

Features

- Wavelength Stabilized Spectrum
- Narrow Spectral Linewidth (< 0.1 nm Typical)
- High Power Multi-Mode Fiber Coupled Output
- UL/CE and IEC Certified
- Turn-Key Operation

Available Wavelengths

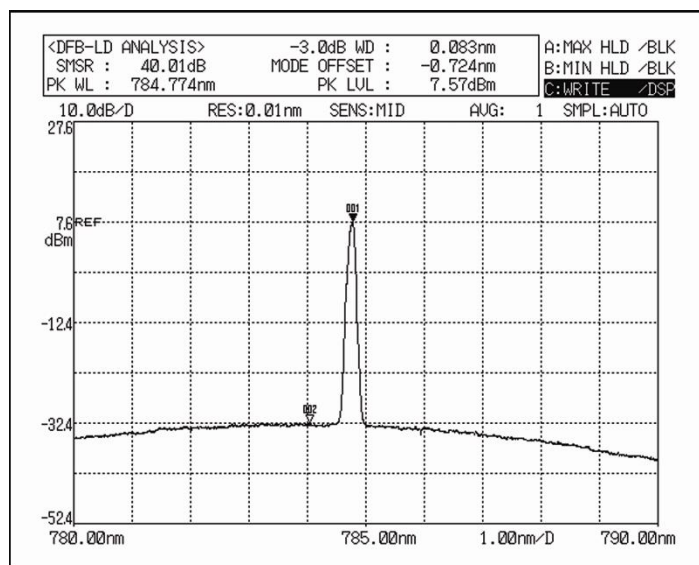
- 647 nm
- 785 nm
- 808 nm
- 830 nm
- 1064 nm

RPMC's M-type module is a fully turn-key, UL/CE and IEC certified laser module perfect for lab use. It comes complete with an internal wavelength stabilized laser module, a laser enable switch for safety, an LED readout, an output power control dial, a safety key lockout, a remote interlock, and an emergency shut-off switch (EMO).

RPMC's proprietary Wavelength Stabilized Laser features high output power with narrow spectral bandwidth. The laser's stabilized peak wavelength remains "locked" regardless of case temperature (-10 to +55 deg. C) – making this source and ideal choice for the most demanding applications.

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 illumination applications.

Typical Spectral Plot



Optical Performanc Specifications

Parameter	Unit	Min	Typ	Max	Notes
Output power stability	%		± 1		
Peak wavelength	nm	-0.5		0.5	
3 dB bandwidth (FWHM)*	nm		0.1	0.15*	
Peak wavelength drift	nm			± 0.10	over life
Optical signal-to-noise ratio (SNR)	dB	35	45		
Modulation Rate		CW		1KHz	
Warm-up time	sec			10	from cold start
	sec			1.5	from warm start

*Narrow Linewidth available with FWHM <0.7 nm (Add "-NL" to part number. See p. 7 for Part numbering Schema)

Physical Specifications

Parameter	Unit	Value
Optical Fiber**	type	100-105/125 micron multimode fiber, 0.22 NA**
Connector	type	FC/PC, SMA905 or FC/APC
Module dimensions	inch	9.45" x 6.94" x 4.14"
Module weight	ounce	48
Case material	type	Anodized aluminum
Operating temperature	deg. C	+10 to +35 deg. C
Cooling air flow (internal)	LFM	100 LFM with attached heatsink
Environment	%	0-80% Humidity, non condensing
Storage temperature range	deg. C	-10 to +55 deg. C

**Available with 62.5 micron core fiber upon request, but output power will be affected

Electrical Requirements

Parameter	Value
Input Power	100 – 240 VAC, 50 – 60 Hz, 0.4 A
Fuse Rating	250 V, 1 A, Fast Blow, 5 mm x 20 mm, 2 each

Standard Multi-Mode M-type Product Configurations

647 nm - 150 mW

Part number	Output Power		Laser Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
I0647MM0150MF	150 mW	175 mW	Class 3B	FC/PC	105 micron
I0647MM0150MS				SMA	105 micron
I0647MM0150MA				FC/APC	105 micron

VISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
647 nm, 350 mW CW
EN/IEC 60825-1:2007

** Available at 62.5 micron core. Changes in fiber core diameter will affect output power.

785 nm - 350 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0785MM0350MF	350 mW	425 mW	Class 3B	FC/PC	105 micron
R0785MM0350MS				SMA	105 micron
R0785MM0350MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
785 nm, 499 mW CW
EN/IEC 60825-1:2007

** Available at 62.5 micron core. Changes in fiber core diameter will affect output power.

785 nm - 500 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0785MM0500MF	500 mW	650 mW	Class 4	FC/PC	105 micron
R0785MM0500MS				SMA	105 micron
R0785MM0500MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT
785 nm, 800 mW CW
EN/IEC 60825-1:2007

** Available at 62.5 micron core. Changes in fiber core diameter will affect output power.

808 nm - 350 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0808MM0350MF	350 mW	425 mW	Class 3B	FC/PC	105 micron
R0808MM0350MS				SMA	105 micron
R0808MM0350MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
808 nm, 499 mW CW
EN/IEC 60825-1:2007

** Available at 62.5 micron core. Changes in fiber core diameter will affect output power.

Standard Multi-Mode M-type Product Configurations (continued)

808 nm - 500 mW

Part number	Output Power		Laser Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0808MM0500MF	500 mW	625 mW	Class 4	FC/PC	105 micron
R0808MM0500MS				SMA	105 micron
R0808MM0500MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT
808 nm, 800 mW CW
EN/IEC 60825-1:2007

** Available at 62.5 micron core. Changes in fiber core diameter will affect output power.

830 nm - 350 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0830MM0350MF	350 mW	425 mW	Class 3B	FC/PC	105 micron
R0830MM0350MS				SMA	105 micron
R0350MM0350MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
830 nm, 499 mW CW
EN/IEC 60825-1:2007

** Available at 62.5 micron core. Changes in fiber core diameter will affect output power.

830 nm - 500 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0830MM0500MF	500 mW	650 mW	Class 4	FC/PC	105 micron
R0830MM0500MS				SMA	105 micron
R0830MM0500MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT
830 nm, 800 mW CW
EN/IEC 60825-1:2007

** Available at 62.5 micron core. Changes in fiber core diameter will affect output power.

1064 nm - 500 mW

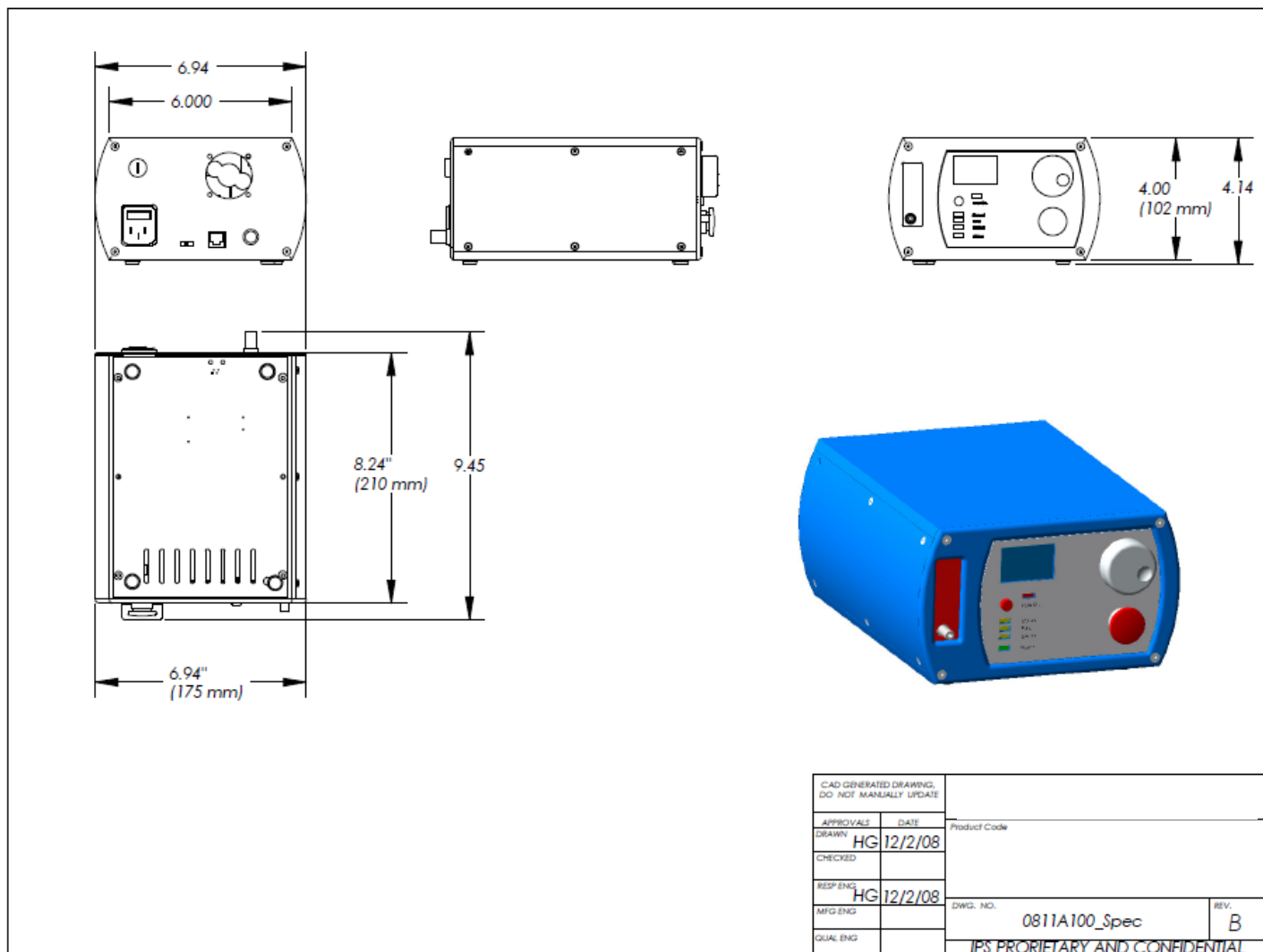
Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R1064MM0500MF	500 mW	650 mW	Class 4	FC/PC	105 micron
R1064MM0500MS				SMA	105 micron
R1064MM0500MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT
1064 nm, 800 mW CW
EN/IEC 60825-1:2007

** Available at 62.5 micron core. Changes in fiber core diameter will affect output power.

M-Type UL/CE and IEC Certified Turnkey Laser

Mechanical Specifications:



Included Components

- Wavelength Stabilized Laser Module
- Laser Enable Switch for Safety
- LED Readout
- Output Power Control Dial
- Safety Key Lockout
- Remote Interlock
- Emergency Shut-off Switch

M-Type UL/CE and IEC Certified Turnkey Laser

External Power Control Mode:

The UL/CE and IEC Certified M-type Module is normally designed for operation by interacting with front panel controls, however users may wish to modulate or adjust the output power of the laser module in some circumstances. The M-type Module is equipped with an external DC bias port located on the back panel.

The following steps should be taken if the user wishes to control the laser output power remotely via a signal generator or computer:



Caution—use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Ensure that the laser is not operating by pressing the laser ON switch and assuring that the laser on LED is not illuminated.
2. Switch the Mode Selection Switch located on the back panel to the “External” position (the Amber operating mode LED labeled “External” will be illuminated).
3. For analog control, connect a BNC cable to the port labeled “Control” on the back panel.
 - For analog control of power for the 350 mW and 150 mW output power variant, apply a DC bias between 0 and 1.0 V where 0 V corresponds to 0 power and 1.0 V corresponds to full power.
 - For analog control of power for the 500 mW output variant, apply a DC bias between 0 to 1.45 V where 0 V corresponds to 0 power and 1.45 V corresponds to full power.
4. For digital control, the user may utilize Pulse Width Modulation (PWM) to establish a duty cycle that corresponds to the average power percentage. The user can control the maximum power by adjusting the voltage bias as above, and can control the average power by adjusting the duty cycle (between 10% and 100%) of the input digital signal at a rate of up to 1kHz.
5. Turn on the laser by momentarily depressing the Laser On switch on the front panel. The laser will now output a variable amount of output power that is dependent upon the DC bias voltage or modulation duty cycle that has been applied to the BNC connector on the back panel.

RPMC Module Part Numbering Schema

