

Integrated Raman Probe



Applications

This laser package is designed for OEM Integration and is ideal for:

- High Resolution Raman Spectroscopy
 - Portable Raman
 - Process Raman

Innovative Photonic Solutions ultra-high throughput 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). IPS'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 (405 nm, 638 nm, 808 nm, 830 nm, 1064 nm available)
- High Throughput Optical Design with 200 cm⁻¹ Cut-on
- User Friendly Ergonomic Design
- OEM Version Available

Standard Wavelengths

638nm
680nm
785nm

808nm
830nm

976nm
1064 nm

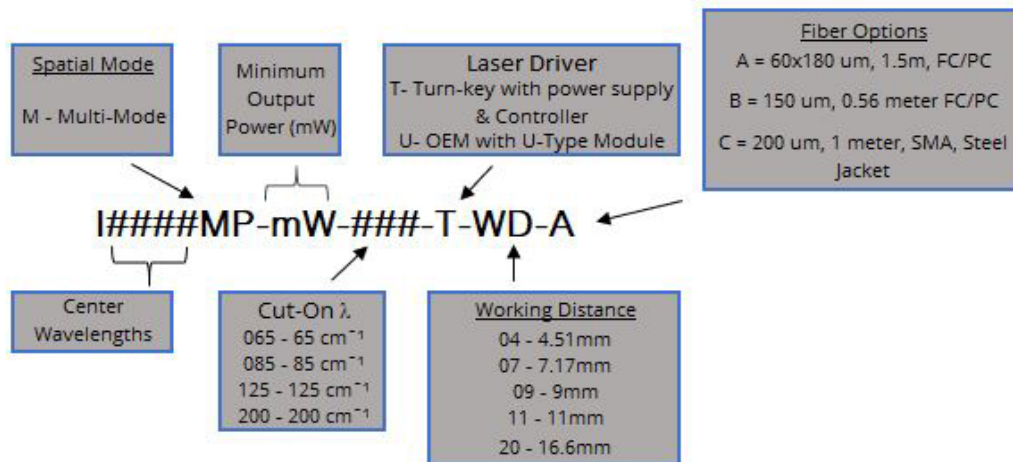
Specifications



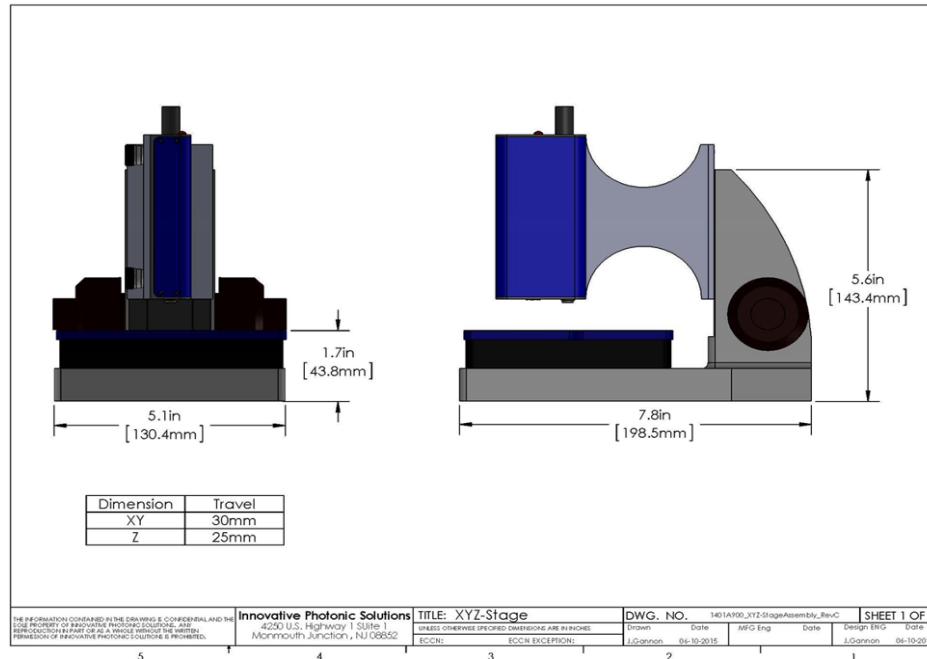
| Parameter | Unit |
|-----------------------|--|
| Excitation Fiber | Integral multimode wavelegnth stabilized laser <0.1nm FWHM bandwidth (405nm, 638nm, 785nm, 808nm, 830nm, and 1064nm available) |
| Collection Fiber | 1.5m long proprietary high throughput fiber |
| Cut-on | 65 cm -1, 125 cm -1 or 200 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 |
| Shaft Material | 316L Stainless Steel |
| Fiber Bend Radius | 4 inches |
| Working Distances | 3mm, 4mm, 6.5mm, and 9mm standard working distance standard (+/- 0.5mm) - 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 Stability | Seconds | | | 180 | Cold Start - to <1 wavenumber |
| | | | | 1 | Warm Start - to <1 wavenumber |
| | | | | 3 | Warm Start - to <0.1 wavenumber |

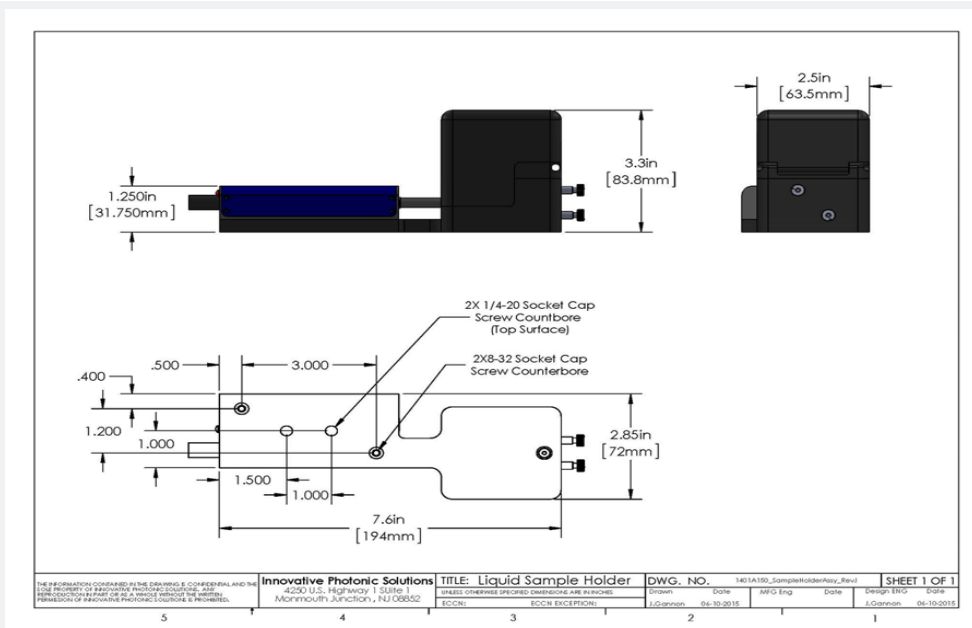
Part Schema



Accessories

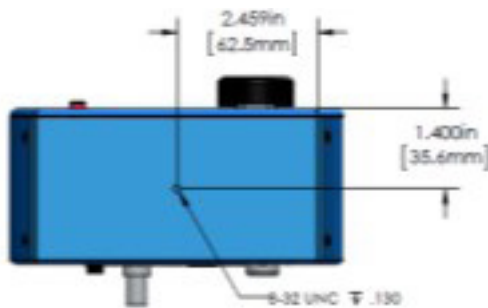
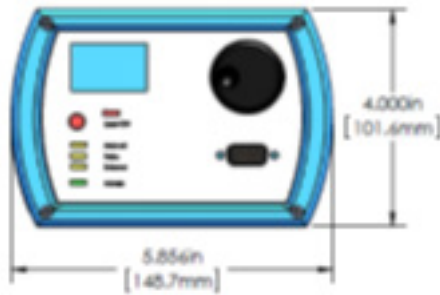
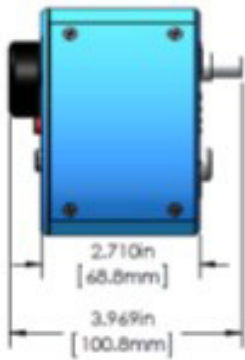
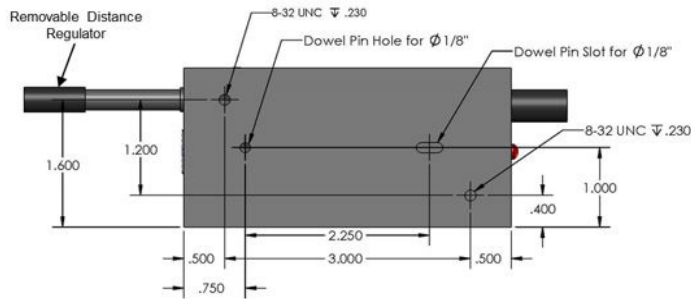
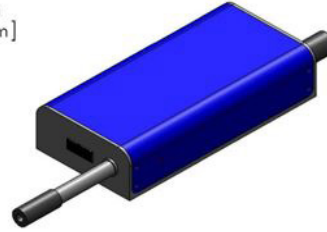
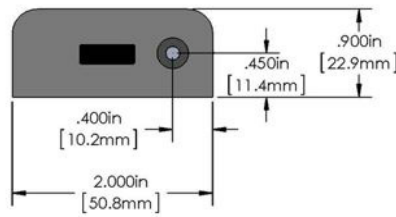
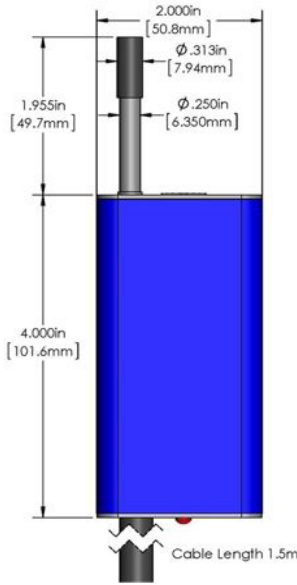


- Manually adjustable X-Y-Z stage for use with IPS 785nm integrated Raman probe
- Comes standard with specialized lens tube for use with IPS Integrated Raman Probe and XYZ Stage
- The Z adjust allows for precise focusing of laser on the sample, while the X-Y adjust allows for easy sampling of multiple 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 IPS 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 will give additional 3X higher throughput when IRP and double-pass mirror is used
- Liquid sample holder will be compatible with most common cuvette and vial sizes

Mechanical Drawings



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