

Cobolt Modulated DPSS Lasers



High performance DPSS lasers with integrated AOM

- Modulation frequency up to 3 MHz
- CW power up to 320 mW in a perfect beam
- Ultra-robust, hermetically sealed laser packages
- Low noise, <0.25% rms
- 457 nm, 473 nm, 491 nm, 515 nm, 532 nm, 561 nm, 594 nm, and 660 nm

The Cobolt Modulated DPSS option incorporates both the diode pumped laser (DPL) from the Cobolt 04-01 series and an Acousto Optic Modulator (AOM) in one single compact package, slightly longer than the standard 04-01 Series laser head.

This allows fast and effective integration of a modulated DPSSL without the need for time consuming external alignment. AOMs are commonly used in combination with DPSSLs to achieve high speed modulation while maintained good stability and low noise.

Utilising Cobolt's extensive experience in optical alignment along with our proprietary manufacturing method HTCure™ for ultra robustness, the Modulated DPSSL option offers a modulated DPSSL with the ease of integration of a direct diode lasers and the specifications associated with high performance diode pumped lasers, such as single frequency operation, excellent spectral purity and a perfect beam.

Cobolt Modulated DPSS Laser Specifications

	Twist™	Blues™	Calypso™	Fandango™	Samba™	Jive™	Mambo™	Flamenco™
Wavelength (nm)	457.0 ± 0.3	473.0 ± 0.3	491.5 ± 0.3	514.4 ± 0.3	532.1 ± 0.3	561.2 ± 0.3	593.6 ± 0.3	659.6 ± 0.3
Available Power Levels (mW)	25 40	25 40	25 50 75 80	25 50 100 120	25 50 100 150 240 360	25 50 100 150 160	25 50 80	80
Noise, 20 Hz - 20 MHz (pk-pk)	< 2%, typical < 1.5%		< 3%	< 2%, typical < 1.5%			< 3%	< 1%
Noise, 20 Hz - 20 MHz (rms)	< 0.25%, typical < 0.15%		< 0.3%	< 0.25%, typical < 0.15%			< 0.3%	< 0.1%
Long-term stability (8 hrs ± 3°C)	< 2%		< 3%	< 2%			< 3%	< 2%
Beam divergence (full angle, mrad)	< 1.2						< 1.3	< 1.5
Rise/Fall Time(ns)	< 200							
Modulation Frequency *	DC- 3 MHz							
Extinction Ratio (free space)**	> 30dB @DC							
Total system power consumption	< 50 W							
Operating temperature	10-40°C							
Maximum laser head baseplate temp.	50 °C							
Heat sink thermal resistance <small>Recommended</small>	0.6 K/W or 0.4 K/W *							0.4 K/W
Laser head dimensions <div><div>[mm]</div><div>[inches]</div></div>	137 x 60 x 40 5.4 x 2.4 x 1.6							
Controller dimensions <div><div>[mm]</div><div>[inches]</div></div>	190 x 72 x 28 7.6 x 2.9 x 1.1							
Communication	RS-232 or USB							
Model number structure			CDRH/CE (key-switch for on/off)				OEM (auto-start mode)	
	RS-232 Controller		wavel-04-05-pwr-500				wavel-04-05-pwr-600	
	USB Controller		wavel-04-05-pwr-700				wavel-04-05-pwr-800	
Warranty	24 months or 12 months for Jive™ 160 mW, Samba™ 320 mW, and Flamenco™							

Laser performance specifications not in this datasheet can be found on the Cobolt o4-o1 Series datasheet.

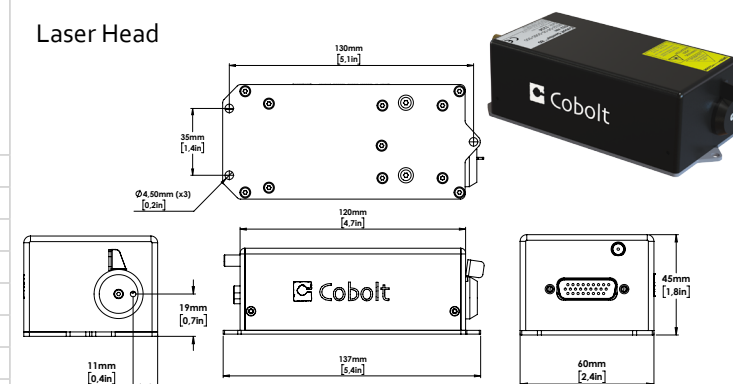
System includes Cobolt Modulated DPSS laser head with integrated AOM, Laser Controller, AOM driver, power supplies and cables. Input signal generator not included



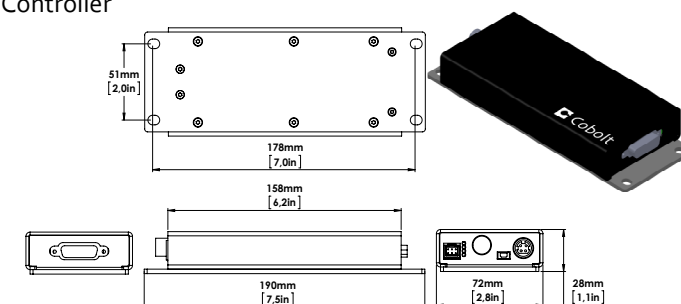
HTCure™ is a Cobolt proprietary technology for manufacturing of ultra-robust and reliable laser sources, allowing Cobolt to offer market leading warranty terms. Lasers built using HTCure™ Technology have shown to withstand 60G mechanical shocks in operation as well as extreme storage temperature shocks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



Laser Head



Controller



AOM Driver

