

# CEP Accessory for Micra

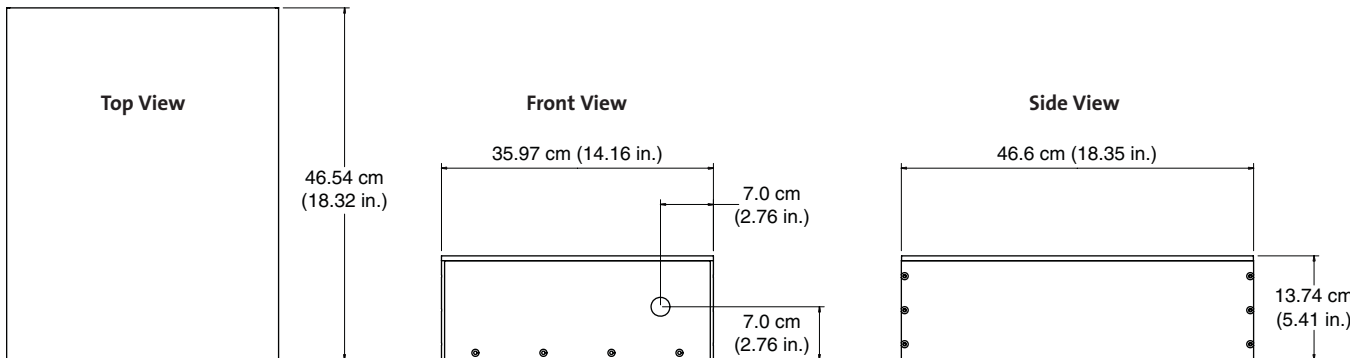
## Carrier-Envelope Phase (CEP) Stabilizer



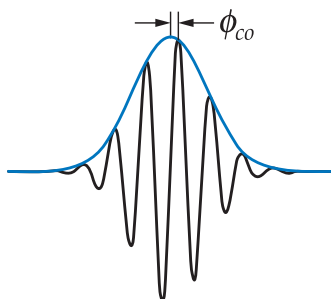
### Features

- Locks the relative phase between the oscillating optical field and the pulse envelope for femtosecond pulses
- Compatible with Micra family of short-pulse Ti:S oscillators
- Based on optical frequency comb technology from Menlo Systems GmbH
- Verdi™ pump laser built into the Micra provides ultra-low noise performance required for best CEP performance
- Applications include attosecond research, coherent control, optical clocks, and high harmonic generation

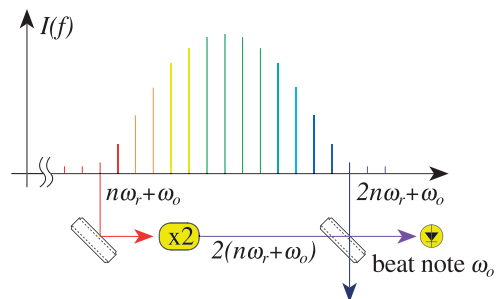
### Mechanical Specifications



### Carrier Offset Phase



### CEP Self-Referencing Stabilization Scheme



Superior Reliability & Performance

## CEP Accessory for Micra™ Carrier-Envelope Phase (CEP) Stabilizer

### System Specifications

Optical Power Requirements	200 mW average power from Micra (beamsplitter included with system)
Input Pulse Repetition Rate	70 to 90 MHz
Offset Frequency	1/4 of the repetition frequency
Offset Frequency Linewidth	<1 Hz

### System Description

The CEP stabilizer is an active feedback control system that locks the relative phase of the oscillating light field to the pulse envelope. At the heart of the CEP stabilizer is a nonlinear f-2f interferometer. This unit uses a photonic crystal fiber to generate an octave-spanning optical spectrum. The red end of this spectrum is frequency-doubled and combined with the green end of this same broad spectrum. The resultant beat frequency is sensed by a fast photodetector that provides the CEP feedback signal. After suitable processing, this signal is then used to control a fast cavity mirror actuator inside the Micra laser and thereby stabilize and control the carrier-envelope phase relation.

The Micra with CEP stabilizer is a powerful and flexible broadband laser source for the emerging fields of attosecond research, high harmonic generation, optical clocks and coherent control.

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all CEP Accessories lasers. For full details of this warranty coverage, please refer to the Service section at [www.Coherent.com](http://www.Coherent.com) or contact your local Sales or Service Representative.



[www.Coherent.com](http://www.Coherent.com)

**Coherent, Inc.**  
5100 Patrick Henry Drive  
Santa Clara, CA 95054  
phone (800) 527-3786  
(408) 764-4983  
fax (800) 362-1170  
(408) 988-6838  
e-mail [tech.sales@Coherent.com](mailto:tech.sales@Coherent.com)

Benelux +31 (30) 280 6060  
China +86 (10) 6280 0209  
France +33 (0)1 6985 5145  
Germany +49 (6071) 9680  
Italy +39 (02) 34 530 214  
Japan +81 (3) 5635 8700  
Korea +82 (2) 460 7900  
UK +44 (1353) 658 833

