

Cobolt Tor™ XS

Ultra-compact | Triggerable | Q-Switched Lasers



- Pulse Energy up to 100 μ J and 100 mW of average power
- Up to 1 kHz pulse repetition rate, 300 μ s input trigger pulse
- 3 - 5 ns pulse duration
- Ultra-robust design
- High performance pulsed lasers at 532 nm and 1064 nm

The Cobolt Tor™ XS lasers are high performance Q-switched diode pumped lasers. The sophisticated cavity design of these lasers provides a unique combination of high pulse repetition rates, short pulse lengths and exceptional pulse-to-pulse stability in a high quality TEM₀₀ beam.

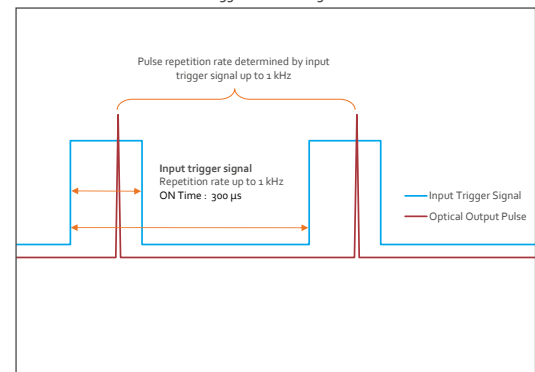
The lasers are manufactured using Cobolt's proprietary HTCure™ technology and packaged into a sealed laser head, offering an outstanding level of robustness and reliability and making these lasers highly suitable for OEM integration into demanding environments.

The combination of compact format, high level of robustness, high average power and pulse energy performance make the Cobolt Tor™ XS lasers ideal light sources for a large variety of industrial and scientific applications, especially LIBS and photoacoustics.

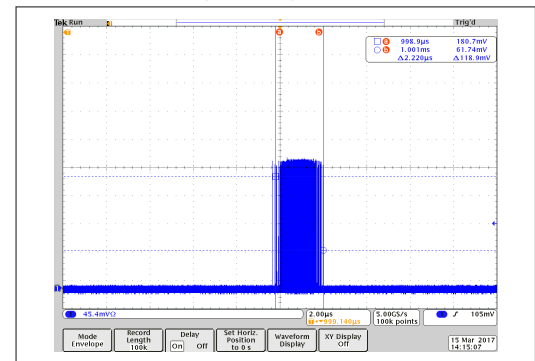
Applications

- Photoacoustics
- LIBS
- Laser marking

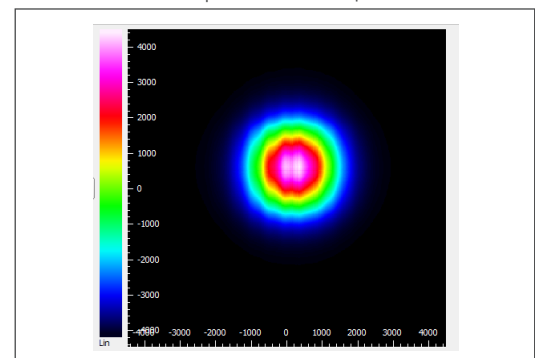
Trigger to Pulse Diagram



Pulse to pulse jitter < 2 μ s - Tor XS 532 nm



Beam profile at exit - Tor XS 1064 nm



Cobolt Tor™ XS

Performance Specifications

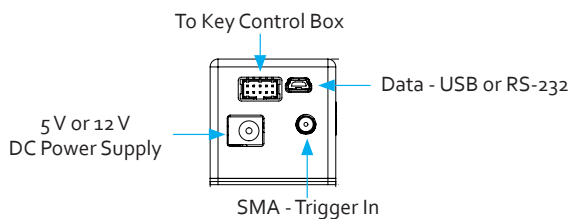
Wavelength in air (nm)	532.1 ± 0.3	1064.2 ± 0.6	
Average Power @1 kHz	50 ± 5 mW	50 ± 5 mW	100 ± 10 mW
Pulse Energy	50 ± 5 μJ	50 ± 5 μJ	100 ± 10 μJ
Peak Power	> 13 kW	> 13 kW	> 27 kW
Pulse Width	2 - 3.5 ns		
Repetition Rate	Single pulse up to 1 kHz		
Pulse-to-Pulse Jitter	< 2 μs		
Long-term average power stability (8 hrs ± 3°C, 1 kHz)	< 3 %		
Pulse-to-Pulse amplitude stability	< 10 %		
Beam diameter at aperture (mm)	1.1 ± 0.2	1.4 ± 0.3	
Beam symmetry at aperture	> 0.85 : 1		
Spatial mode (TEM ₀₀)	< 1.3		
Divergence, full angle (mrad)	5 ± 1	8 ± 1	
Polarization ratio (linear, vertical)	> 100:1		
Total system power consumption	< 15 W		
Power Supply requirements	5 V / 5A or 12 V / 2 A		
Warranty	12 months, unlimited hours		

Electrical Interface

Molex 10 pin - To Key control box

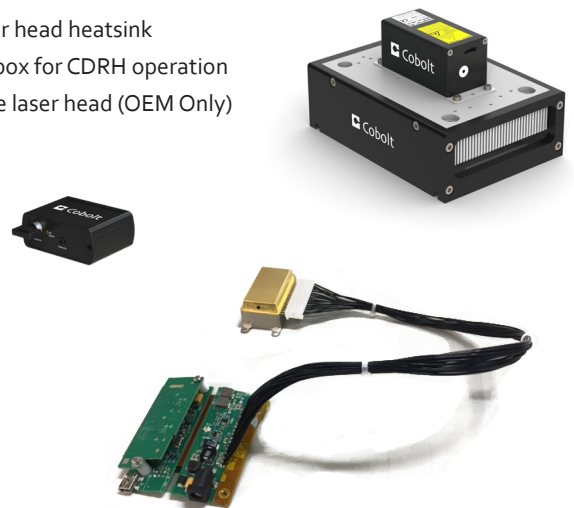
Pin	Function
1	Remote interlock
2	0 V – Ground
3	Direct On/Off (+5 V Input) – OEM Only
4	Key Switch
5	LED 1A (Laser On)
6	LED 2 (Error)
7	LED 1B (Laser On - Redundant)
8	Not used (test)
9	Not used (Ground)
10	Not used (Ground)

TorXS Laser Head



Options and Accessories

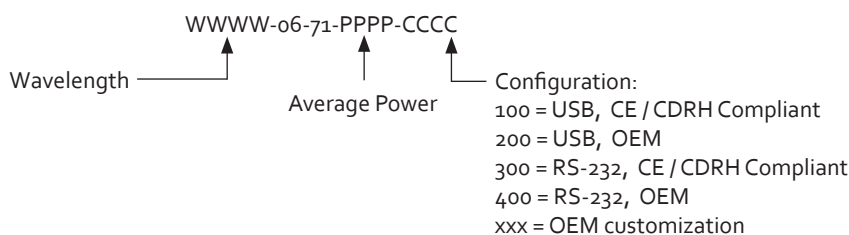
- Laser head heatsink
- Keybox for CDRH operation
- Nike laser head (OEM Only)



Communication Interface

Communication	USB or RS-232
Standard Baudrate	19200

Model Number



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



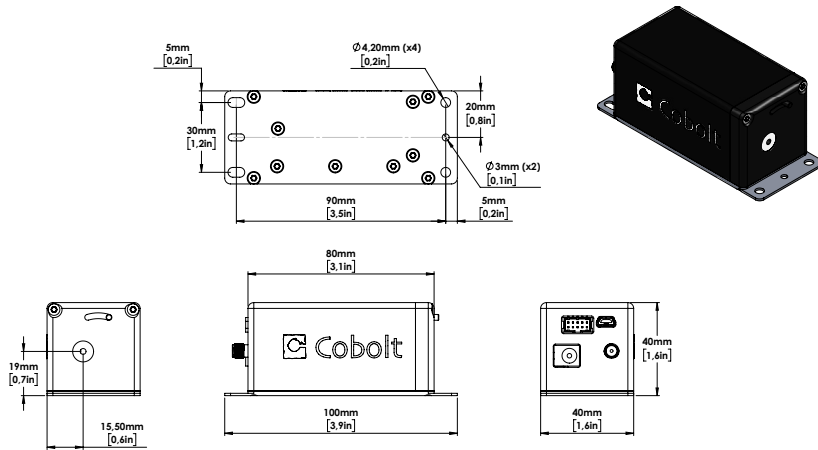
Wvl (nm)	Max. Pulse Energy (μJ)
532	100
1064	150



Cobolt Tor™ XS

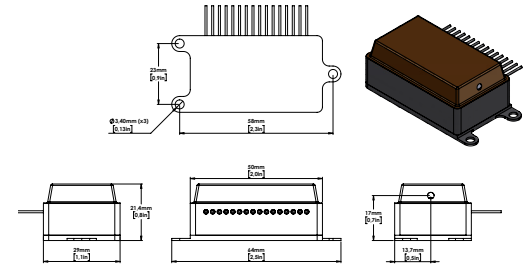
Mechanical Specifications

Laser Head - Standard

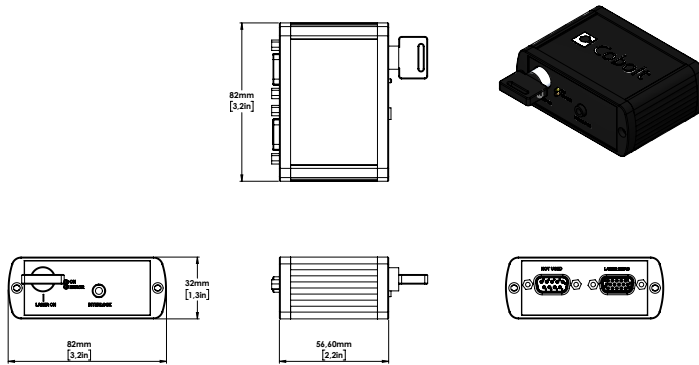


Laser Head - Naked (OEM ONLY)

Laser head available in component format with drive electronics delivered separately.



Key box



Headquarters

Cobolt AB
(Sales in Norway, Sweden, Finland and Denmark)
Solna, Sweden
Phone: +46 8 545 912 30
Fax: +46 8 545 912 31
E-mail: info@coboltlasers.com

www.coboltlasers.com

HÜBNER GmbH & Co. KG
(Sales in Germany, Austria and Switzerland)
Kassel, Germany
Phone: +49 6251 770 6686
Fax: +49 6251 860 9917
E-mail: photonics@hubner-germany.com

www.hubner-photonics.com

Direct Sales Offices

HÜBNER Photonics Inc.
Sales in USA and North America
2635 North First Street, Suite 228
San Jose, California, USA
Phone: +1 (408) 708 4351
Fax: +1 (408) 490 2774
E-mail: info.usa@hubner-photonics.com

HÜBNER Photonics UK
Royal Mail House, Terminus Terrace
Southampton, Hampshire SO14 3FD
San Jose, California, USA
Phone: +44 2380 438701
E-mail: info.uk@hubner-photonics.com

Find local sales representatives at www.coboltlasers.com/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