

Multimode Digital M-Type Module



Innovative Photonic Solutions' proprietary Wavelength Stabilized Laser Diode features high output power with narrow spectral bandwidth. The laser's stabilized peak wavelength remains "locked" regardless of case temperature (10 to 35 °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.

Applications

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

- High Resolution Raman Spectroscopy
 - Portable Raman
 - Process Raman
- Direct-Diode Frequency Doubling
- Fiber Laser Pumping
- Remote Sensing
- Gas Sensing

Key Features

- Wavelength Stabilized Spectrum
- High Power Multimode Fiber Coupled Output
- Power adjustable
- UL/CE and IEC Certified
- Turn-Key Operation
- Narrow Spectral Linewidth (< 0.1nm FWHM)
- USB Connectivity with dual port USB hub
- 40 dB SMSR Typical
- Side panel can be opened, and the "guts" of the laser (U-Type module) can be removed to allow for different wavelengths to be "dropped-in"
- External fiber patch cord sold separately

638nm	785nm	860nm
660nm	808nm	976nm
680nm	830nm	1064nm

Standard Wavelengths

All specified wavelengths are measured "in-vacuum"

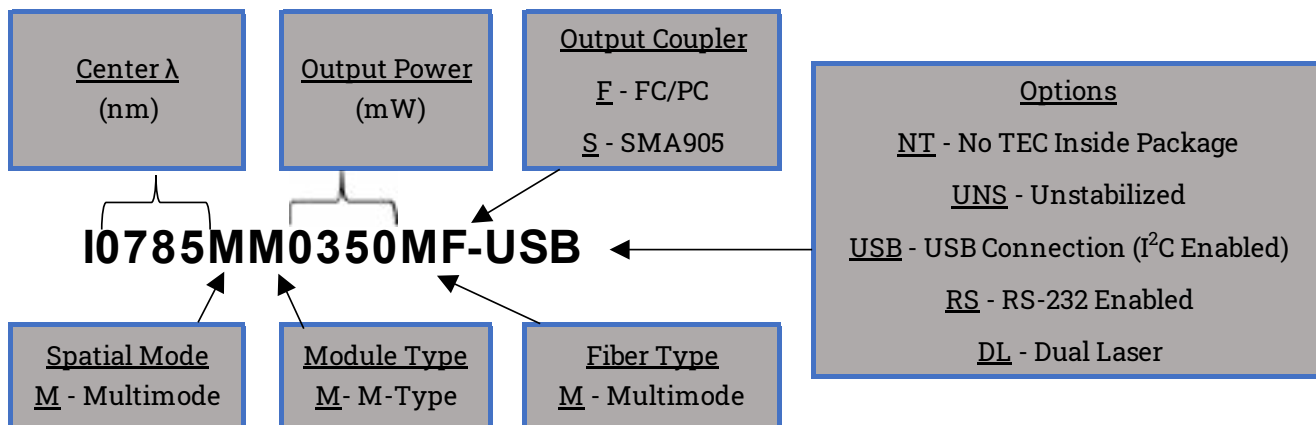
Specifications



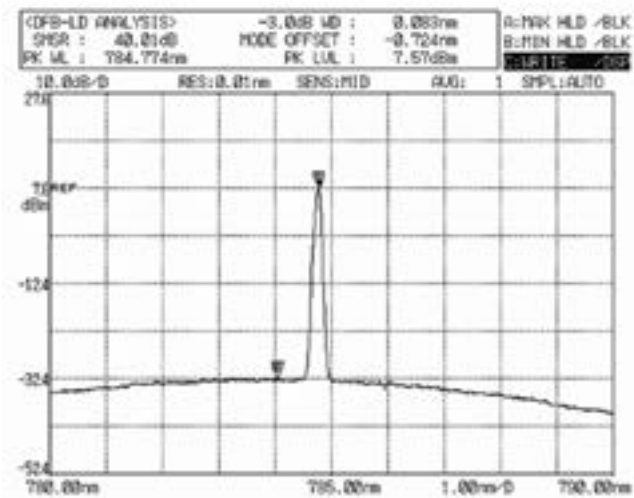
Wavelength Tolerance	+/- 0.5nm
Spectral Linewidth	<0.1nm (0.08nm typical)
SMRS	35dB - 45dB
Wavelength Stability Range	10 - 35 °C
Output Power Stability	<1% at constant Tcase (sample rate of 1 per 1 second.)
Modulation Rate	CW to 10KHz at 50% duty cycle or CW to 1kHz at 10% - 100% duty cycle.
Warm-Up Time	10 seconds from cold start
	1.5 seconds from warm start

λ (nm)	Output Power (mW)	Base Part Number
638	350	I0638MM0350MF-USB
660	250	I0660MM0250MF-USB
680	300	I0680MM0300MF-USB
785	350	I0785MM0350MF-USB
	500	I0785MM0500MF-USB
	800	I0785MM0800MF-USB
	1500	I0785MM1500MF-USB-DL
808	350	I0808MM0350MF-USB
	500	I0808MM0500MF-USB
	800	I0808MM0800MF-USB
	1500	I0808MM1500MF-USB-DL
830	350	I0830MM0350MF-USB
	500	I0830MM0500MF-USB
	800	I0830MM0800MF-USB
	1500	I0830MM1500MF-USB-DL
860	350	I0860MM0350MF-USB
	500	I0860MM0500MF-USB
	1000	I0860MM1000MF-USB-DL
976	800	I0976MM0800MF-USB
	1500	I0976MM1500MF-USB-DL
1064	350	I1064MM0350MF-USB
	500	I1064MM0500MF-USB
	800	I1064MM0800MF-USB
	1500	I1064MM1500MF-USB-DL

Part Schema



Selected Data



Standard Optical Fiber Single Laser Module	105/125 micron multimode fiber, 0.22NA
Standard Optical Fiber Dual Laser Module	200 micron multimode 0.22NA
Connector	FC/PC or SMA905
Module Dimensions	9.48in. (240.79mm) x 6.94in. (176.28mm) x 4.14in. (105.16mm)
Module Weight	48oz. (1361g)
Case Material	Anodized Aluminum
Environment	0-80% Humidity, non-condensing
Storage Temperature	-50 to 90 °C

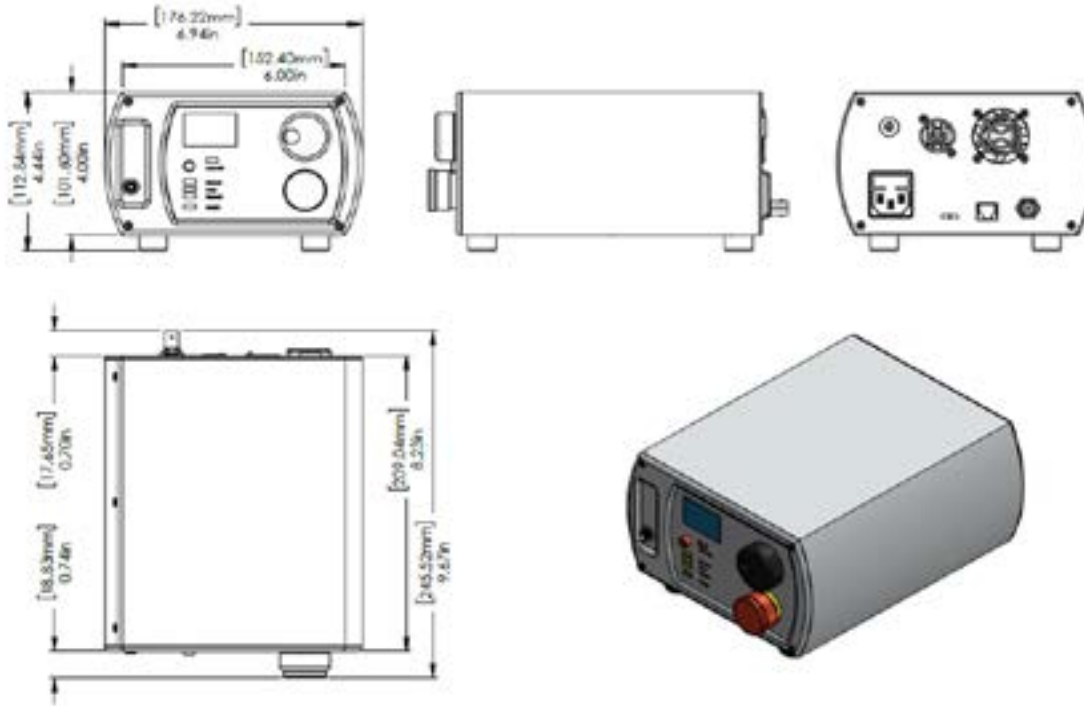
Custom Capability

- Custom wavelengths available upon request
- FC/PC or SMA output coupler
- Various diameter output fibers available
- External TEC (e.g. No TEC inside of package optional)
- For more information on dual wavelength lasers, see our Multimode Digital Dual Laser M-Type Module
- IPS' turn-key system comes standard with a US outlet plug. Europe, UK, and Australia outlet plugs are available as accessories upon request

Electrical Specs

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

Mechanical Drawings



Operational Notes

1. Knob on front controls power output by adjusting drive current.
2. Module includes 2-port USB hub to allow connection to additional USB devices
3. 100-105 micron core fiber is standard. 62.5 micron core fiber available upon request but will affect output power. Please ask for part number.
4. If locked power is required, see L-type module data sheet.
5. See the [user guide](#) for full operating and safety instructions. This document is meant to offer a product overview.

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