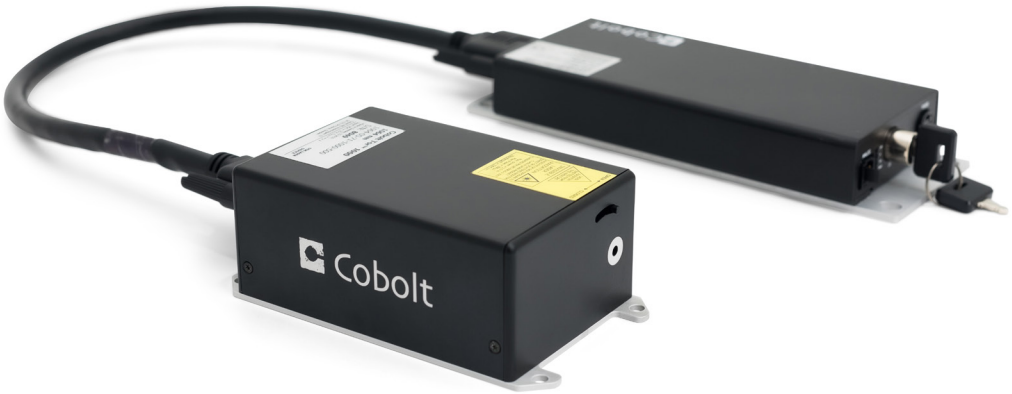
Cobolt Tor™ Series

High Performance | Q-switched Lasers



Applications

LIBS

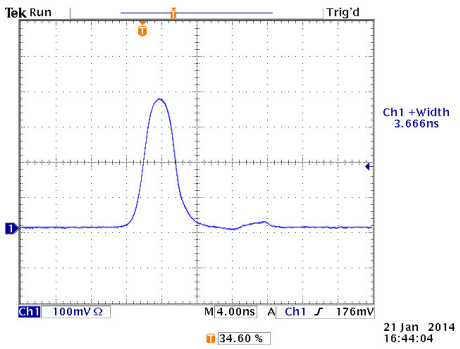
Laser Marking

MALDI-TOF

Range Finding

Micro-machining

- High performance Q-switched lasers
- Up to 1.0 W average output power
- 7 kHz pulse repetition rate
- 3-5 ns pulse width
- Up to 150 µJ nominal pulse energy
- 355 nm, 532 nm and 1064 nm

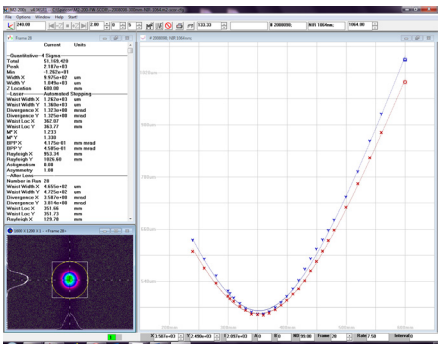


The Cobolt Tor™ Series lasers are high performance Q-switched diode pumped lasers. The sophisticated cavity design of these lasers provides a unique combination of high pulse repetition rates, short pulse lengths and exceptional pulse-to-pulse stability in a high quality TEMoo beam.

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 lasers are equipped with a pulse-count feed-back loop to ensure minimum drift in output power and repetition rate, and also provide a pulse-trigger output signal for convenient synchronisation of detection systems.

The combination of compact format, high level of robustness, high average power and pulse energy performance make the Cobolt Tor™ Series lasers are ideal light sources for a large variety of industrial and scientific applications, including LIBS, micro-dissection, MALDI-TOF, range-finding, Raman-LIDAR and micro-machining



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HÜBNER

Cobolt Tor™ Series

Performance Specifications

	355 nm	532 nm	1064 nm
Wavelength in air (nm)	354.8 ± 0.3	532.1 ± 0.3	1064.2 ± 0.6
Average Power	125 ± 20 mW	420 ± 35 mW	> 1.0 W
Pulse Energy	18 ± 3 µJ	60 ± 5 µJ	> 150 µJ
Peak Power[2]	> 3 kW	> 11 kW	> 30 kW
Pulse Width	3 - 5 ns		
Repetition Rate	7 kHz		
Pulse-to-Pulse Jitter	< 1 µs		
Long-term stability (8 hrs ± 3°C)	< 3 %		
Spatial mode (TEM_{00})	M^2 < 1.3		
Beam symmetry at aperture	> 0.65:1	> 0.85:1	> 0.90:1
Polarization ratio (linear, vertical)	> 100:1		

Operational Environment

Power supply requirements	15 VDC, 6 A
Maximum laser head baseplate temperature	50 °C
Ambient temperature, operation	10 - 40 °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 40°C ambient	0.2 K/W
Maximum heat dissipation of Laser Head	< 63 W, typical 30W

Model Number

WWWW-05-71-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
Pulse monitor	SMA, 50 Ω

Heatsink with fans HS-04

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

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)	Max Pulse (µJ) / (ns)
355	350	50 / 3-5

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)	Max Pulse (µJ) / (ns)
532	1500	214 / 3-5
1064	2000	286 / 3-5

CE

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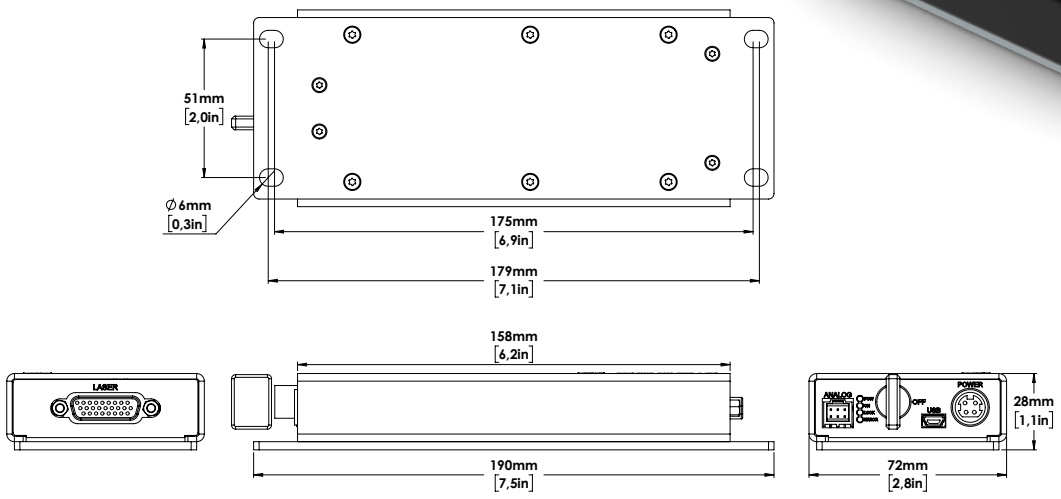
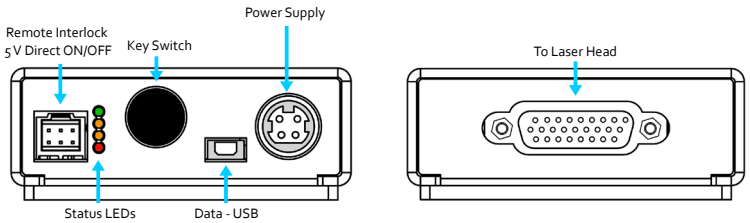
Mechanical Specifications

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)

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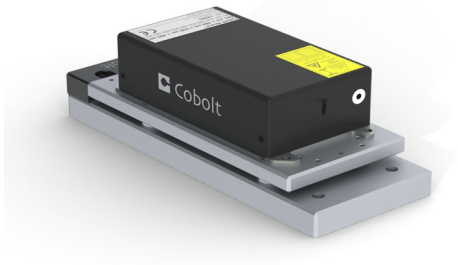
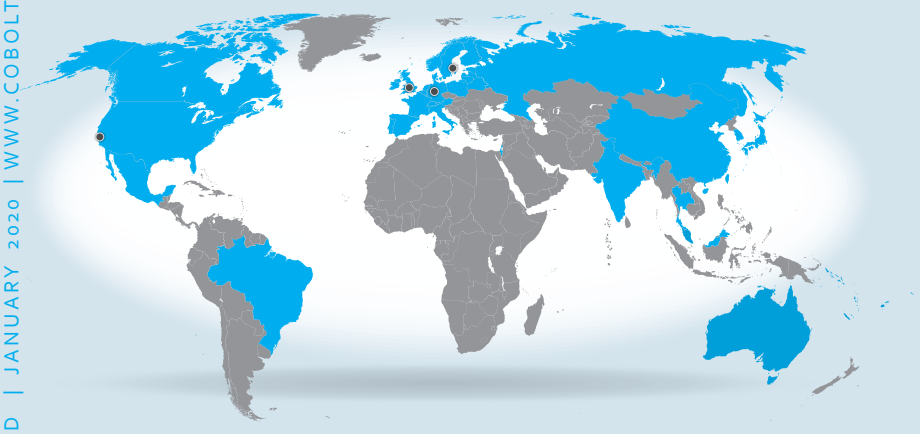
Options and Accessories

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

Heatsink with fans HS-04



TEC-Plate for active baseplate temperature control



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