

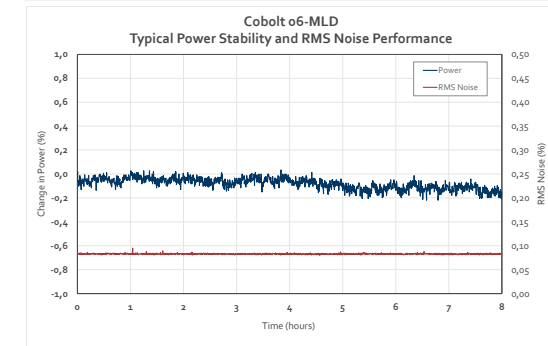
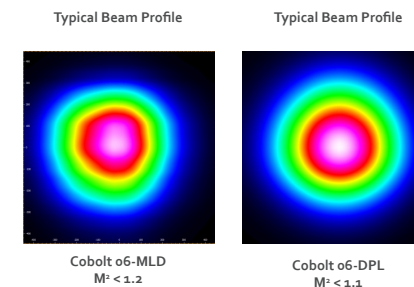
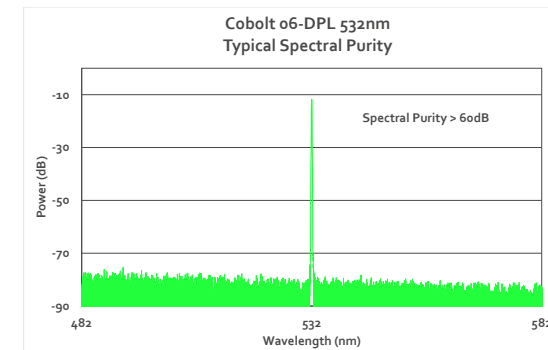
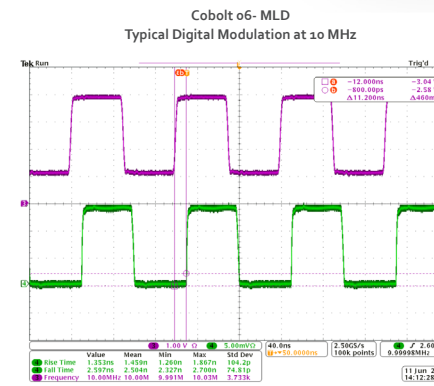
Cobolt o6-o1 Series

Plug & play modulatable CW lasers

- Easy-to-integrate compact and powerful laser modules
- Power up to 300 mW in a perfect beam
- Direct intensity modulation capability: fast and deep modulation from versatile input signals
- All control electronics fully integrated into laser head
- Ultra-robust design
- 405 nm, 445 nm, 473 nm, 488 nm, 515 nm, 532 nm, 553 nm, 561 nm, 633 nm, 638 nm, 647 nm and 660 nm

The Cobolt o6-o1 Series lasers offer a compact form factor and a wide wavelength span in an industry standard plug and play format, utilizing the most ideal laser technology to achieve each wavelength while maintaining the same footprint. The Cobolt o6-o1 Series consists of high performance fixed wavelength diode laser modules (MLD) and diode-pumped solid-state lasers (DPL) and offer direct intensity modulation capability, allowing fast and deep modulation from versatile input signals between 405nm and 660nm.

The lasers are manufactured using Cobolt's unique HTCure™ Technology to ensure world-class quality and reliability, as well as unmatched robustness. The Cobolt o6-o1 Series lasers are intended for stand-alone use in laboratory environment, or for integration in analytical or metrology instrumentation equipment and are ideally suited for demanding fluorescence analysis applications such as confocal microscopy and flow cytometry.



Cobolt o6-01 Series

	405 nm	445 nm	473 nm	488 nm	515 nm	532 nm	553 nm	561 nm	633 nm	638 nm	647 nm	660 nm
	o6-MLD			o6-DPL			o6-MLD					
Center Wavelength (nm)	405 ± 5	445 ± 5	473 ± 5	488 ± 5	515 ± 5	532.1 ± 0.3	552.8 ± 0.3	561.2 ± 0.3	633 ± 5	638 ± 5	647 ± 5	660 ± 5
Power (mW)	120 300	100	100 300	60 200	80	100 200	50	50 100	80	180	130	100
Beam divergence (full angle, mrad)	< 1.1	< 1.2		< 1.3			< 1.2			< 1.7		
Spectral bandwidth (FWHM)	< 1.2 nm			< 1.5 nm			< 1 MHz			< 1.2 nm		
Spatial mode (TEM ₀₀)	M ² < 1.2			M ² < 1.1			M ² < 1.2			M ² < 1.2		
Beam symmetry	> 0.90:1			> 0.95:1			> 0.90:1			> 0.90:1		
Beam diameter at aperture (µm)	700 ± 100			700 ± 70			700 ± 100			700 ± 100		
Noise, 250 Hz - 2 MHz (rms)	< 0.2%			< 0.3%			< 0.25%			< 0.2%		
Power stability over 8 hrs	< 1%			< 2%			< 1%			< 1%		
Digital modulation	DC - 150 MHz			DC-50 kHz			DC-5 kHz			DC - 150 MHz		
Bandwidth	>10 000 000 : 1 (>70dB)			--			--			>10 000 000 : 1 (>70dB)		
Extinction ratio @10 MHz	< 2.5 ns			< 6 µs			< 60 µs			< 30 µs		
Rise/fall time												
Analog modulation	DC - 2 MHz			DC-50 kHz			DC-5 kHz			DC - 2 MHz		
Bandwidth	>10 000 000 : 1 (>70dB)			--			--			>10 000 000 : 1 (>70dB)		
Extinction ratio @ 250 kHz	< 300 ns			< 6 µs			< 60 µs			< 300 ns		
Rise/fall time												
ON-OFF modulation	DC - 500 kHz			n/a			DC - 500 kHz			DC - 500 kHz		
Frequency	inf : 1						inf : 1			inf : 1		
Extinction ratio	< 300 ns						< 300 ns			< 300 ns		
Rise/fall time												
Polarization ratio (vertical)	> 100:1			> 100:1			> 100:1			> 100:1		
Ambient temperature & pointing	< 5 µrad / °C, between 20-50°			< 5 µrad / °C, between 20-50°			< 5 µrad / °C, between 20-50°			< 5 µrad / °C, between 20-50°		
Maximum base plate temperature	50°C			50°C			50°C			50°C		
Total system power consumption	< 12W			< 20 W			< 12W			< 12W		
Laser Head heat sink thermal impedance @ 40 °C ambient	< 0.8 K/W			< 0.5 K/W			< 0.8 K/W			< 0.8 K/W		
Laser head dimensions	100 x 40 x 40 mm			100 x 40 x 40 mm			100 x 40 x 40 mm			100 x 40 x 40 mm		
Key box dimensions	82 x 56.6 x 32 mm			82 x 56.6 x 32 mm			82 x 56.6 x 32 mm			82 x 56.6 x 32 mm		
Communication	USB or RS-232 (CDRH /CE Only)			USB			USB or RS-232 (CDRH /CE Only)			USB or RS-232 (CDRH /CE Only)		
Power Supply	5V, 3A			5V, 5A			5V, 3A			5V, 3A		
Model number structure	wavel-06-01-pwr-100			wavel-06-91-pwr-100			wavel-06-01-pwr-100			wavel-06-01-pwr-100		
CDRH / CE (Key box included)	wavel-06-01-pwr-200			wavel-06-91-pwr-200			wavel-06-01-pwr-200			wavel-06-01-pwr-200		
OEM (Autostart mode)												
Warranty	12 months, unlimited hours			12 months, unlimited hours			12 months, unlimited hours			12 months, unlimited hours		

Options & Accessories

- Mount for external fiber coupling
- Permanent SM/PM fiber pigtailing*
- Spectral clean up filter
- Laser head heat sink
- Control box with key-switch (CDRH)

* Not available for all wavelength and power combinations, see www.cobolt.se for more information



Fiber Pigtailed Option



2-to-1 Laser Combiner for Optogenetics



This device is sensitive to Electrostatic Discharge (ESD). Always handle diode lasers with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure.



WARNING LASER RADIATION
Avoid Exposure to beam
Class 3B Laser Product
Classified per IEC 60825-1:2014



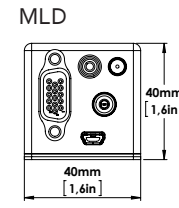
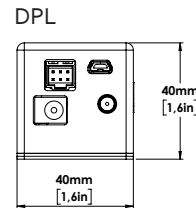
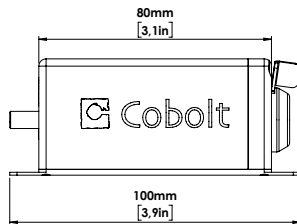
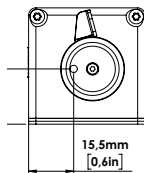
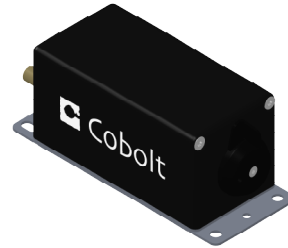
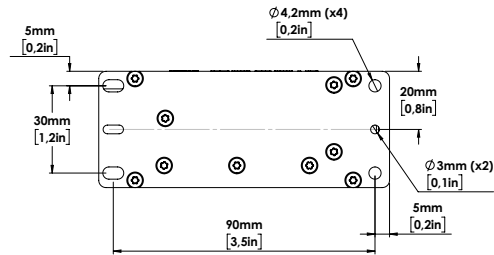
Wvl (nm)	Max.Pwr (mW)
405	360
445	120
473	120
488	240
515	100
532	300
561	300
553	300
633	120
638	170
647	200
660	170



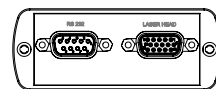
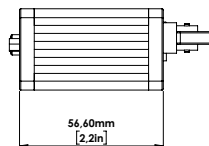
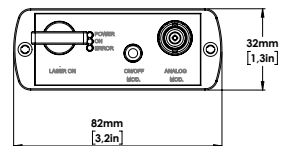
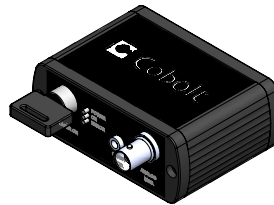
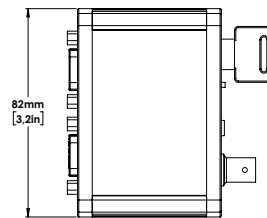
Cobolt o6-01 Series

Mechanical Specifications

Cobolt o6-01 Laser head dimensions



MLD Key control box dimensions



Electrical Interface

Interface	Location	MLD	DPL
Input power	Laser Head	DC plug 2.5 mm / 5.5 mm female	
Remote interlock connector	Laser Head	2.5 mm audio female	OEM : Molex pin 1 & 2
Data port	Laser Head	USB-type mini B	
Key control Box connector	Laser Head	VGA D-SUB 15-pin male	Molex 6-pin male
Digital modulation	Laser Head	SMA female	
Analog modulation	Laser Head	OEM : D-SUB 15 pin 7 & 8	OEM : Molex pin 2 & 3
Laser Head connector	Key box	VGA D-SUB 15-pin male	
Remote Interlock connector	Key box	---	CDRH : 3.5 mm audio female
RS-232	Key box	D-SUB 9-pin male	---
On/off modulation	Key box	3.5 mm audio female	---
Analog modulation	Key box	BNC female	

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Find local sales representatives at www.cobolt.se/contact-us

Australia, Benelux, Brazil, China, Estonia, Latvia, Lithuania, France, India, Israel, Italy, Japan, Poland, Russia, Belarus, Singapore, Malaysia, Thailand, South Korea, Spain and Portugal, Taiwan, UK and Ireland