Cobolt Odin™ Series

Compact & tunable Mid-IR OPO

- Compact and tunable Mid-IR laser
- Wavelength selectability 2-5µm; standard 3264nm & 3431nm
- Tunable up to 50nm
- 80mW average output power
- 7-10kHz pulse repetition rate
- < 5ns pulse width

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

The Cobolt Odin™ Series provide up to 80 mW average output power at a centre wavelength freely selectable over the range of 2-5 µm. Through tailoring of the QPM crystal the lasers can be tuned 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 consumption makes the Cobolt Odin™ Series ideal mid-IR 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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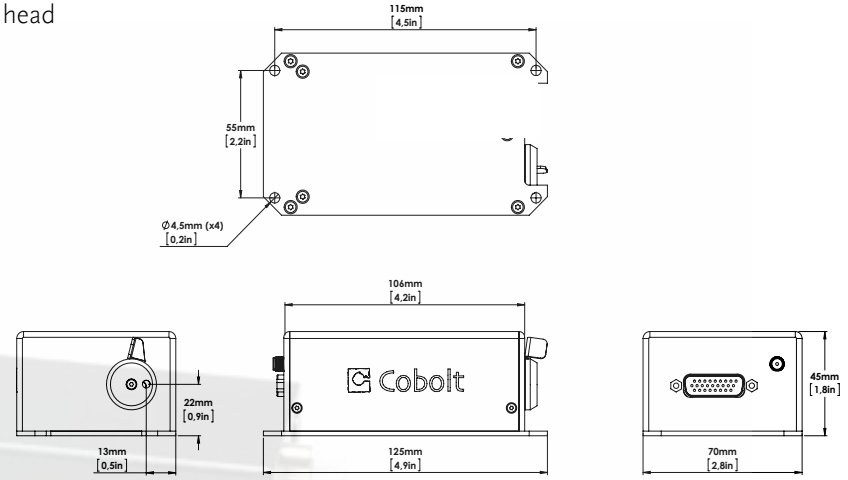
Specifications

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		1.7 ± 0.5 mm	
Beam divergence (full angle)		< 8mrad	
Pulse-to-pulse jitter		< 1µs	
Long-term repetition rate stability (8hrs ± 3°C)		< 3%	
Total system consumption		< 63 W, typical < 40 W	
Operating temperature		10°-40°C	
Recommended Heat Sink thermal resistance		0.2 K/W	
Operating modes		- constant current -constant power - burst mode operation -constant repetition rate (OEM only)	
Output trigger signal		- pulse trigger output via SMA available	
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	
Communication		USB	
Part Number		CDRH/CE (key-switch for on/off)	OEM (auto-start mode)
		wavel-05-71-pwr-700	wavel-05-71-pwr-800
Warranty		12 months	

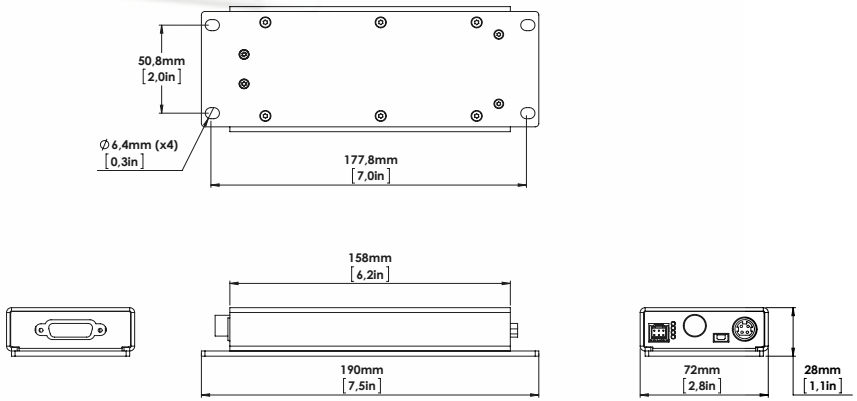
* Other centre wavelengths in the span 2-5 µm are available upon special request.
** Tunable by temperature, no moving parts.
*** The repetition rate can be chosen at time of purchase.

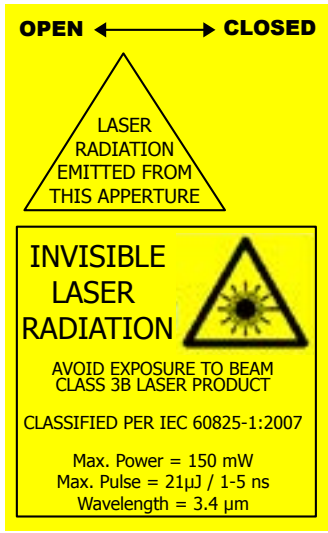
Full specifications can be found in the owner's manual. Subject to change without notice. Rev1411

Laser head



Controller





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.

Cobolt