

# Cobolt Rogue™ Series

High Power | CW Diode pumped lasers

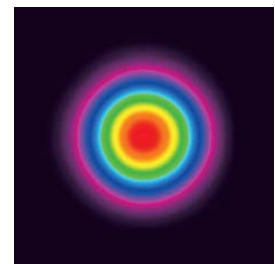


## Applications

Widefield fluorescence microscopy  
Flow cytometry  
Super-resolution microscopy  
DNA sequencing  
High content analysis

- 640 nm
- CW output power up to 1 W
- Spectral bandwidth < 150 GHz (200 pm)
- Perfect TEM<sub>00</sub> beam
- Stable output power < 2 % peak-to-peak over 8 hours
- Ultra-robust, hermetically sealed packages

Typical Beam Profile

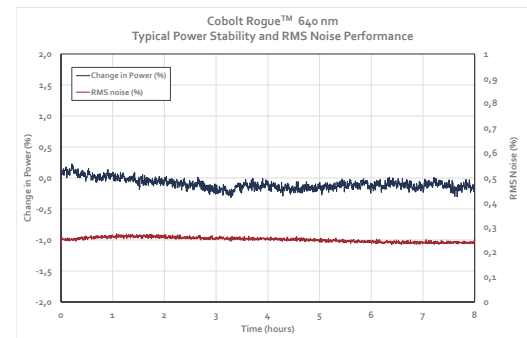


Cobolt Rogue™ 640 nm  
 $M^2 < 1.1$

Cobolt Rogue™ Series lasers are continuous-wave diode pumped lasers (DPL) operating at a fixed wavelength. The lasers are built using proprietary HTCure™ manufacturing technology for ultra-robustness in a compact hermetically sealed package.

As a complement to our Cobolt 05-01 Series of single frequency lasers, the Cobolt Rogue™ Series lasers have higher optical power and a spectral bandwidth of < 150 GHz. The lasers emit a very high quality laser beam with stable characteristics over a wide range of operating conditions, they are designed and manufactured to ensure a high level of reliability.

Cobolt Rogue™ 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 and High content analysis.



HÜBNER Photonics



# Cobolt Rogue™ Series

## Performance Specifications

Center wavelength	639.6 ± 0.3 nm
Available Power Levels	1.0 W
Noise, 20 Hz - 20 MHz (rms)	< 0.5 %
Power stability (8 hrs ± 3°C)	< 2%
Beam divergence (full angle)	< 1.4 mrad
Spatial mode (TEM <sub>00</sub> )	M <sup>2</sup> < 1.1
Beam diameter at aperture	700 ± 50 µm
Spectral bandwidth (FWHM)	< 150 GHz (200 pm)
Beam symmetry at aperture	> 0.90:1
Beam pointing stability (over 10-40°C)	< 10 µrad/°C
Polarization ratio (linear, vertical)	> 100:1
Warranty	12 months, unlimited hours

## Operational Environment

Power supply requirements	15 VDC, 6 A
Maximum laser head baseplate temperature	45 °C
Ambient temperature, operation	10 - 35 °C
Ambient temperature, storage	-10 -> +60 °C
Humidity	0 - 90 % RH non-condensing
Ambient Air pressure	950 - 1050 mbar
Laser head heat sink thermal impedance at 35°C ambient	0.18 K/W
Maximum heat dissipation of Laser Head	< 63 W, typical 30W



Cobolt Rogue™ Series laser on a heat sink for fiber coupling (FIC-04)

## Model Number

WWW-05-41-PPPP-CCC

Wavelength ↑      Power ↑      Configuration: ↑

500 = Gen 5b Controller, RS-232, CE / CDRH  
600 = Gen 5b Controller, RS-232, OEM  
700 = Gen 5b Controller, USB, CE / CDRH  
800 = Gen 5b Controller, USB, OEM  
xxx = OEM customization

## Communication Interface

Communication	USB or RS-232
Standard Baudrate	115200



This device contains components that may be sensitive to Electrostatic Discharge (ESD). ESD protection can be achieved with proper electrical grounding.



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

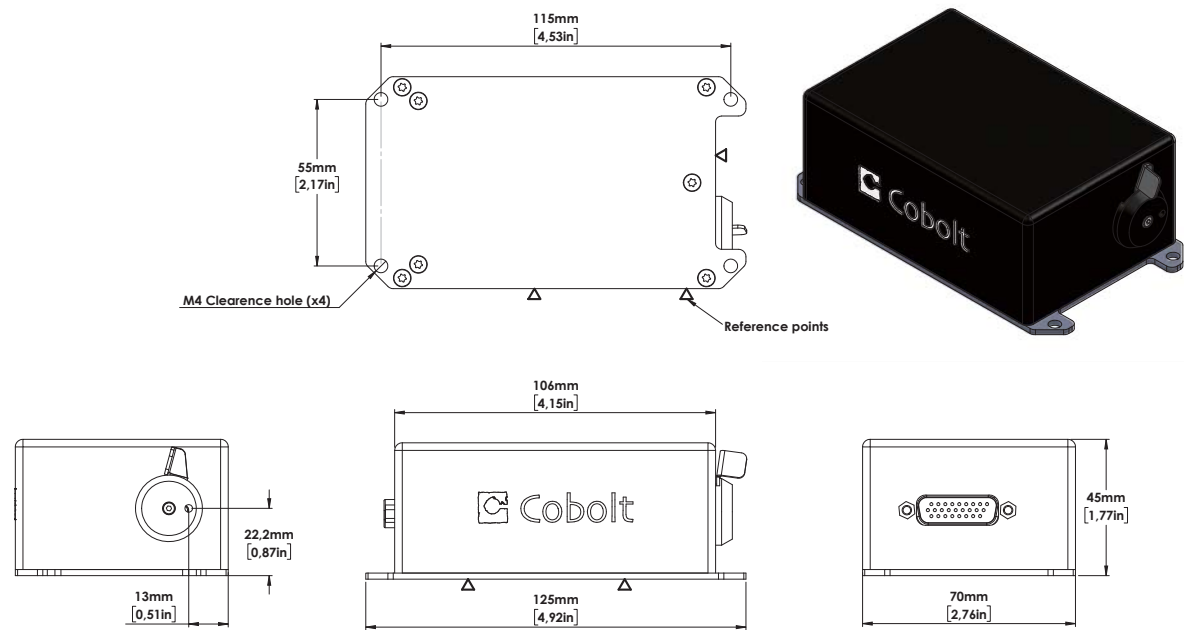


Wvl (nm)	Max.Pwr (mW)
640	2000

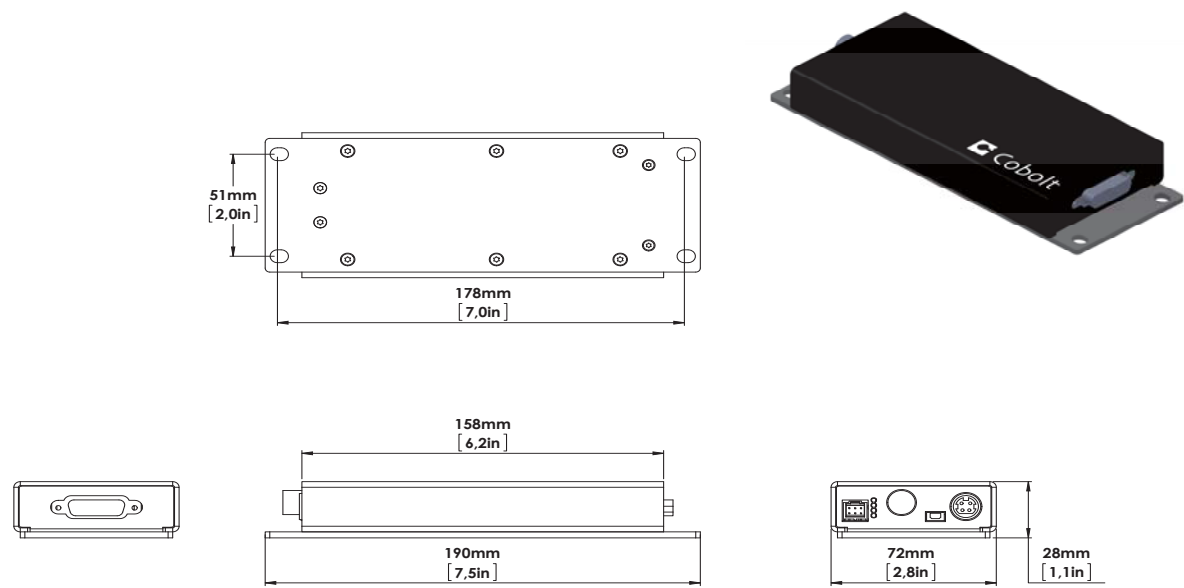
# Cobolt Rogue™ Series

## Mechanical Specifications

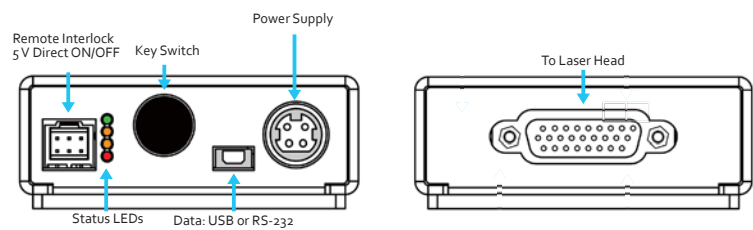
### Laser head



### Controller



## Electrical Interfaces



### Molex 6 pin - Controller I/O

Pin	Function
1	Remote interlock
2	0 V – Ground
3	Direct On/Off (+5 V Input)
4	--
5	LED 1 (LASER ON)
6	LED 2 (ERROR)

# Cobolt Rogue™ Series

## Options and Accessories

- Laser head heatsink with fans HS-04
- TEC Plate for active baseplate temperature control
- Laser head heatsink with fans for fiber coupling FIC-04



*Heatsink with fans HS-04*



*TEC-Plate for active baseplate temperature control*



*Heat sink with fans for fiber coupling FIC-04*

## Manufacturing Sites

**Cobolt AB**  
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Fax: +49 6251 860 9917  
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[www.hubner-photonics.com](http://www.hubner-photonics.com)

## Direct Sales Offices

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Phone: +44 2380 438701  
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Find local sales representatives at [www.coboltlasers.com/contact-us](http://www.coboltlasers.com/contact-us)

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