



Cobolt 04-01 Series

High performance CW, SLM, low noise DPSS Lasers



Compact and powerful single longitudinal mode DPSS lasers

CW power up to 400 mW in a perfect beam

Ultra-robust, hermetically sealed packages

True fiber pigtailed option

Low noise, <0.25% rms

Available wavelengths: 457nm, 473nm, 491nm, 515nm, 532nm, 561nm and 594 nm and 1064 nm

up to 24 months warranty, unlimited hours

The Cobolt 04-01 lasers are continuous-wave diode-pumped solid-state laser devices operating at a fixed wavelengths between 457-1064 nm. The lasers are built using proprietary HTCure™ manufacturing technology for ultra-robustness into a compact hermetically sealed package.

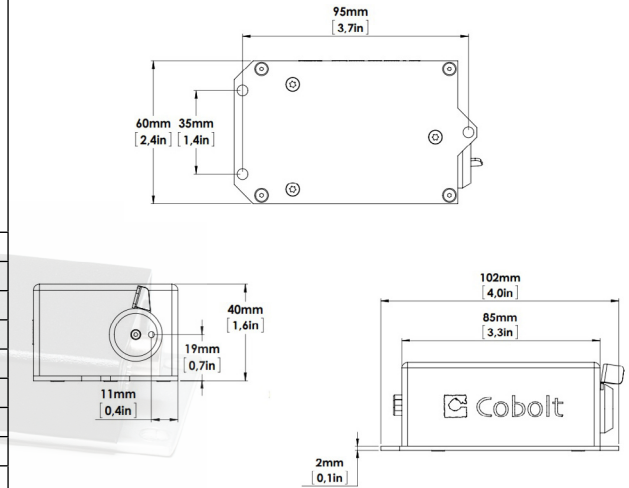
The lasers emit a very high quality laser beam with stable characteristics over a wide range of operating conditions. Single-longitudinal mode operation provides a narrow spectral bandwidth and long coherence length. The laser is designed and manufactured to ensure a high level of reliability.

The Cobolt 04-01 lasers are intended for stand-alone use in laboratory environment or for integration as OEM component in equipment for applications including fluorescence microscopy, flow cytometry, DNA sequencing, HCA, Raman spectroscopy, holography and particle analysis.

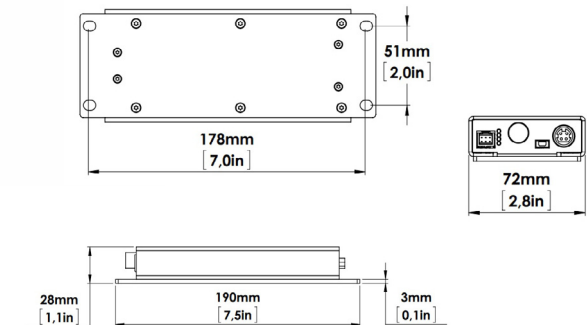
Specifications

Specifications	Wavelength (nm)					Power (mW)				
	Twist™	Blues™	Calypso™	Fandango™	Samba™	Jive™	Mambo™	Dual Calypso™	Rumba™	
Cobolt Twist™	457.0 ± 0.3					25, 50				
Cobolt Blues™	473.0 ± 0.3					25, 50				
Cobolt Calypso™	491.5 ± 0.3					25, 50, 75, 100				
Cobolt Dual Calypso™	491.5 ± 0.3 + 532.1 ± 0.3					20+20, 50+50				
Cobolt Fandango™	514.4 ± 0.3					25, 50, 100, 150				
Cobolt Samba™	532.1 ± 0.3					25, 50, 100, 150, 300				
Cobolt Jive™	561.2 ± 0.3					25, 50, 75, 100, 150				
Cobolt Mambo™	593.6 ± 0.3					25, 50, 100				
Cobolt Rumba™	1064.2 ± 0.6					400				
Noise, 20 Hz - 20 MHz (pk-pk)	< 2% , typical < 1.5%		< 3%		< 2% , typical < 1.5%		< 3%		< 2%	
Noise, 20 Hz - 20 MHz (rms)	< 0.25% , typical < 0.15%		< 0.3%		< 0.25% , typical < 0.15%		< 0.3%		< 0.25%	
Long-term stability (8 hrs ± 3°C)	< 2%		< 3%		< 2%		< 3%		< 2%	
Beam divergence (full angle, mrad)	< 1.2					< 1.3		< 1.2		< 1.6
Spatial mode (TEM ₀₀)	M ² < 1.1					M ² < 1.2				
Beam diameter at aperture (µm)	700 ± 50					1000 ± 50				
Spectral linewidth (FWHM)	< 1 MHz									
Wavelength stability (after warm-up)	2 pm over ± 2 °C and 8 hrs									
Beam symmetry at aperture	>0.95 : 1									
Beam pointing stability (over 10-40°C)	< 10 µrad / °C , typical 5 µrad / °C									
Polarization ratio (linear, vertical)	> 100:1									
Total system power consumption	< 35 W, typical < 15 W									
Operating temperature	10-40°C									
Maximum laser head baseplate temp.	50 °C									
Recommended heat sink thermal resistance	0.5 K/W									
Laser head dimensions [mm]	103 x 60 x 40					103 x 60 x 40				
[inches]	4.1 x 2.4 x 1.6					4.1 x 2.4 x 1.6				
Controller dimensions [mm]	190 x 72 x 28					190 x 72 x 28				
[inches]	7.6 x 2.9 x 1.1					7.6 x 2.9 x 1.1				
Communication	RS-232 or USB									
Model number structure		CDRH (key-switch for on/off)			OEM (auto-start mode)					
	RS-232 driver	wavel-04-01-pwr-300/500 1064-04-51-pwr-500			wavel-04-01-pwr-400/600 1064-04-51-pwr-600					
	USB option	Adapter provided for USB communication								
Warranty	24 months / 12 months 1064 nm									

Laser Head



Laser Controller



Options & Accessories

- Customized controller cable
- Communication cable (RS-232 / USB)
- Permanent SM/PM fiber pigtailing *
- Integrated AOM *
- Mount for external fiber coupling
- Two lasers in one with Dual Combiner
- Integrated optical isolator *
- Laser head heatsink



HTCure™ is a Cobolt proprietary technology for manufacturing of ultra-robust and reliable laser sources, allowing Cobolt to offer market leading warranty terms. Lasers built using HTCure™ Technology have shown to withstand 60G mechanical shocks in operation as well as extreme storage temperature shocks (-30 to >100 degC) without any sign of degraded performance.



* Not all options and accessories are available for Cobolt Rumba™ and Cobolt Dual Calypso™. Full specifications can be found in the manual. Subject to change without notice. Rev 1404