

# Cobolt Tor™ XS

Ultra-compact | Triggerable | Q-Switched Lasers



- Pulse Energy up to 100  $\mu\text{J}$  and 100 mW of average power
- Up to 1 kHz pulse repetition rate, 300  $\mu\text{s}$  input trigger pulse
- 2 - 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 TEM<sub>00</sub> beam.

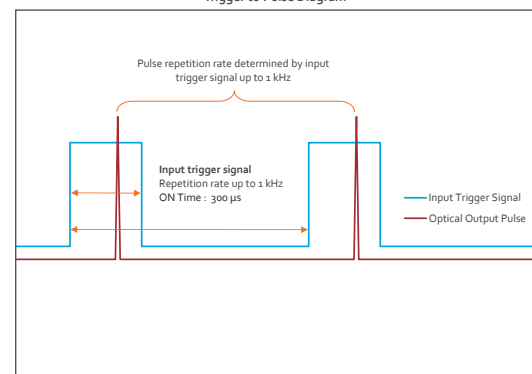
The lasers are manufactured using Cobolt's proprietary HTCure™ technology and packaged into a sealed laser head, offering an outstanding level of robustness and reliability and making these lasers highly suitable for OEM integration into demanding environments.

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.

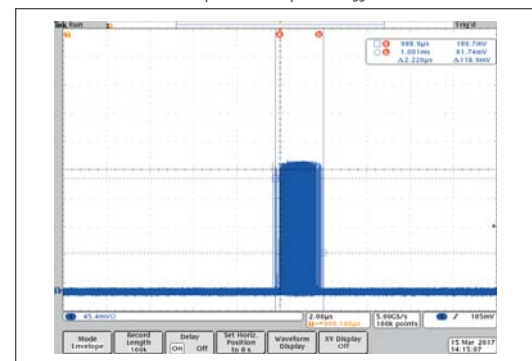
## Applications

- Photoacoustics
- LIBS
- Laser marking

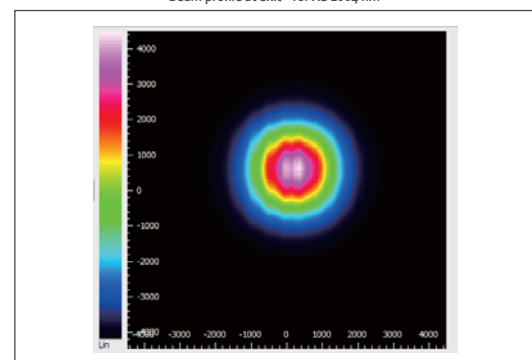
Trigger to Pulse Diagram



Pulse to pulse Jitter < 2  $\mu\text{s}$  - Tor XS 532 nm



Beam profile at exit - Tor XS 1064 nm



# Cobolt Tor™ XS

## Performance Specifications

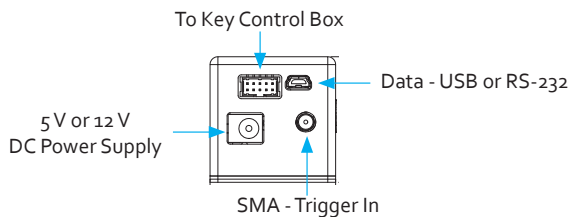
Wavelength in air (nm)	532.1 ± 0.3	1064.2 ± 0.6	
Average Power @1 kHz	50 ± 5 mW	50 ± 5 mW	100 ± 10 mW
Pulse Energy	50 ± 5 μJ	50 ± 5 μJ	100 ± 10 μJ
Peak Power	> 13 kW	> 13 kW	> 27 kW
Pulse Width	2 - 3.5 ns		
Repetition Rate	Single pulse up to 1 kHz		
Pulse-to-Pulse Jitter	< 2 μs		
Long-term average power 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 <sub>00</sub> )	< 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

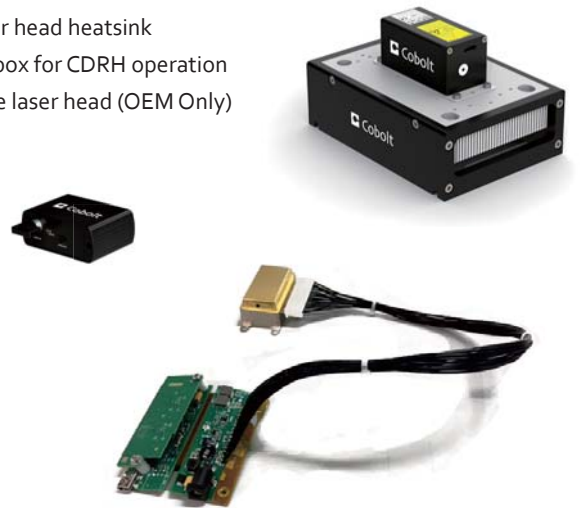
Pin	Function
1	Remote interlock
2	0 V – Ground
3	Direct On/Off (+5 V Input) – OEM Only
4	Key Switch
5	LED 1A (Laser On)
6	LED 2 (Error)
7	LED 1B (Laser On - Redundant)
8	Not used (test)
9	Not used (Ground)
10	Not used (Ground)

### TorXS Laser Head



## Options and Accessories

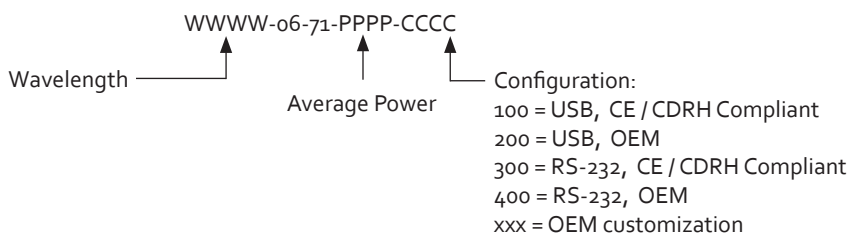
- Laser head heatsink
- Keybox for CDRH operation
- Naked laser head (OEM Only)



## 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	200
3064	300



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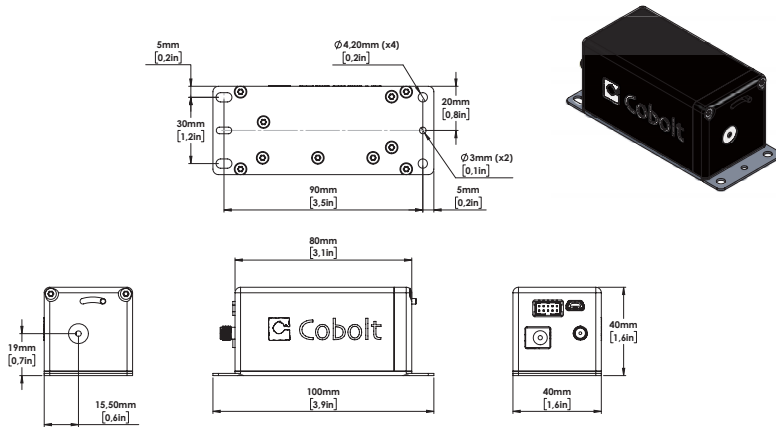
FAX: 81-48-985-2721  
 info@pneum.co.jp 1910



# Cobolt Tor™ XS

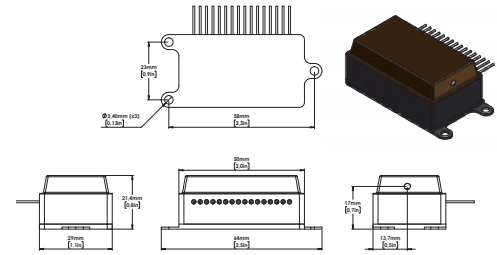
## Mechanical Specifications

### Laser Head - Standard

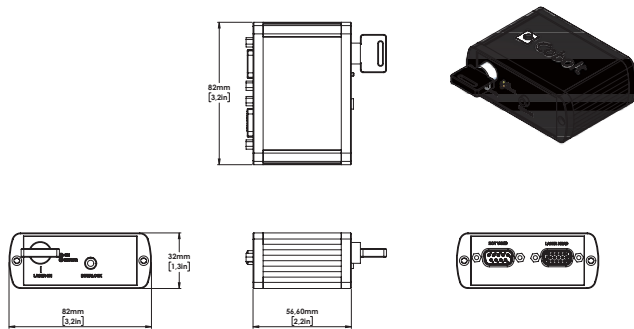


### Laser Head - Naked (OEM ONLY)

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



### Key box



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