

Multimode Digital Dual Laser M-Type Module



Applications

This dual laser package (matched pair) 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 ($< 0.1\text{nm}$ 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

785nm	860nm
808nm	976nm
830nm	1064nm

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.

Standard Wavelengths

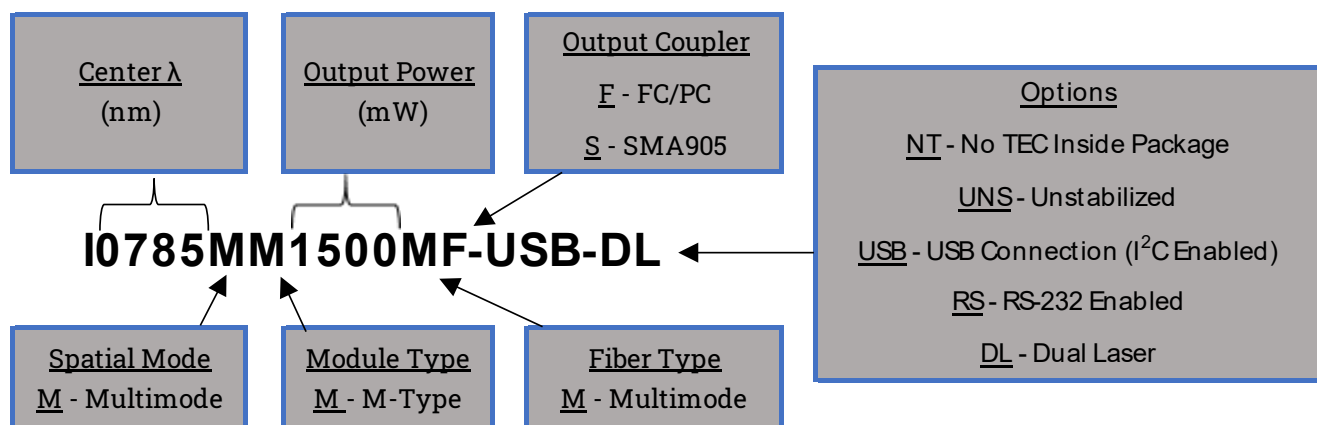
All specified wavelengths are measured "in-vacuum"

Specifications

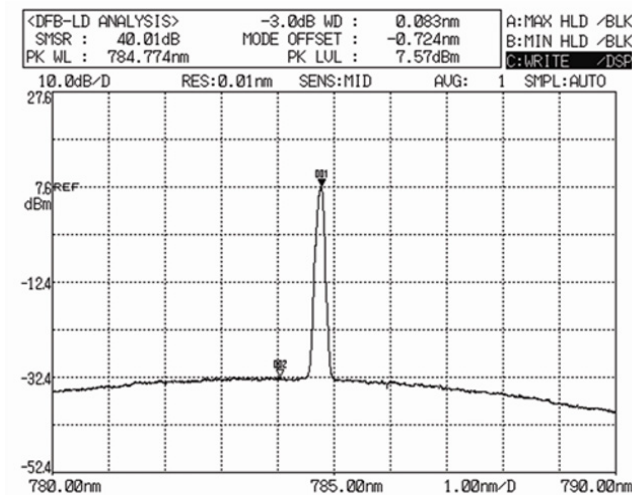
Wavelength Tolerance	+/- 0.5nm
Spectral Linewidth	<0.1nm (0.08nm typical)
SMRS	35dB - 45dB
Wavelength Stability Range	10 - 35 °C
Output Power Stability	<1% at constant Tcase (sample rate of 1 per 1 second.)
Modulation Rate	CW to 10KHz at 50% duty cycle or CW to 1kHz at 10% - 100% duty cycle.
Warm-Up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

λ (nm)	Output Power (mW)	Base Part Number
785	1500	I0785MM1500MF-USB-DL
808	1500	I0808MM1500MF-USB-DL
830	1500	I0830MM1500MF-USB-DL
860	1000	I0860MM1000MF-USB-DL
976	1500	I0976MM1500MF-USB-DL
1064	1500	I1064MM1500MF-USB-DL

Part Schema



Selected Data



Optical Fiber	200 micron multimode fiber, 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

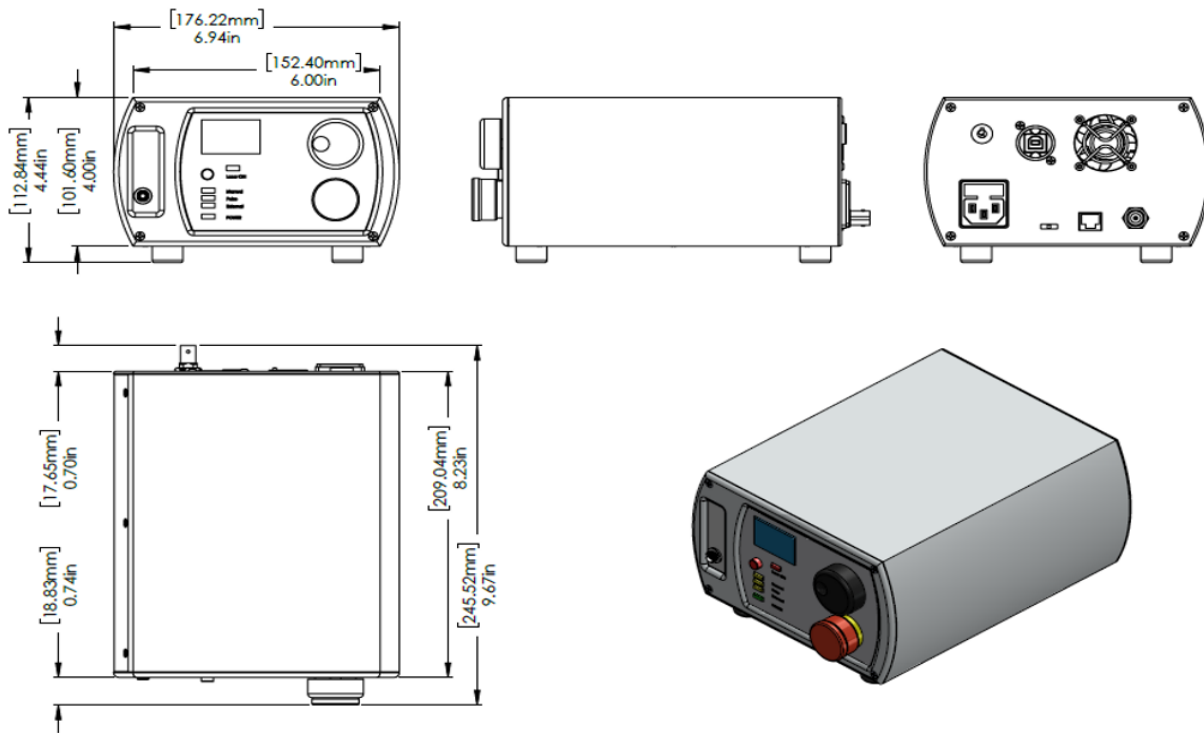
Custom Capability

- 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)
- 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 output by adjusting drive current. LED readout is in amperes.
2. Module includes 2-port USB hub to allow connection to additional USB devices
3. 200 micron (0.22NA) core fiber is standard.
4. See the [user guide](#) for full operating and safety instructions. This document is meant to offer a product overview.

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