

Cobolt MLD lasers

High performance diode laser modules

The Cobolt MLD Series lasers consists of high performance fixed wavelength diode laser modules covering a spectral range between 405 and 660nm. The lasers offer optimum beam quality and modulation performance from a small and compact package. Manufacturing using Cobolt's unique HTCure Technology ensures world-class quality and reliability, as well as unmatched robustness.

The Cobolt MLD lasers provide a spectral complement to the company's lines of high performance CW DPSS lasers for demanding fluorescence analysis applications such as confocal microscopy and flow cytometry. In addition, the Cobolt MLD lasers add the feature of direct intensity modulation capability, allowing fast and deep modulation from versatile input signals. The selection of wavelengths combined with direct intensity modulation capability make the Cobolt MLD lasers a perfect choice also in applications such as Optogenetics, Microlithography or Metrology.

Cobolt has designed an easy-to-integrate compact diode laser module with all control electronics fully integrated in a laser head of industry standard size. An optional external control box allows CDRH compliant operation with a key-switch and emission indicators.

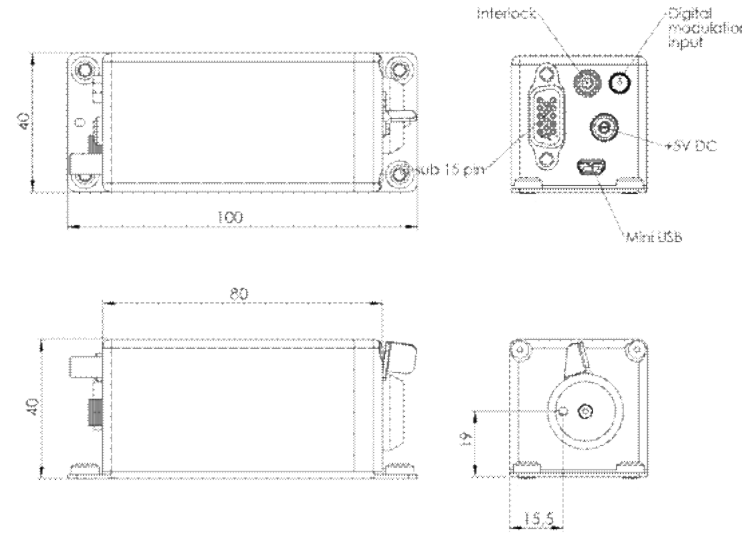
The Cobolt MLD Series lasers are intended for stand-alone use in laboratory environment, or for integration as an OEM component in analytical or metrology instrumentation equipment.



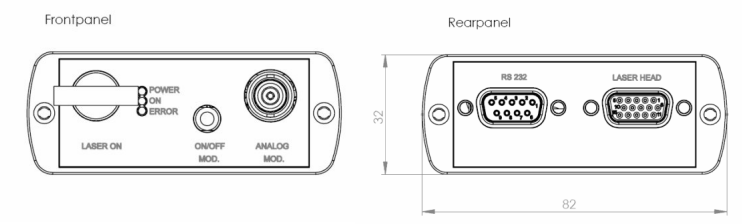
Specifications	MLD™ 405nm 405±5* nm	MLD™ 640nm 640±5* nm	MLD™ 660nm 660±5* nm
Power**	100 mW	100 mW	100 mW
Beam divergence (full angle)	< 1.1 mrad	<1.7 mrad	
Spatial mode	TEM ₀₀ , M ² <1.2		
Beam diameter at aperture***	700 μm ± 100 μm		
Beam symmetry	>0.90:1		
Noise, 250 Hz - 2 MHz (rms)	<0.2%		
Power stability over 8 hrs	<0.5%		
Spectral linewidth (FWHM)	<1.2 nm		
Polarization ratio (vertical)	>1:100		
Modulation			
Digital modulation	Input signal: 0 to 3.3-5.0 V TTL		
bandwidth	DC - 150 MHz		
extinction ratio	>10000:1		
Rise/Fall time	< 2.5 ns		
Analogue modulation	Input signal: 0-1 V (1 kOhm or 50 Ohm)		
bandwidth	DC - 2 MHz		
extinction ratio	>10000:1		
Rise/Fall time	<200 ns		
Remote ON-OFF	Input signal: 0 to 3.3-5.0 V TTL		
frequency	DC - 500 kHz		
extinction ratio	1:inf		
Rise/Fall time	<500 ns		
Maximum base plate temperature	50 °C		
Total system power consumption	<10 W		
Communication	RS-232 and USB		
Model number structure	wavel-06-01-pwr-100 (CDRH: Control box with key-switch included) wavel-06-01-pwr-200 (OEM: Auto-start mode)		
Warranty	12 months		

* Fixed wavelength with given accuracy in central wavelength
 ** Given value is at 100%. The output power can be adjusted using Cobolt Monitor MLD software or using computer commands.
 *** The output beam diameter can be tailored to specific customer requirements

Laser head with integrated control electronics



Control box with key-switch for CDRH operation



Full specifications can be found in the Owners Manual, published at www.cobolt.se. Subject to change without notice. The web site also offers downloads of controller software and USB driver.