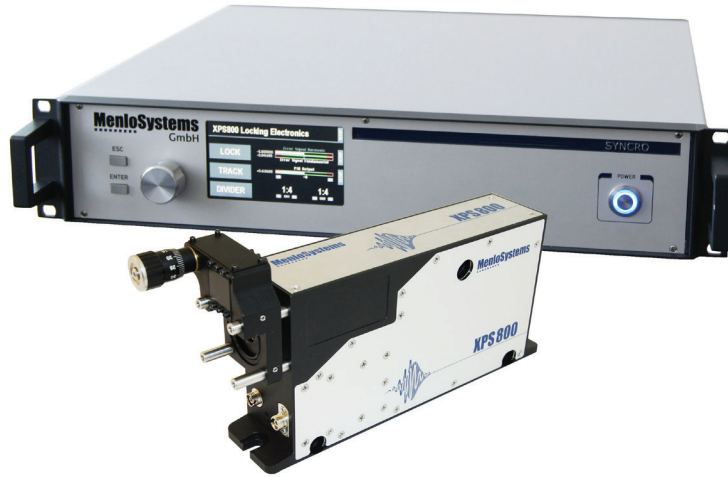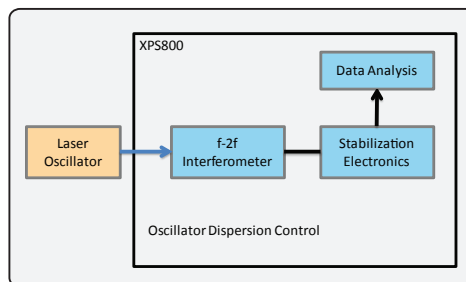# XPS800

Femtosecond Phase Stabilization
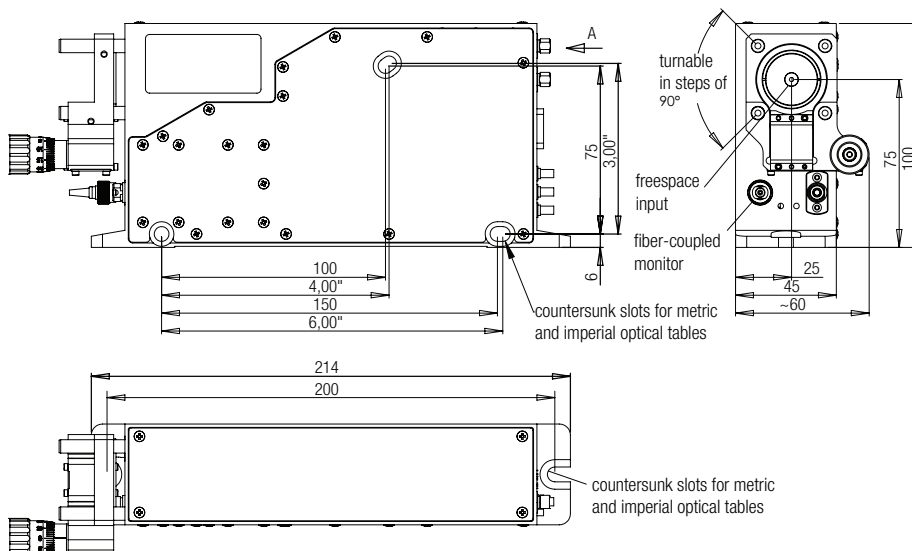
The XPS800 Femtosecond Phase Stabilization Unit gives you control of the phase relation between the carrier and envelope of your ultrashort pulses.The pulses from the fs laser are broadened in a nonlinear photonic crystal fiber (PCF) to achieve an octave spanning spectrum. A nonlinear interferometer 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 ¼ 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.

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
  for oscillators with 1-μm center wavelength

- **XPS800-E CUSTOM**
  Femtosecond Phase Stabilization Electronic Part
  customized for zero phase slip instead of the standard ¼ slip rate

- **APS800**
  Amplifier Phase Stabilization Unit
  for Ti:Sa amplifiers (see separate data sheet for more details)

TECHNICAL DRAWING OF INTERFEROMETER

XPS800

Femtosecond Phase Stabilization

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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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