COHERENT®

Lasiris PowerLine

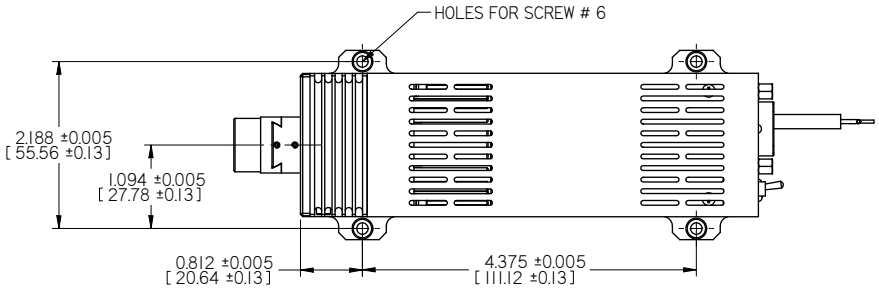
Compact, High Power Laser Line Generator

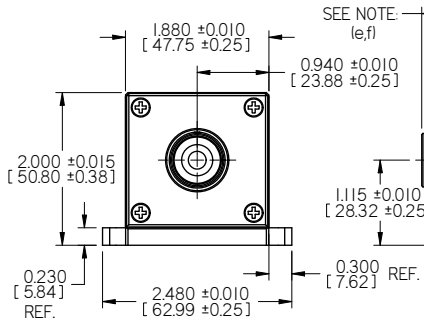
Features

- **High power laser in a compact package**
- **Uniform intensity distribution for laser line generators**
- **Focusable**
- **High pointing stability**
- **Over-voltage, reverse-polarity, over-heating and ESD protection**

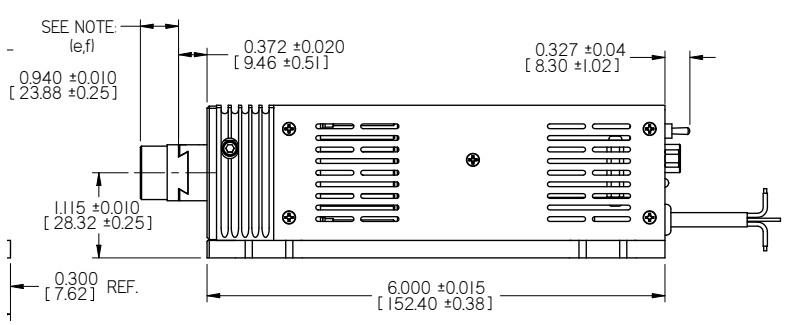
Mechanical Specifications

Top View





Front View



Side View

Superior Reliability & Performance

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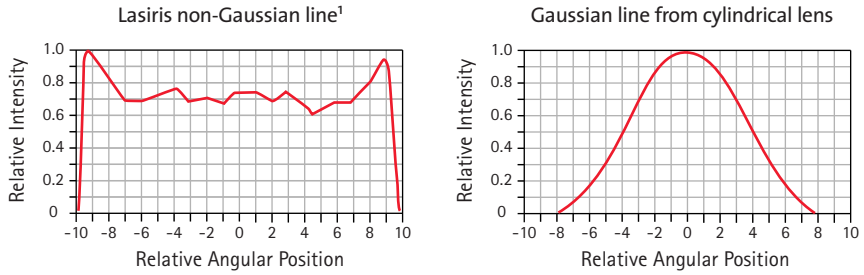
Uniform Intensity

Conventional laser line patterns are often generated by cylindrical optics that produce a Gaussian line profile with a bright center and fading ends. Lasiris patented beam shaping optics spread the light into an evenly illuminated line. The result is a crisp, uniform line with sharp ends.

Line Intensity Profile Along Line Length

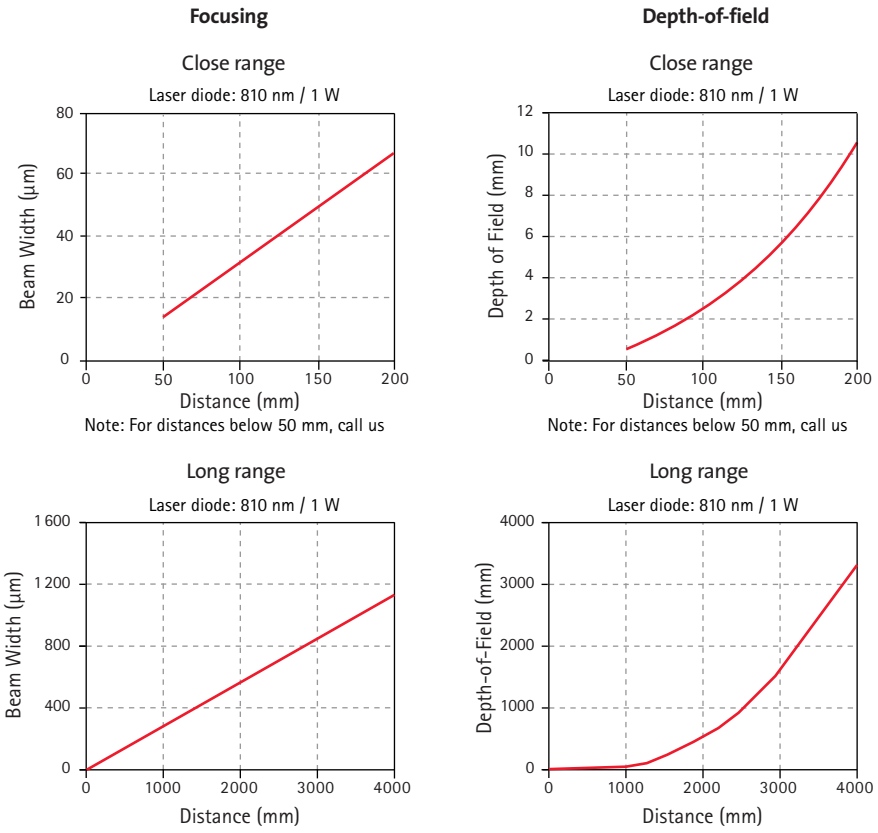


Relative intensity vs. angular position along line length

Focusing Performance

The following figures show the typical focusing and depth-of-field performance (at $1/e^2$) performance. Lasiris PowerLine lasers are focusable and can be adjusted by the user to produce a focused line at any projection distance. In addition, the line can be collimated so that its thickness remains fairly constant over a long projection distance.

Focusing and Depth-of-Field Performance



Notes

[1] Typical profile

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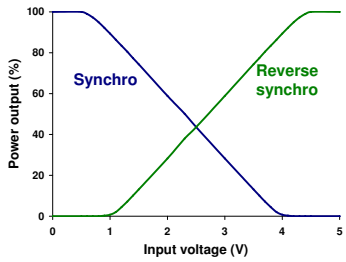
Optical Specifications	Wavelength ±10 (nm)	375, 405, 445, 670, 810, custom
	Output Power (mW)	150 to 2000
	Intensity Distribution	Uniform (non-Gaussian) lengthwise, Gaussian widthwise
	Line Thickness (focus)	User adjustable
	Pointing Stability (µrad/°C)	5
	Bore Sighting (mrad)	<3 (collimated)
Environmental Specifications	Operating Temperature (°C)	-20 to +55 for most models
	Storage Temperature (°C)	-40 to +70
	Wavelength Drift	Maximum ±1 nm over entire operating temperature range
Electrical Specifications	Power Supply Voltage (VDC)	5 ±0.5 Options: 12/24 ±0.5 or 110/240 VAC external adapter
	Power Supply Current (A)	3 at ambient temperature 4 maximum
	Built-In Protection	Entire product: ESD, over-voltage, reverse polarity of power supply Laser diode: overheating, over-current
	Laser Diode Operating Temperature (°C)	25 ±0.5 (adjustable in factory)
	Maximum Beam Power	User adjustable (trim potentiometer on the back panel)
	Beam Modulation	External, though a DB-9 connector on the back panel
	Monitoring	Laser temperature, laser current, PD current through DB-9
	Power Options	Standard modulation: Synchro (code S) Input voltage = 0V ⟶ laser "ON" (max. power) Input voltage = 5V ⟶ laser "OFF" Reverse modulation (code RS) Input voltage = 0V ⟶ laser "OFF" Input voltage = 5V ⟶ laser "ON" (max. power) TTL (code T or RT)
	Maximum Frequency (kHz)	10
	Rise/Fall Time (µs)	<10
Options	No fan for lower electronic noise (up to 40° C without over-heating)	
	Base plate for efficient heat dissipation	

Power Adjustment Curves



Available Patterns

Single Line

Parallel Lines

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Ordering Information

For all PowerLine series, the warranty period shall be one (1) year. To order, use the following code: PL - Pattern & Interbeam Angle - Wavelength - Pulsing Option (S or RS) - Diode Power - Fan Angle. E.g., PL-501L-670T-500-45° Note that the projected fan angle may be less than the lens fan angle.

	PowerLine UV	PowerLine Violet	PowerLine Blue	PowerLine Red	PowerLine IR
Wavelength[1] (nm)	375	405	445	670	810
Diode Power (mW)	150	600	500	500	1000, 2000
Beam Power (mW)	112	450	375	375	750, 1500
Electrical Power	12/24VDC, 3A[2]	12/24VDC, 3A[2]	12/24VDC, 3A[2]	5VDC, 2A[2]	5VDC, 3A, 4A[2]
Lens Fan Angle	10°, 15°, 20°, 30°, 40°, 45°, 55°,60°, 75°, custom				

[1] ±10 nm

[2] At ambient temperature of 23°C

COHERENT®

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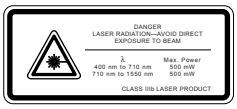

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