TUNABLE LASER SOURCE
(Model PHOENIX™ 1400)

Luna's PHOENIX™ Tunable Laser has the best wavelength precision and resolution available combined with a highly linear wavelength sweep.

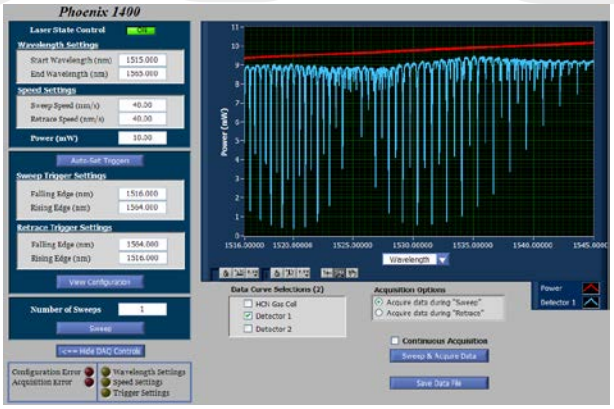
KEY FEATURES AND PRODUCT HIGHLIGHTS

- Full C-band tunability
- Smooth, linear scans
- Narrow linewidth, low noise
- Wavelength calibration in seconds
- Integrated wavelength and power monitors
- External triggering
- 2 optical detectors and data acquisition channels
- Industry leading wavelength accuracy and resolution

Luna's **PHOENIX™ 1400** Benchtop Tunable Laser incorporates Luna's PHOENIX™ tunable laser and driver in a benchtop package. The laser is a miniaturized, tunable external cavity laser driven by a circuit designed for low noise and highly linear swept performance appropriate for a variety of fiber optic test, measurement and sensing applications. Application software gives the user simple but effective control of the laser. It also provides for monitoring of wavelength, power and two user accessible optical receivers.

APPLICATIONS

- DWDM component spectrum analysis
- Ideal source for OFDR systems
- Heterodyne measurements
- Bragg grating distributed sensing
- Near IR Spectroscopy



Intuitive graphical user interface

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PARAMETER	MIN	TYP	MAX	UNITS
Wavelength				
Mode Hop Free Tuning Range	1515		1565	nm
Wavelength Set Point Resolution		0.01		pm
Absolute Accuracy[1]		±1.5		pm
Wavemeter Accuracy[2]		±0.5		pm
Wavemeter Linearity		±50		fm
Stability		10.5		pm/°C
Tuning				
Tuning Rate[8]	1		1000	nm/s
Deviation from Linearity[3]		±1.5	±2	GHz
Power				
Range	8		10	mW
Accuracy		±5		%
Flatness[4]		±7	±10	%
Ripple[4]		±2		%
Noise				
Spectral line width[5,6]		1.5		MHz
Side mode suppression ratio (nearest mode)[5]	43	50		dB
Relative intensity noise[5]		-152	-145	dB/Hz
Spontaneous Emission Ratio[5,7]		-50	-43	dBc/nm
Inputs				
Auxiliary Detectors (SM FC/APC) Min detectable Max detectable Damage threshold	 0.02 10	 0.03 12 50	 0.05 15	mW
Electrical Trigger (BNC) "Low" voltage "High" voltage	 -0.5 +2.0	 0 +3.3	 +0.8 +3.8	V
Outputs				
Optical Power		SM FC/APC		
Electrical Sweep and Retrace Triggers (BNC) +1 MΩ load +50 MΩ load		 +2.5 +1.7		V

All measurements assume warm-up time of 1.5 hrs.

1 Determined by internal NIST-traceable gas cell reference.
2 Measured after wavelength auto-calibration.
3 Over full wavelength range at 10 nm/s.
4 At 10 mW tuning at 10 nm/s over full wavelength range.
5 Measured with laser set to 1540 nm with 10 mW output power.
6 Phase noise distribution full width at half maximum at center wavelength integrated over 1 ms. Measurements indicate that the intrinsic laser linewidth (the limit at which the integration time goes to zero) is less than 100 kHz.
7 Measured with optical spectrum analyzer set at 1 nm resolution bandwidth.
8 Configurations available, Standard 1- 100 nm/s or option 1-1000 nm/s (Others with Engineering Approvals)

CLASS 1 LASER PRODUCT