

XPS800

Femtosecond Phase Stabilization

MenloSystems

KEY SPECIFICATIONS

- Wavelength 800 nm or 1000 nm

APPLICATIONS

- Attoseconds and CEP Control
- High Harmonic Generation
- Coherent Control

FEATURES

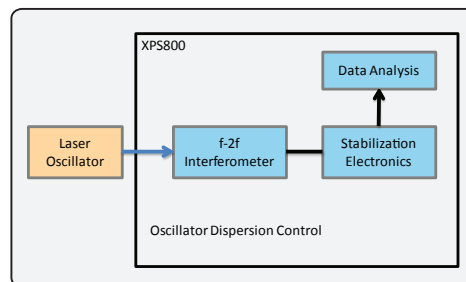
- Real Single Pass Interferometer Design
- Improved Stability and Tiny Footprint
- Easy Coupling into PCF
- Supercontinuum Monitor
- Slow Integrator Ensures Stable Long Term Operation

OPTIONS

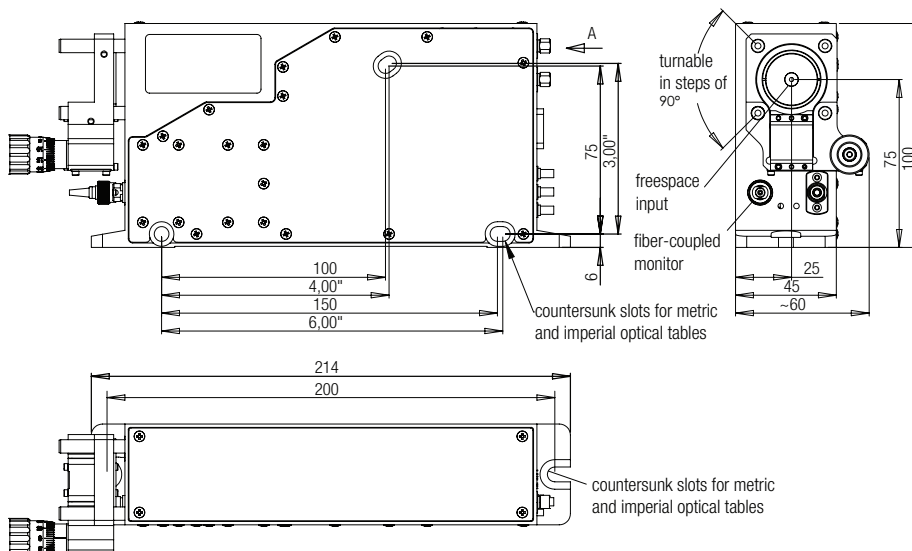
- XPS800-E**
Femtosecond Phase Stabilization Electronic Part
electronic feedback loop for oscillators with octave spanning output
- XPS1000**
Femtosecond Phase Stabilization Electronic Part
for oscillators with 1- μ m center wavelength
- XPS800-E CUSTOM**
Femtosecond Phase Stabilization Electronic Part
customized for zero phase slip instead of the standard $\frac{1}{4}$ slip rate



The XPS800 Femtosecond Phase Stabilization Unit gives you control of the phase relation between the carrier and envelope of your ultrashort pulses. The pulses from the fs laser are broadened in a nonlinear photonic crystal fiber (PCF) to achieve an octave spanning spectrum. A nonlinear interferometer subsequently generates the beat note between the frequency doubled infrared part and the green part of the spectrum. This offset beat signal is fed into the locking electronics. The stabilization electronics is designed to phase lock the offset beat to $\frac{1}{4}$ of the repetition frequency of the oscillator. By doing so every fourth pulse has exactly the same phase. Subsequent amplifier systems can pick those pulses to provide output without phase slip.



TECHNICAL DRAWING OF INTERFEROMETER



XPS800



Femtosecond Phase Stabilization

SPECIFICATIONS

| | |
|----------------------|---------------------------------------|
| Center Wavelength | 800 nm or 1000 nm |
| Repetition Frequency | 70.. 90 MHz |
| Offset Frequency | ¼ of the repetition frequency or zero |

REQUIREMENTS

| | |
|--|---|
| Input Requirements | 200 mW average power in <15 fs pulses |
| Operating Voltage | 100/115/230 VAC |
| Frequency | 50 to 60 Hz |
| Power Consumption | <100 VA |
| Interferometer Dimensions / Weight | 250 x 100 x 60 mm ³ , 1.5 kg |
| Stabilization Electronics Dimension / Weight | 449 x 148 x 317 mm ³ / 7 kg |

ORDERING INFORMATION

| | |
|--------------|--------|
| Product Code | XPS800 |
|--------------|--------|

Please call for pricing. Specifications are subject to change without notice. Custom modifications are available, please inquire.



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