

## HI-Q® Laser Phase Lock System

The OEwaves' laser locking box provides the user with the ability to phase lock the frequency difference between two lasers together relative to an internal or external reference using an internal PLL (Phase Locked Loop) circuit.



HI-Q® Laser Lock Box is capable of automatically and rapidly phase locking two independent lasers together without a complex setup. The lock box outputs the locking signal to feedback to the source lasers, such as via the piezo tuning input of an OEwaves OE4030 HI-Q® sub-hertz laser, or other laser via its frequency tuning port.

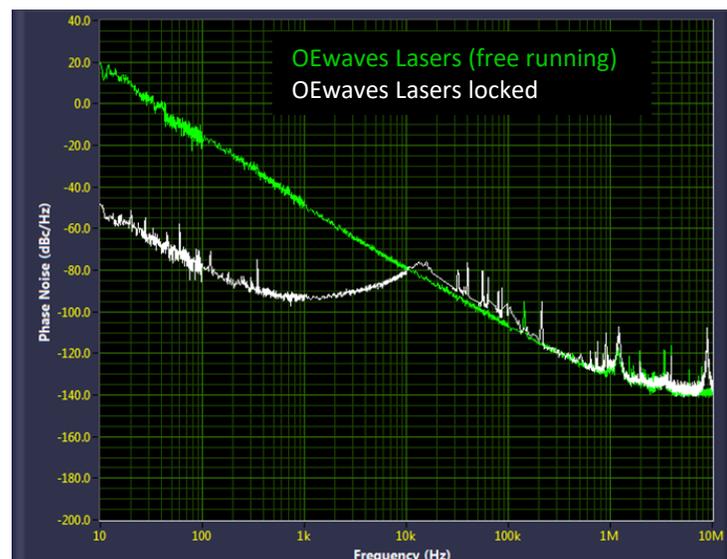
This product is unique in the application of photonic generation of RF signals and can be paired easily with OEwaves' VCO to provide a stable RF source. The system operates with ease, speed and precision via a provided GUI (Graphic User Interface) that can be installed on any PC. The system is scalable to various frequencies and input wavelength bands and is available with multiple frequency range options. This system is ideal for many applications in manufacturing and research environments.

## FEATURES

- Wide Frequency Lock Range
- Large Dynamic Range
- RF and Optical Monitor Outputs
- Simple to Use Front Panel or GUI Software Interface
- Front Panel Lock Status Indicator
- Internal or External Reference
- Built-in 100 MHz Reference

## APPLICATIONS

- Photonic Local Oscillators (LOs)
- Metrology and Sensing
- Stabilized VCOs (Voltage Controlled Oscillators)
- Low Phase Noise RF Generation



# HI-Q® LASER PHASE LOCK SYSTEM SPECIFICATIONS

OE5000

Part Number	OE5000-0780	OE5000-1064	OE5000-1310	OE5000-1550
Input Wavelength Range <sup>1</sup>	765 – 805 nm	1049 – 1079 nm	1295 – 1325 nm	1535 – 1565 nm
Laser Frequency Difference Options	5 – 20 GHz		5 – 20 GHz	
			5 – 50 GHz	
Laser Input Connectors <sup>2</sup>	FC/APC PM			
Laser Input Power Range	0.4 – 4 mW	0.35 – 3.5 mW	0.3 – 3 mW	
Loop Filter Bandwidth <sup>3</sup>	247 kHz			
DC Input Power <sup>4</sup>	±12V, 0.5A			
RF Connector Types <sup>2</sup> (Ref In/Out, Tune, RF Monitor)	SMA			
External Reference Input Frequency Range	10 – 800 MHz			
Dimensions (L×W×H)	25 cm × 26 cm × 9.02 cm			

\*Technical Note: Phase Lock System is optimized for operation with OEwaves' laser products and may require additional tuning for specific applications

<sup>1</sup>Additional wavelength ranges available upon request

<sup>3</sup>Additional connector options available on request

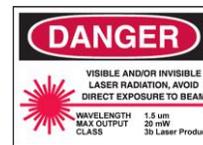
<sup>3</sup>Tuned for 20 GHz operation

<sup>4</sup>Power supply not included

Please contact OEwaves sales for additional options

**Laser Safety:** This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR) 1040 and is classified as a FDA/CDRH Class 3b laser product.

**Note:** These specifications are subject to change without notice. This product line is covered by one or more of the following U.S. patents: 6,871,025; 6,879,752; 7,248,763; 7,991,025; 7,869,472. Other patents pending. ECCN: EAR99



+1.626.351.4200  
sales@oewaves.com  
www.oewaves.com

RIDE THE WAVE OF INNOVATION

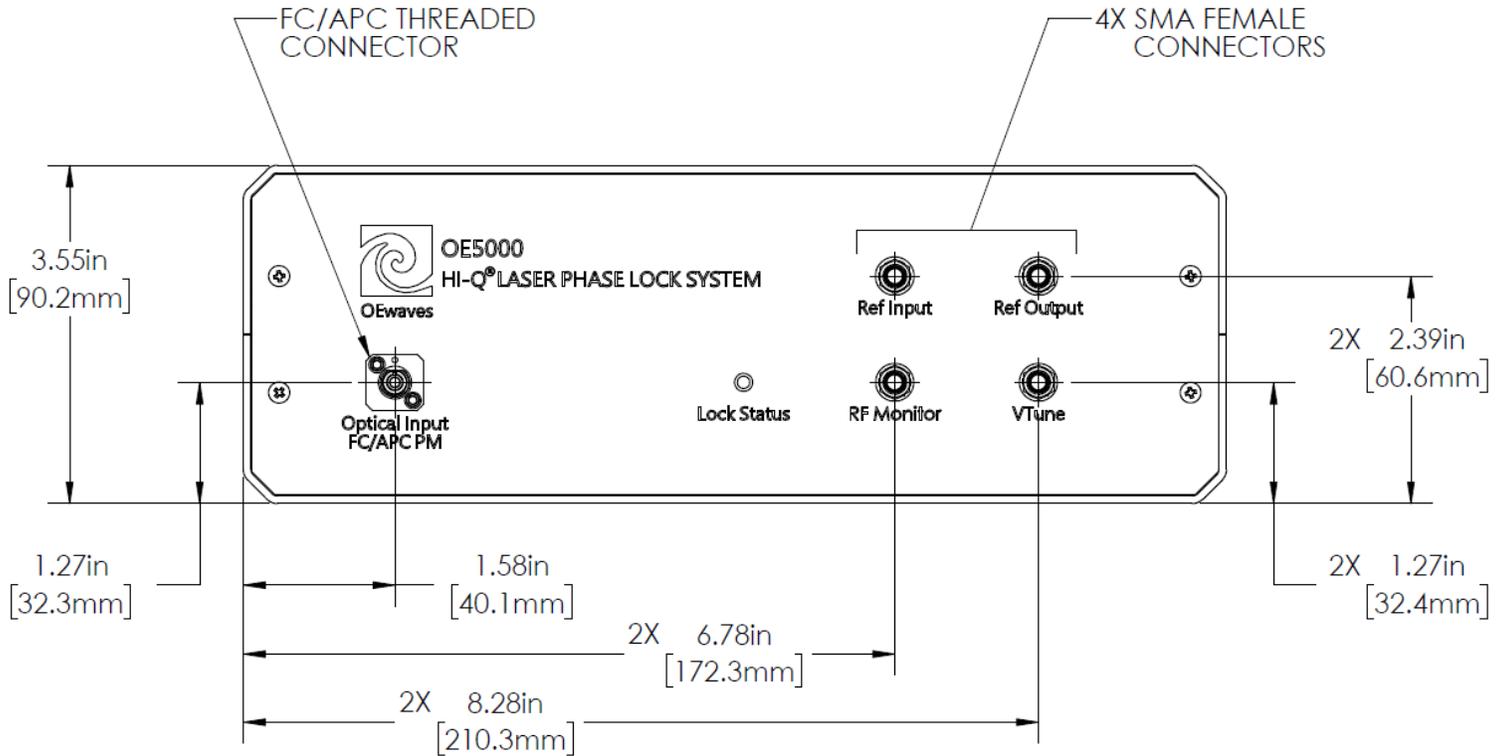
465 N. Halstead Street, Suite 140 Pasadena, CA 91107

PDS-0017\_C

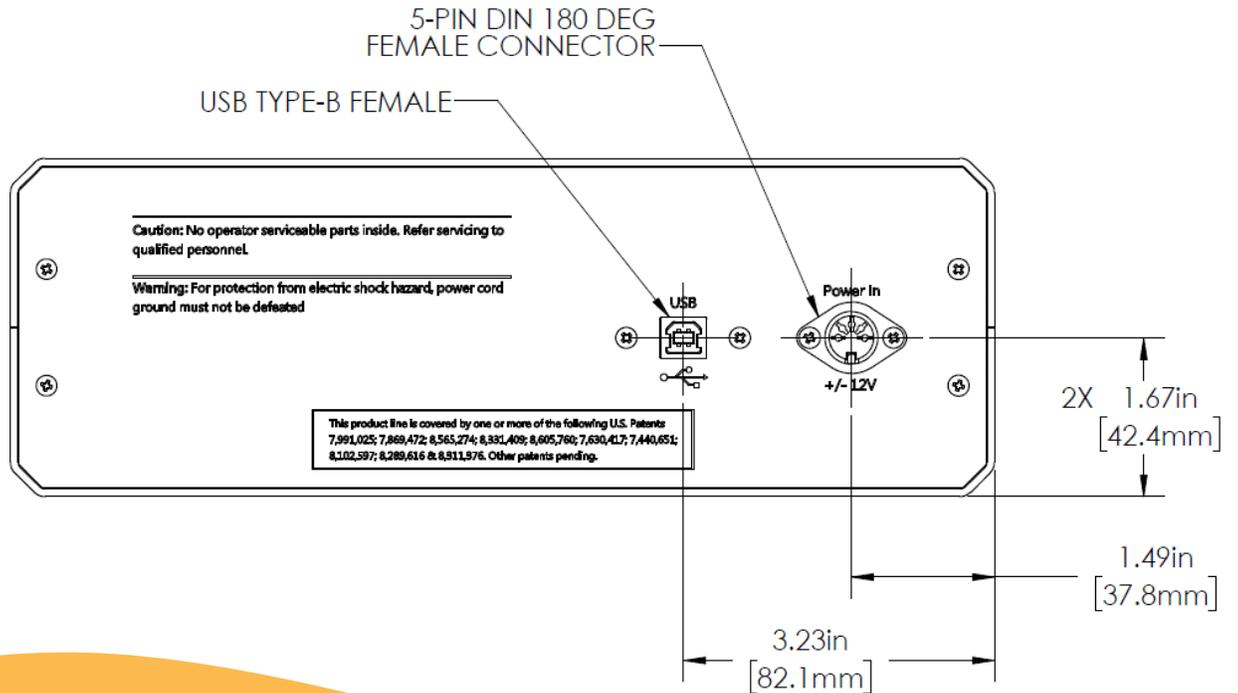
# HI-Q<sup>®</sup> LASER PHASE LOCK SYSTEM INTERFACES

OE5000

FRONT:



BACK:



RIDE THE WAVE OF INNOVATION