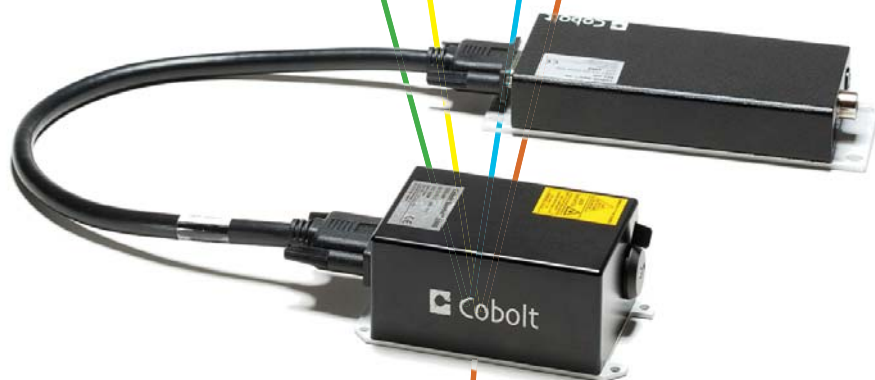




Cobolt

Cobolt Odin™ Series

Compact & tunable Mid-IR lasers



Compact and tunable Mid-IR laser

Wavelength selectability 2-5 μ m; standard 3264nm & 3431nm

Tunable up to 50nm

80mW average output power

10kHz pulse repetition rate

<5ns pulse width

The Cobolt Odin™ Series lasers are ultra-compact and industrial-grade mid-IR sources based on a fully contained temperature tunable Optical Parametric Oscillator (OPO) with integrated pump laser. Periodically poled nonlinear optical (QPM) crystals are used for efficient and spectral-ly flexible generation of mid-IR emission. The lasers are manufactured using Cobolt's proprietary HTCure™ technology and packaged in a compact and hermetically sealed laser head, offering a size, robustness and reliability never before achieved for this kind of laser source.

The Cobolt Odin™ Series lasers provide up to 80 mW average output power at a centre wavelength freely selectable over the range of 2-5 μ m. Through tailoring of the QPM crystal the lasers can be offered with either narrowband or broadband spectrum and they are also tunable in wavelength over 10's of nm by temperature tuning. The emission is generated in nanosecond pulses (<5 ns) at high pulse repetition rate (10 kHz) and very low pulse jitter.

The combination of compact format, high level of robustness, spectral flexibility and low power con

sumption makes the Cobolt Odin™ Series lasers ideal light sources for a large variety of industrial and scientific applications related to molecular spectroscopy. In particular they are suitable for integration into analytical instrumentation for fast, accurate and sensitive gas detection used in environmental monitoring applications as well as for control and limitation of pollution emissions in petrochemical, automotive and energy production industries.

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Specifications

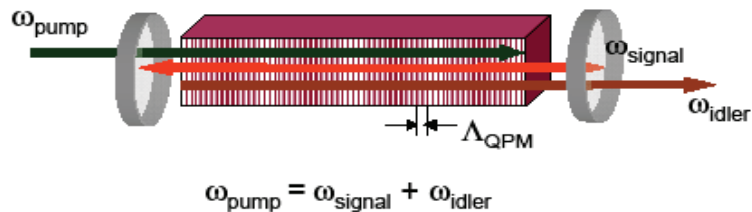
Parameter	Specified value	
Centre wavelength*	3264nm	3431nm
Bandwidth (narrowband)	<1.5nm	
Tunability**	±25nm	
Average output power	>80mW	
Repetition rate***	>10kHz	>7kHz
Pulse energy	>7μJ	>10μJ
Pulse duration (FWHM)	<5ns	
Beam symmetry at aperture	>0.90:1	
Beam diameter at aperture	1.7mm collimated	
Beam divergence (full angle)	<8mrad	
Pulse-to-pulse jitter	<1μs	
Long-term stability (8hrs ± 3°C)	<3%	
Total system consumption	<63W	
Operating temperature	10-40°C	
Laser head dimensions	[mm] [inches]	125 x 70 x 45 4.1 x 2.4 x 1.6
Controller dimensions	[mm] [inches]	190 x 72 x 28 7.6 x 2.9 x 1.1

* Other centre wavelengths in the span 2-5 μm are available upon special request.

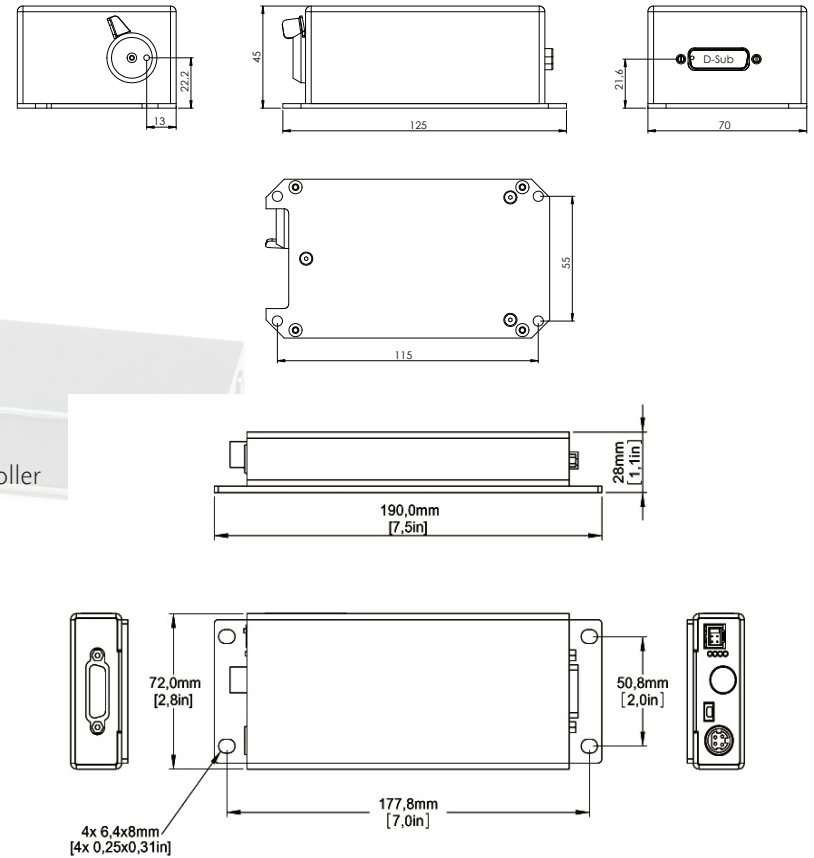
** Tunable by temperature, no moving parts.

*** The repetition rate can be chosen at time of purchase in combination with any available wavelength.

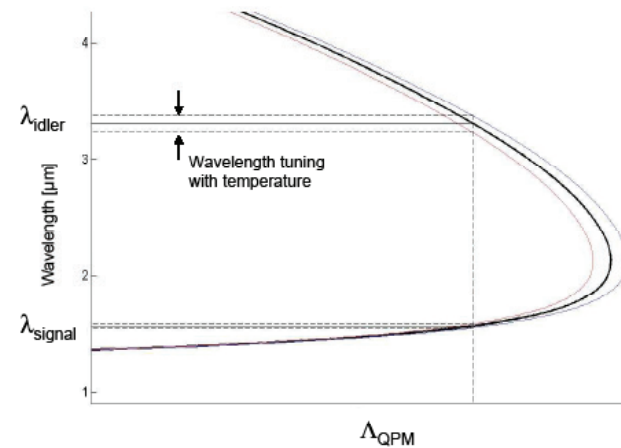
* Output wavelengths from Optical Parametric Oscillator (OPO) based on QPM crystal (signal-resonant)



Full specifications can be found in the manual. Subject to change without notice. Rev 1312



Relation between output wavelength and Λ_{QPM} from OPO pumped at $\lambda_{\text{pump}} = 1064 \text{ nm}$



Options & Accessories

- Laser head heatsink
- Communication cable (RS-232 / USB)

HTCure™ is a Cobolt proprietary technology for manufacturing of ultra-robust and reliable laser sources, allowing Cobolt to offer market leading warranty terms.

