

Cobolt Qu-T™ Series

Compact tunable laser | Single Frequency | High Power

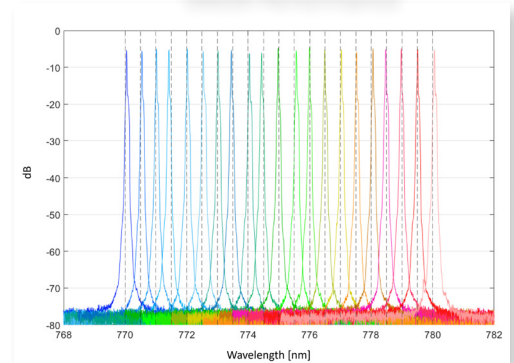
Applications

Laser Cooling
Entangled Photon Generation
Atomic Clock Research
High Resolution Spectroscopy
Interferometry



- 大きな波長柔軟性と高出力
- 狭い線幅 (< 100 kHz, free running)
- 高いスペクトル純度 (SMSR > 60 dB)
- 数nmのギャップフリー粗調整 (> 4 nm)
- 高速微調整 (mode-hop free > 5 GHz, typ.)
- 様々な外部基準への周波数ロック
- 24時間365日の信頼性が実証されたコンパクトフォーマット

SMSR Performance



Cobolt Qu-T™シリーズは、650-950nmの波長範囲において、チューニングとロックが可能な単一周波数CWエミッションを提供します。各波長は数nmにわたってギャップフリーで粗調整が可能で、高速ピエゾ制御により外部リファレンスにアクティブにロックされます。

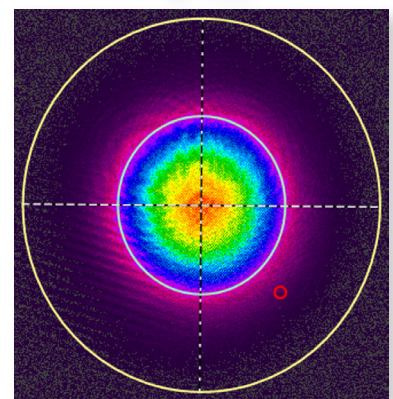
低強度ノイズと狭い線幅の発光を併せ持つこのレーザーは、原子遷移に基づく量子実験や、自発パラメトリック・ダウンコンバージョンによるもつれ光子ペアの生成に最適です。

24時間365日の信頼性が実証されたCobolt HTCure™製造技術により、コンパクトな密閉パッケージに組み込まれたCobolt Qu-T™レーザーは、小型で使いやすいプラットフォームから、幅広い動作条件下で堅牢な性能を提供します。

Cobolt Qu-Tiesがどのように量子技術の研究をより簡単に、より手頃な価格で実現できるか、今すぐお問い合わせください！

Typical Beam Profile

$M^2 < 1.1$



HÜBNER Photonics

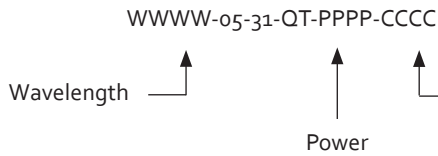


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Performance Specifications

波長	707 nm	780 nm	813 nm
出力	500 mW		
出力安定性 (±2°C and 8hrs)	±2 %		
粗調整範囲	> 4 nm		
微調整 (Piezo)	> 5 GHz, typ.		
ノイズ, 20 Hz - 20 MHz (pk-pk)	< 1%		
ノイズ, 20 Hz - 20 MHz (rms)	< 0.1 %		
開口部におけるビーム径	1000 ± 50 μm		
開口部におけるビーム対称性	> 0.95:1		
ビーム拡がり角 (full angle, mrad)	< 1.2		
空間モード (TEM ₀₀)	M ₂ < 1.1		
スペクトル純度	> 60 dB		
スペクトル幅 (FWHM, 1 ms)	< 100 kHz		
波長安定性 (±2°C and 8hrs)	< 1 pm		
偏光比 (linear, vertical)	> 100:1		
保証 (unlimited hours)	12 months		

Model Number



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
 XXXX = OEM customization

Communication Interface

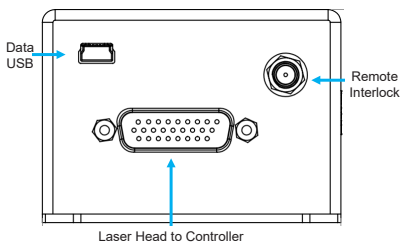
Communication	USB or RS-232
Standard Baudrate	115200

Operational Environment

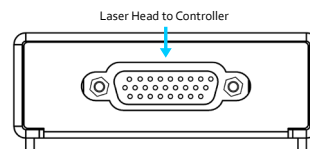
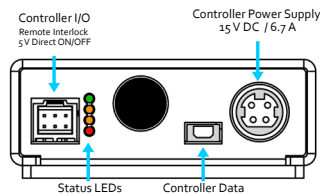
	Cobolt Qu-T™
Power supply requirements	15 VDC, 6 A
System power consumption	< 65 W, typical 30W
Maximum laser head baseplate temperature	50 °C
Ambient temperature, operation	10 - 40 °C
Laser head heat sink thermal impedance (at max ambient temperature)	< 0.2 K/W
Beam pointing stability (over operation temperature range)	< 10 μrad/°C, typical 5 μrad/°C
Ambient temperature, storage	-10 -> +60 °C
Humidity	0- 60 % RH non-condensing
Ambient air pressure	950 - 1050 mbar

Electrical Interfaces

Cobolt Qu-T™ - Laser head



Cobolt Qu-T™ - Controller



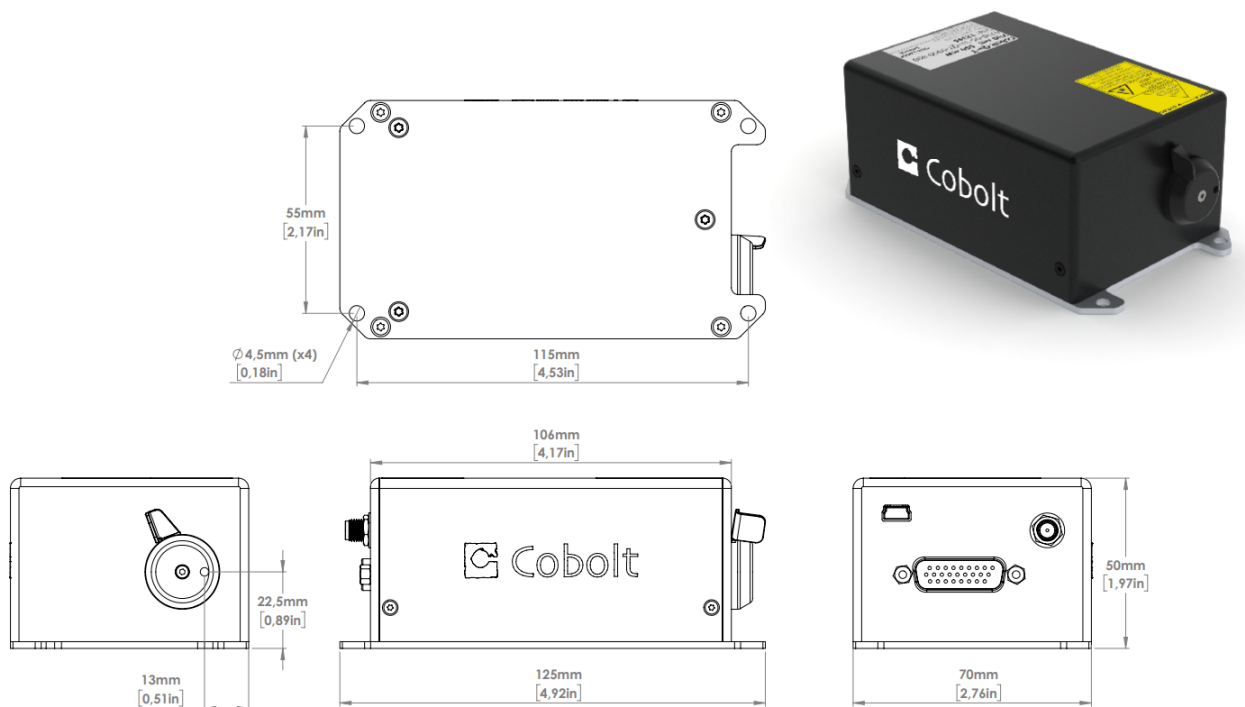
Molex 6 pin - Controller I/O

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

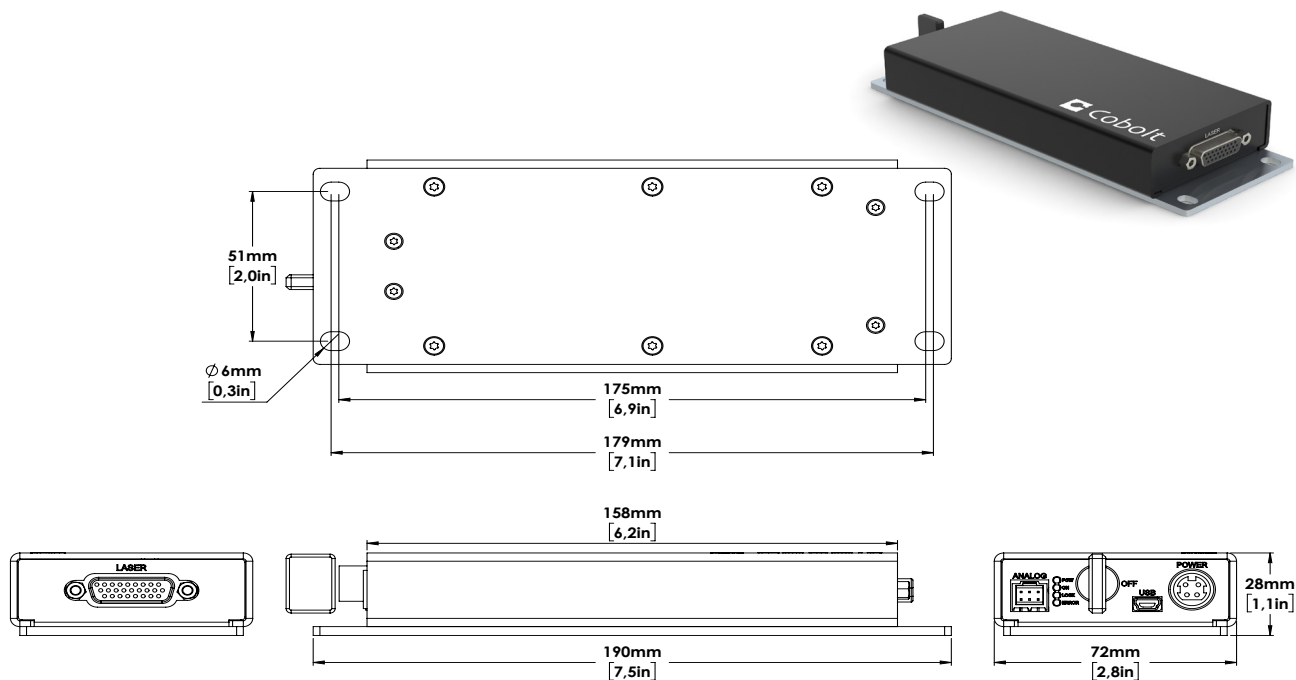
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Mechanical Specifications

Cobolt Qu-T™ Laser head



Cobolt Qu-T™ - Controller



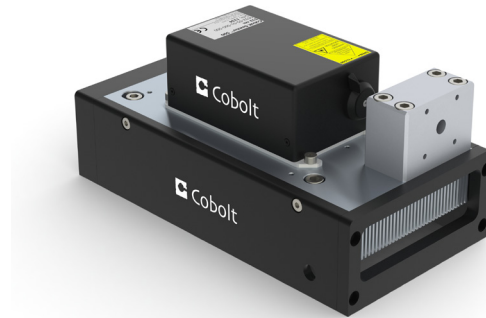
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Options and Accessories

- Laser head heatsink with fans for 05-01 lasers : HS-04
- Heatsink with fiber coupling for 05-01 lasers : FIC-04



Heatsink with fans



Heat sink with fans for fiber coupling FIC-04

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