

NLMO Series Multi-mode Narrow Linewidth Laser

The NLMO-series multi-mode narrow linewidth laser module is a featured product of RealLight. Equipped with standard I/O interfaces, it can be easily embedded into customers' complete systems to deliver highly stable narrow-linewidth laser output. Integrated laser and TEC control circuits endow the module with excellent spectral performance and power stability. Customization and secondary development services are available upon request. Meanwhile, we offer the RL-RP series Raman probes to meet your supporting application requirements.

Key Features

- Excellent wavelength stability ±7pm@4h
- Power stability < ±2%
- Low power consumption, typical < 5W
- Compact design, easily integrated

Applications

Raman spectroscopy

Laser-induced fluorescence

Technical Specifications

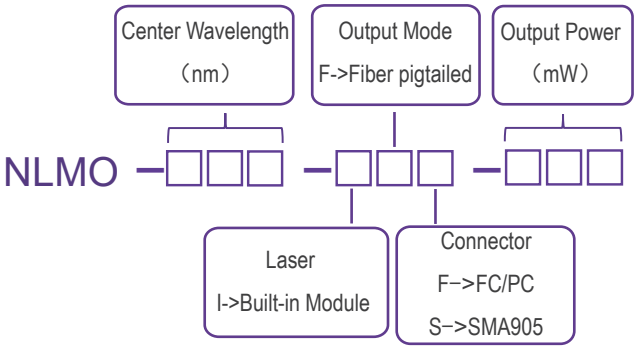
Optical Parameters							
Center Wavelength (nm)	532	638	785	808	830	981	1064
Output Power (mW)[1]	100	500	500	600	500	800	800
Wavelength Tolerance (nm)	±0.5						
Linewidth (nm)	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.1
Wavelength Stability (typ., @4h)	±5 pm	±7 pm					
Power Stability (typ., @4h)	<3%(RMS)	±2%(P-P)					
SMSR	-	>35	>40				
System Parameters							
Adjustbility % Full Power	0~100%						
Warm up Time (min)	15						
Control Interface	PH2.0~10P , USB						
Connector	FC/PC, SMA905						
Output Fiber	105 μm, 0.22 NA						
Supply Voltage	5VDC/2A						
Power Consumption (typ., W)	<5						
Storage Humidity	0~80% RH						
Storage Temperature (℃)	-25~55						
Operating Temperature (℃)	10~35 (heat sink is required)						
Weight (g)	<150						
Dimensions (mm)	76.2×63.5×22						

1. The 532 nm laser is a solid-state laser and can only be operated at a fixed power of 100 mW. Lasers of other wavelengths are diode lasers. When the output power is below 200 mW, the operating point approaches the laser threshold and power stability degrades.
2. Higher power options available upon request.
3. All the data in the above table are the typical values obtained from the tests at room temperature of 25℃, and the final data is subject to the final test report.

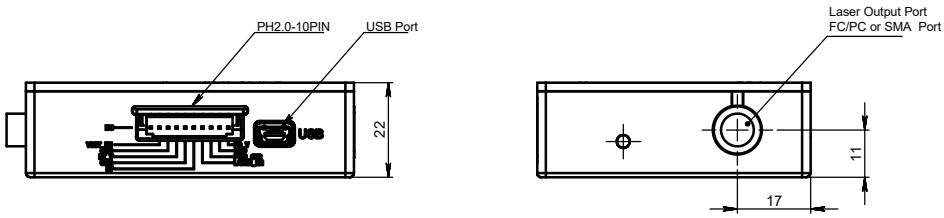
Ordering Information

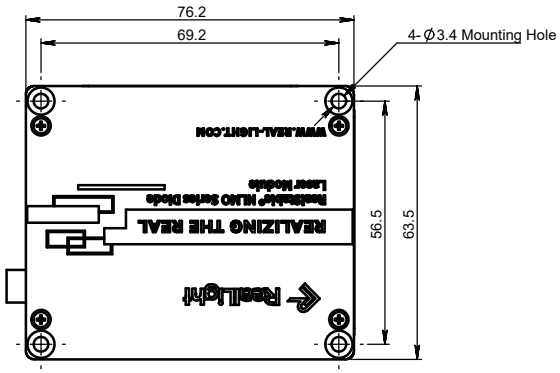
Wavelength (nm)	Output Power (mW)	Part Number	Connector
532	100	NLMO-532-IF(F)-100	FC/PC
	100	NLMO-532-IF(S)-100	SMA905
638	500	NLMO-638-IF(F)-500	FC/PC
	500	NLMO-638-IF(S)-500	SMA905
785	500	NLMO-785-IF(F)-500	FC/PC
	500	NLMO-785-IF(S)-500	SMA905
808	600	NLMO-808-IF(F)-600	FC/PC
	600	NLMO-808-IF(S)-600	SMA905
830	500	NLMO-830-IF(F)-500	FC/PC
	500	NLMO-830-IF(S)-500	SMA905
981	800	NLMO-981-IF(F)-800	FC/PC
	800	NLMO-981-IF(S)-800	SMA905
1064	800	NLMO-1064-IF(F)-800	FC/PC
	800	NLMO-1064-IF(S)-800	SMA905

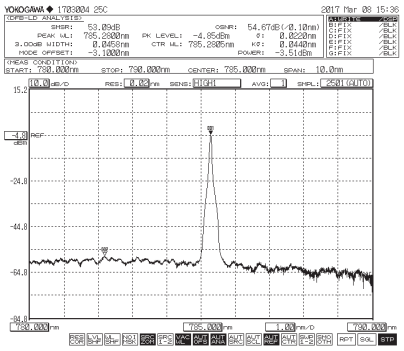
Part Numbering Schema



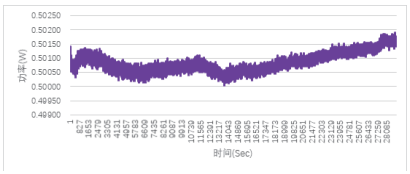
Mechnical Drawings (mm)



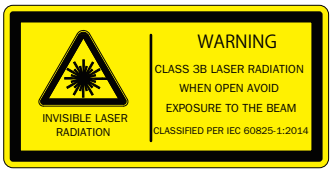


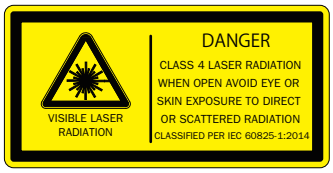


785nm laser spectrum（SMSR＞40dB）



785nm power stability@4h





Pin Descriptions		
PIN	**Function**	**Description**
1	NC	NC
2	VSET_ENABLE	Set to low-level to control power through PIN8, high level or left floating: the laser outputs at rated power
3	GND	Signal Ground
4	RTV	Rt signal level, 1.5V for 25℃
5	GND	Input Power Ground
6	+5V	5VDC/2A
7	LASER ENABLE	Set to high-level to enable the laser, low-level or suspend to disable LD
8	Power Control	Apply 0-1.2V to control output power (0-100% full power adjustability)
9	GND	Signal Ground
10	PDV	PD feedback signal