

# Cobolt Odin™ Series

Compact | Tunable | Mid-IR OPOs



## Applications

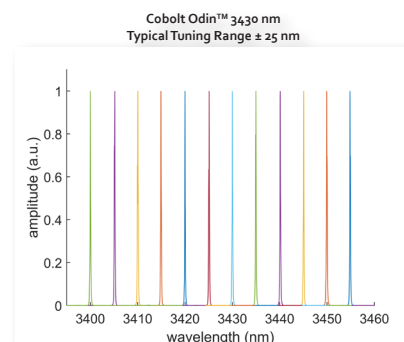
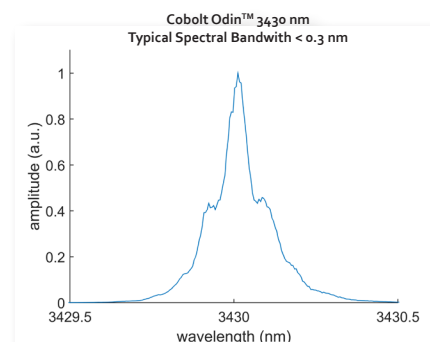
Gas Analysis  
Molecular Spectroscopy  
Environmental Monitoring

- Center wavelength selectability 3.1 - 4.6  $\mu\text{m}$
- Tunable up to 50 nm
- Up to 80 mW average output power
- 7 or 10 kHz pulse repetition rate
- 3 - 5 ns pulse width
- Standard wavelengths : 3264 nm, 3431 nm, and 4330 nm

The Cobolt Odin™ Series is an ultra-compact and industrial-grade mid-IR source based on a fully contained temperature tunable Optical Parametric Oscillator (OPO) with integrated pump laser. The lasers are manufactured using Cobolt's proprietary HTCure™ technology and packaged in a compact and 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 3.1 - 4.6  $\mu\text{m}$  through tailoring of the nonlinear crystal. The lasers can be tuned in wavelength over tens of nanometers via temperature adjustments. The emission is generated in nanosecond pulses (< 5 ns) at high pulse repetition rate (10 kHz) and very low pulse-to-pulse jitter.

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



HÜBNER Photonics



# Cobolt Odin™ Series

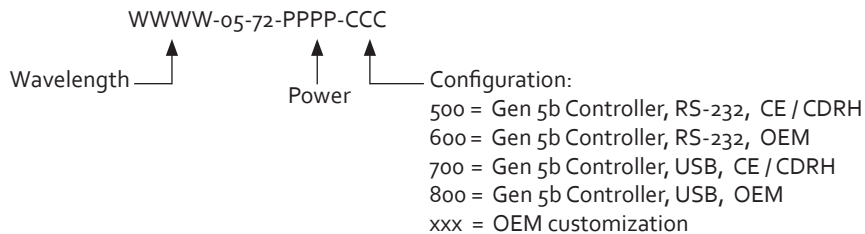
## Performance Specifications

Center Wavelength in air	3264 nm	3431 nm	4330 nm	
Spectral Bandwidth	< 0.3 nm		< 0.5 nm	
Wavelength Tuning Range	±25 nm		± 20 nm	
Average Power	> 80 mW		> 60 mW	
Repetition Rate	> 10 kHz	> 7 kHz	> 10 kHz	> 7 kHz
Pulse Energy	> 7 µJ	> 10 µJ	> 5 µJ	> 8 µJ
Pulse Width	3 - 5 ns			
Pulse-to-Pulse Jitter	< 1 µs			
Long-term stability (8hrs ± 3°C)	< 3 %			
Beam Diameter	1.9 ± 0.5 mm			
Beam Divergence	< 8 mrad			
Beam symmetry at aperture	> 0.90:1			

## 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



## 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 Electrostatic Discharge (ESD). ESD protection can be achieved with proper electrical grounding.



**WARNING INVISIBLE LASER RADIATION!**

Avoid exposure to beam.  
Class 3B Laser Product  
Classified per IEC 60825-1:2014



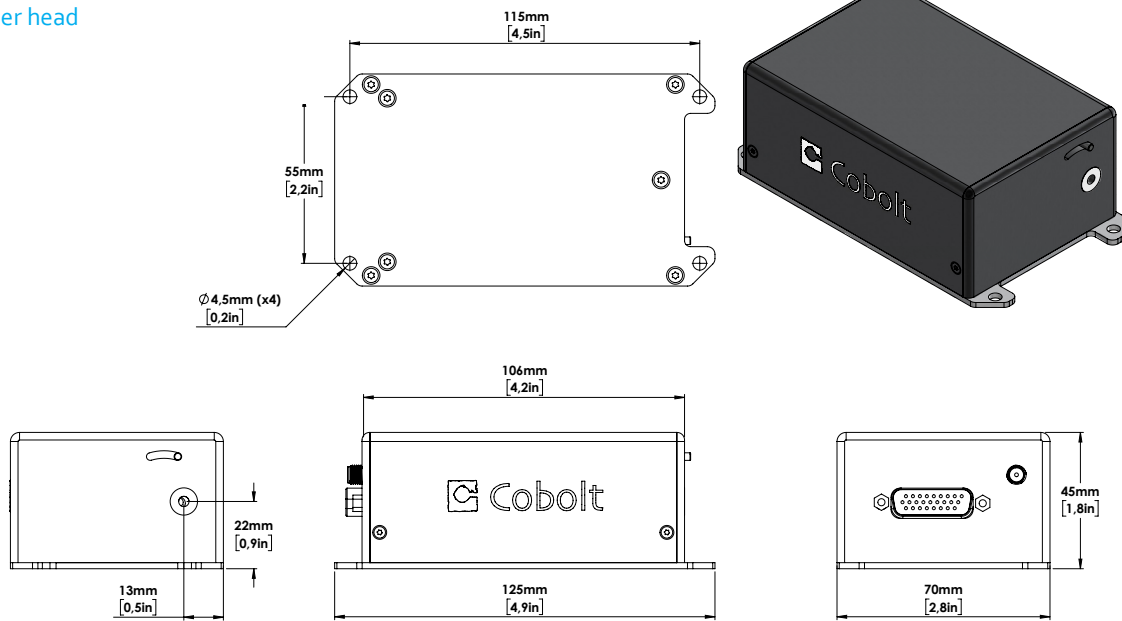
Wvl (nm)	Max.Pwr (mW)	Max Pulse (µJ) / (ns)
3264	150	15 / 1-5
3431	150	15 / 1-5
4330	150	15 / 1-5



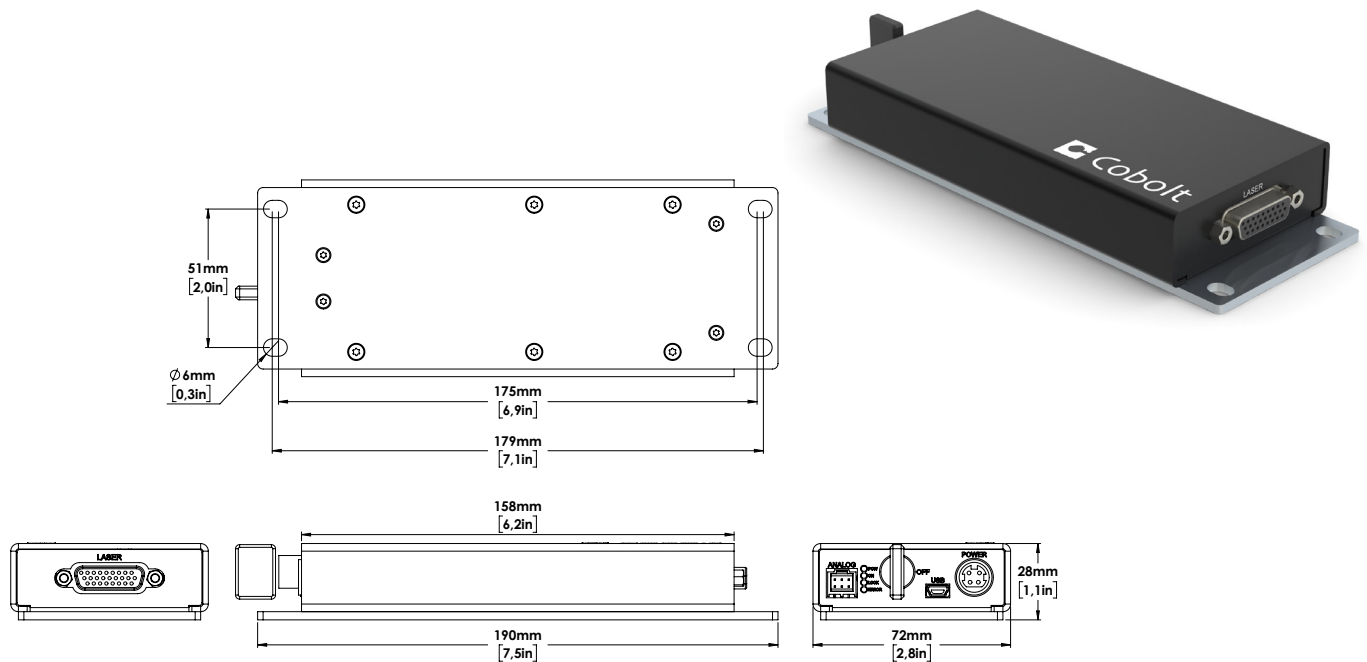
# Cobolt Odin™ Series

## Mechanical Specifications

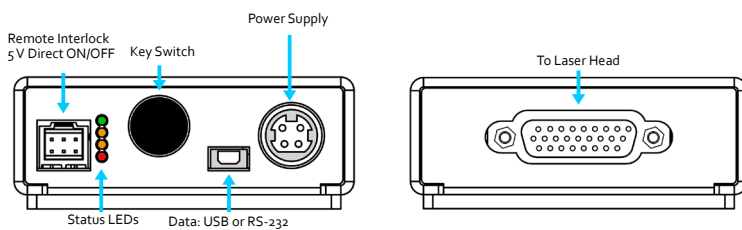
### Laser head



### Controller



## Electrical Interfaces



### Molex 6 pin - Controller I/O

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

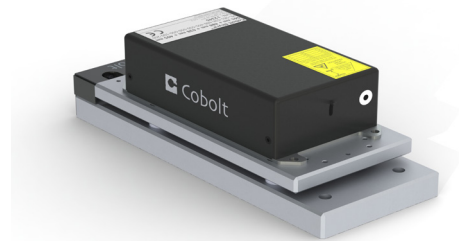
# Cobolt Odin™ Series

## 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

## Our Locations

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