

Cobolt 05-01 Series

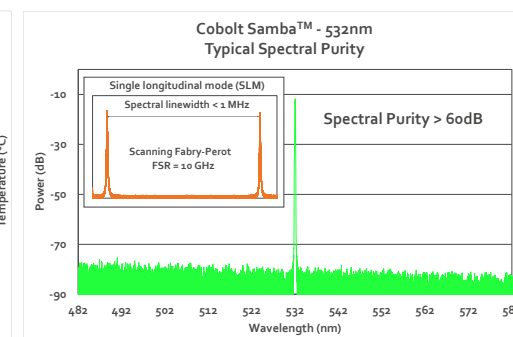
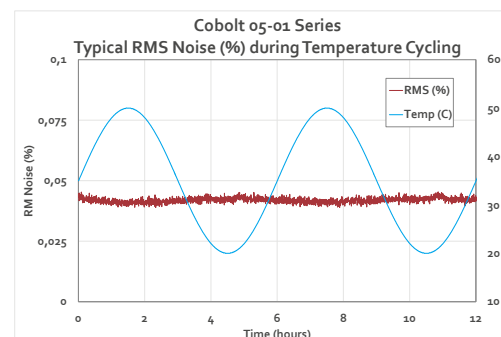
High power, single frequency, CW diode pumped lasers

- CW output power up to 3 W in a perfect beam
- Ultra-robust, hermetically sealed packages
- Ultra-low noise
- 355 nm, 457nm, 491 nm, 515nm, 532 nm, 561 nm, 640nm, 660 nm and 1064 nm
- Up to 24 months warranty, unlimited hours

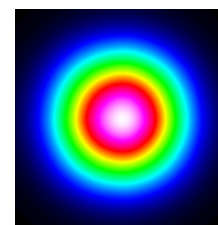
The Cobolt 05-01 Series lasers are continuous-wave diode pumped laser (DPL) devices operating at a fixed wavelength between 355 nm and 1064 nm. The lasers are built using proprietary HTCure™ manufacturing technology for ultra-robustness in a compact hermetically sealed package.

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

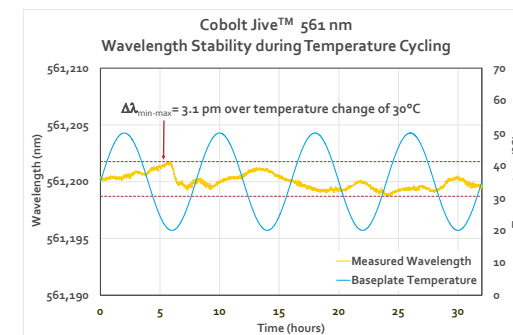
The Cobolt 05-01 Series lasers are intended for stand-alone use in laboratory environments or for integration as OEM components in instruments for applications including fluorescence microscopy, flow cytometry, DNA sequencing, HCA, Raman spectroscopy, interferometry, holography and particle analysis.



Typical Beam Profile



Cobolt 05-01 Zouk™
M² < 1.1



Cobolt 05-01 Series Specifications

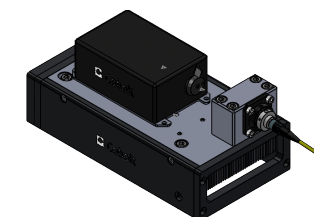
	Zouk™	Twist™	Calypso™	Fandango™	Samba™	Jive™	Bolero™	Flamenco™	Rumba™
Product Wavelength	355	457	491	515	532	561	640	660	1064
Center Wavelength and accuracy (nm)	354.8 ± 0.3	457.0 ± 0.3	491.5 ± 0.3	514.8 ± 0.3	532.1 ± 0.3	561.2 ± 0.3	639.6 ± 0.3	659.6 ± 0.3	1064.2 ± 0.6
Available Power Levels (mW)	10 20	100 200	200	300	500 1000 1500	200 300 500	500	100 300 500	500 1000 2000 3000
Noise, 20 Hz - 20 MHz (pk-pk)	< 2%		< 5%	< 2%	< 1%		< 7%	< 1%	
Noise, 20 Hz - 20 MHz (rms)	< 0.2%		< 0.5%	< 0.2%	< 0.1%		< 1%	< 0.1%	
Long-term stability (8 hrs ± 3°C)	< 2%								
Beam divergence (full angle, mrad)	< 0.8	< 1.2				< 1.4		< 1.5	< 1.6
Spatial mode (TEM ₀₀)	M ² < 1.1								
Beam diameter at aperture (µm)	700 ± 50								1000 ± 50
Spectral linewidth (FWHM)	< 1 MHz								
Wavelength stability (after warm-up)	< 2pm over ±2°C and 8hrs								
Beam symmetry at aperture	> 0.90:1				> 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	< 63 W, typical 30W								
Operating temperature	10 °C - 40 °C								
Maximum laser head baseplate temp.	50 °C				45 °C		50 °C		
Heat sink thermal resistance <small>Recommended</small>	0.2 K/W				0.18 K/W*		0.2 K/W		
Laser head dimensions [mm]	125 x 70 x 45								
[inches]	4.9 x 2.8 x 1.8								
Controller dimensions [mm]	190 x 72 x 28								
[inches]	7.5 x 2.8 x 1.1								
Communication	RS-232 or USB								

Model number structure	CDRH / CE (key switch for ON/OFF)		OEM (Autostart mode)
	RS-232	wavl-05-01-pwr-500	
USB	wavl-05-01-pwr-700		wavl-05-01-pwr-800
Warranty	12 months, unlimited hours : Zouk™, Twist™, Fandango™ and Bolero™ 24 months, unlimited hours : Calypso™, Samba™, Jive™, Flamenco™, and Rumba™		

* Thermal resistance specified at 35°C ambient temperature, in all other cases this value is calculated based on the maximum ambient temperature of 40°C

Options & Accessories

- Customized controller cable
- Mount for external fiber coupling
- Laser head heatsink (HS-04)



Heat sink with external fiber coupling



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 VISIBLE AND INVISIBLE LASER RADIATION!

Avoid exposure to beam.
Class 3B Laser Product
Classified per IEC 60825-1:2014



Wvl (nm)	Max.Pwr (mW)
355	25
457	499
491	499
515	499
561	499
660	499



Avoid eye or skin exposure to direct or scattered radiation.
Class 4 Laser Product
Classified per IEC 60825-1:2014

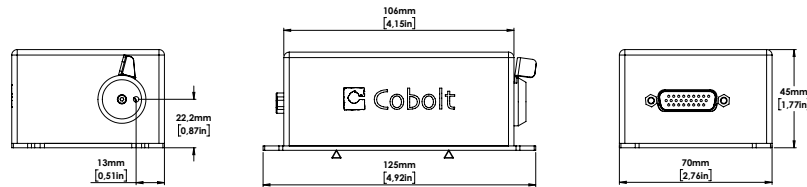
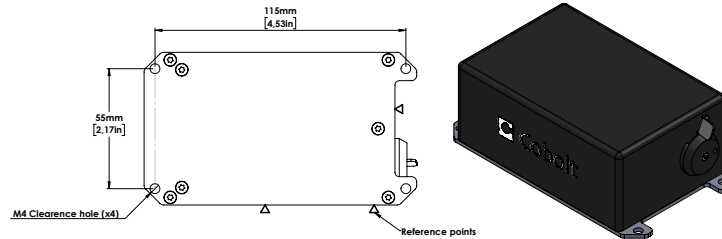
Wvl (nm)	Max.Pwr (mW)
532	3000
561	1000
640	1500
660	1000
1064	4000



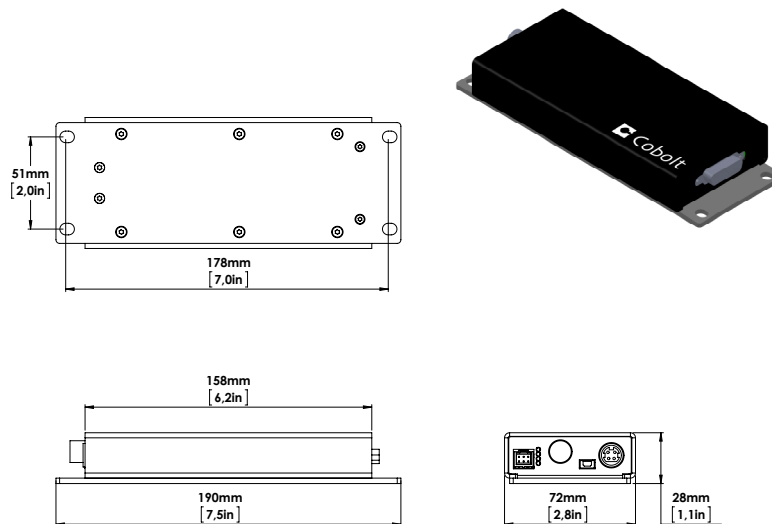
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Mechanical Specifications

Laser Head



Controller dimensions



Electrical Interface

Interfaces	Connector	Function
Input power	Kycon KPJX-45, 4-pin	Power supply to Controller
Laser Head to Controller	HD-sub 26-pin, male	Connection to Laser Head
Controller to Laser Head	HD-sub 26-pin, female	Connection to Controller
Data port	USB-type mini B	Control and monitoring via control commands
Remote interlock & Analog signals	Molex 90130-3206	Analog input 5 – 12 V => Laser ON Analog input < 2.7V => Laser OFF
Warm-up time		3 min

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