

**TUNABLE LASER SOURCE**  
(Model PHOENIX™ 1000)

## KEY FEATURES AND PRODUCT HIGHLIGHTS

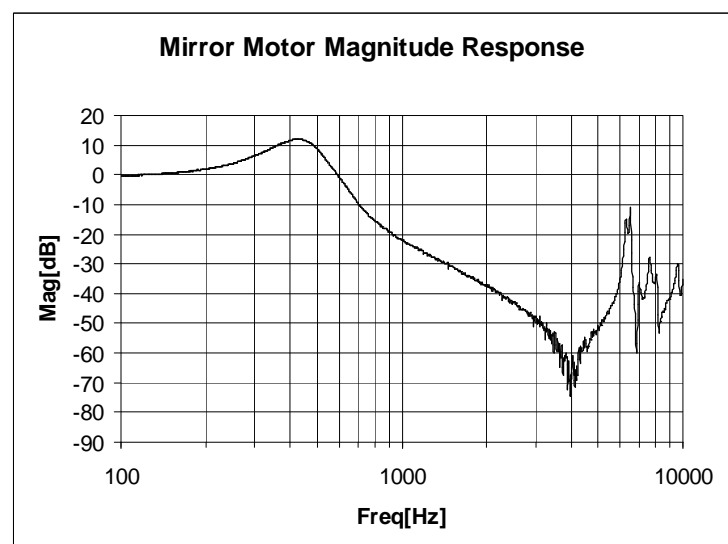
- Full C-band tunability
- Fast tuning up to 500 Hz
- Rugged design withstands testing rigors
- Narrow linewidth
- Superior noise characteristics

The Phoenix 1000, built upon the former Iolon swept tunable platform, offers superior performance and noise reduction.

Luna Technologies' **PHOENIX™ 1000** Swept Laser Module is a tunable laser with an optical fiber coupled output. The laser is a miniaturized, tunable external cavity laser offering high performance in a compact footprint. The Phoenix 1000 was designed with systems integration in mind and is well-suited to a range of fiber optic test, measurement and sensing instrumentation. The small form factor layout is compatible with high-volume manufacturing and is housed in a compact 18-pin, TEC-cooled package that provides improved scalability, ruggedness and speed compared to similar tunable lasers.

## APPLICATIONS

- Fiber optic test and measurement
- Spectroscopy
- Fiber grating-based sensing
- Metrology



# PHOENIX™ 1000

## Absolute Maximum Ratings and Normal Operating Conditions

PARAMETER	MIN	MAX	UNIT
Storage temperature	-40	+85	°C
Storage relative humidity	5	95 <sup>1</sup>	%
Operating case temperature range	-5	+70	°C
Operating relative humidity <sup>1</sup>	5	85	%
Optical reflection back into swept laser		-15	dBc
Fiber output power <sup>2</sup>		65	mW

<sup>1</sup>Non-condensing

<sup>2</sup>At maximum drive current of 350 mA

## General Optical and Sweep Specifications

PARAMETER	MIN	TYP	MAX	UNIT
C-band Tuning Range (mode hop free)	1515		1565	nm
Tuning Modulation Bandwidth (Mirror Motor)	500			Hz
Fiber output power <sup>1</sup>	8	10		mW
Spectral line width <sup>2</sup>		1.0	2.0	MHz
Side mode suppression ratio (nearest mode)	43	50		dB
Relative intensity noise		-152	-145	dB/Hz
Source spontaneous emission		-50	-43	dBc/nm
Polarization extinction ratio	20			dB
Optical isolation	40			dB

<sup>1</sup>Fiber output power is typical at 250 mA drive current.

<sup>2</sup>Phase noise distribution full width at half maximum with 0 V on PZT and 75V on mirror motor control inputs, integrated over 1 ms.



**CAUTION:** Viewing the laser output with certain optical instruments may pose an eye hazard.

