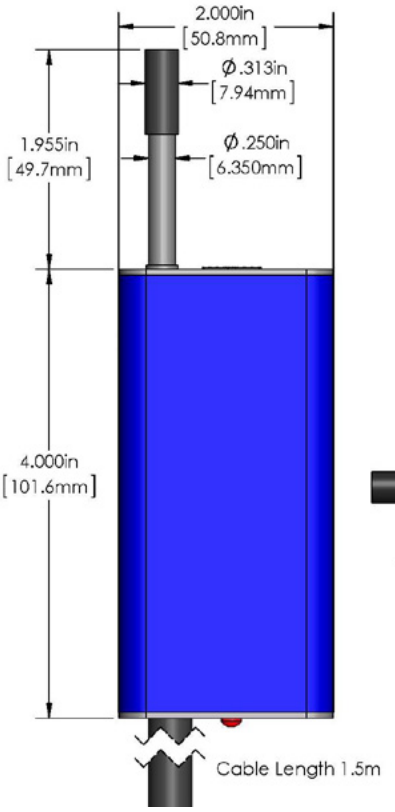

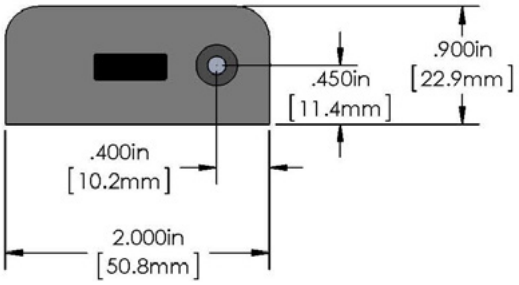

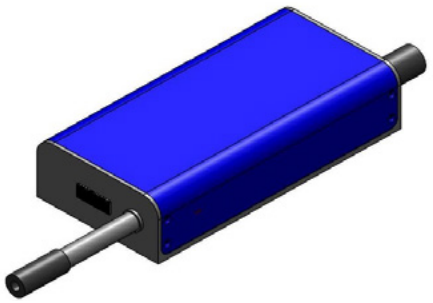

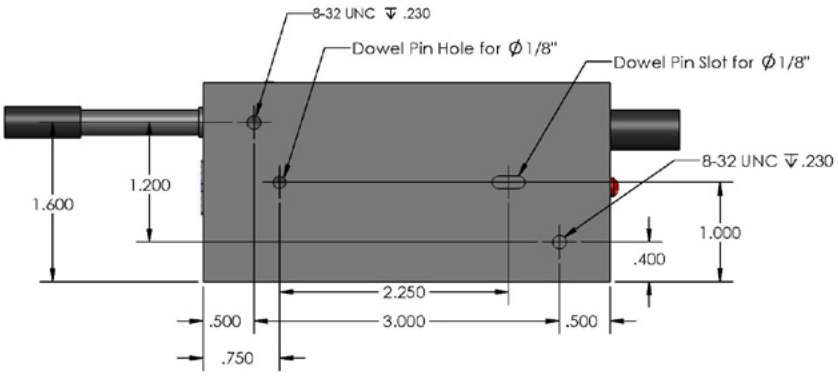

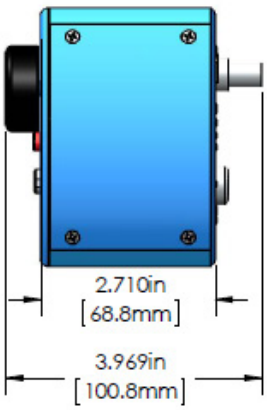

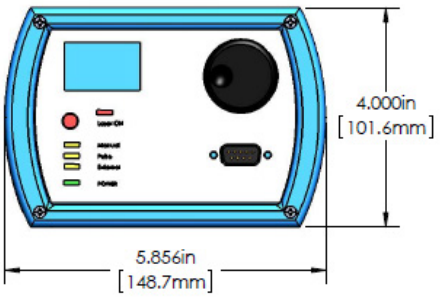

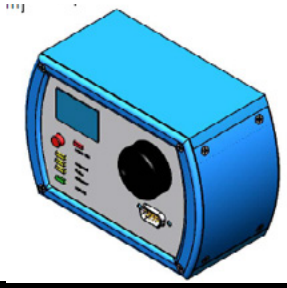

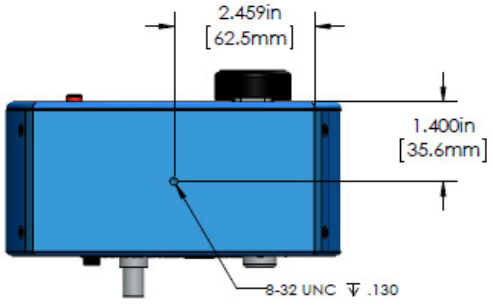

RoHS COMPLIANT

WARNING
INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
785 nm, 499 mW CW
EN/IEC 60825-1:2014-5

CAUTION
STATIC SENSITIVE DEVICE
OBSERVE PRECAUTIONS