COHERENT®

Lasiris Magnum II

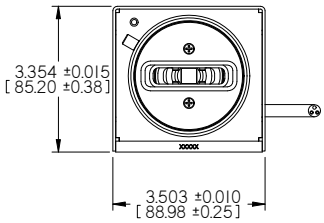
High Power Laser Diode Line Generator

Features

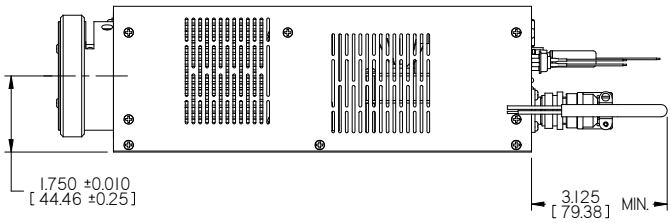
- **Uniform, non-Gaussian intensity distribution along the line**
- **Very high intensity**
- **Wide range of powers and fan angles**
- **High pointing stability**
- **Focusable**
- **Protection against over-voltage, reverse polarity of power supply, overheating and ESD**
- **Rugged, industrial-grade design**

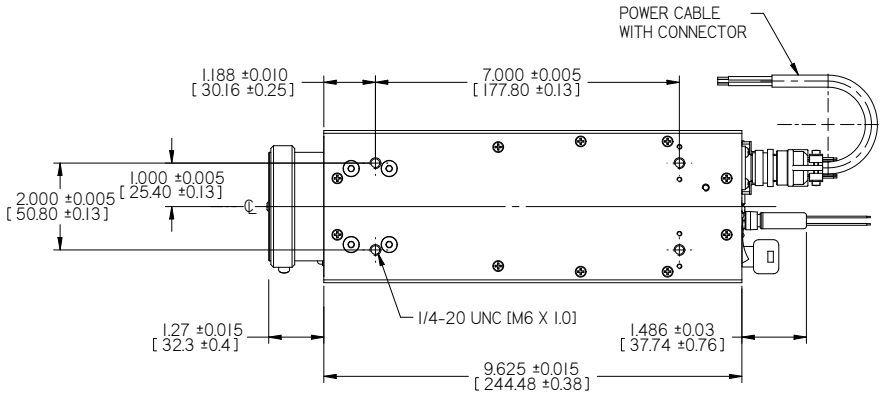
Mechanical Specifications

Front View



Side View





Top View

Superior Reliability & Performance

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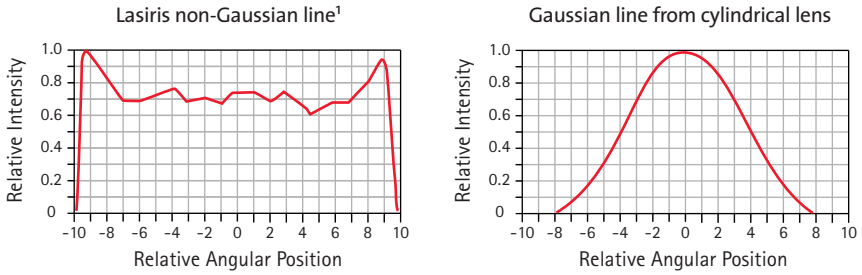
Uniform Intensity

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

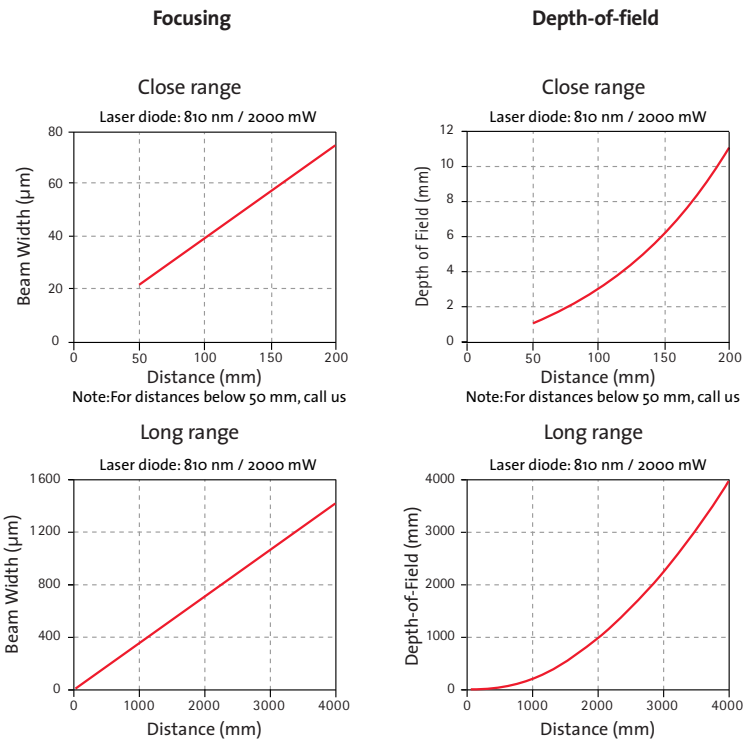


Relative intensity vs. angular position along line length

Focusing Performance

The following figures show the typical focusing and depth-of-field performance (at $1/e^2$). Lasiris Magnum II 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

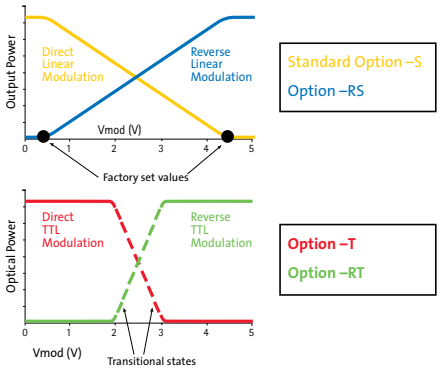


Lasiris™ Magnum II

High Power Laser Diode Line Generator

Optical Specifications	Wavelength (nm)	635, 665, 680, 808, 810, custom
	Output Power (mW)	500 to 7000
	Intensity Distribution	Uniform (non-Gaussian) lengthwise, Gaussian widthwise
	Fan Angles[2] (°)	10, 15, 20, 30, 40, 45, 55, 60, 75
	Line Thickness (focus)	User adjustable
	Noise (%)	<1 at ambient temperature (Max. RMS variation)
	Power Stability (%)	<3 at ambient temperature (Max. variation in 24 hrs)
	Pointing Stability (µrad/°C)	10
	Bore Sighting (mrad)	< 3 (collimated)
Environmental Specifications	Operating Temperature (°C)	-35 to +50 for most models
	Storage Temperature (°C)	-40 to 60
	Wavelength Drift	Maximum ±1 nm over entire operating temperature range
Electrical Specifications	Power Supply Voltage (VDC)	12 ±0.5 An adapter is available to supply the unit from 110/240 VAC line
	Power Supply Current (A)	3 to 5 depending on laser power
	Built-In Protection	Entire product: ESD, over-voltage up to 20V, reverse polarity of power supply. Laser diode: overheating, over-current
	Laser Diode Operating Temperature (°C)	25 ±1 (adjusted in factory)
	Maximum Beam Power	User adjustable (trim potentiometer on the back panel)
	Beam Modulation	External, through a DB-9 connector on the back panel

Modulation Options



Standard Option –S
Option –RS

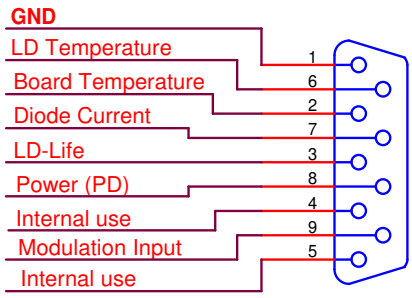
S (synchro) or RS (reverse synchro)
DC to 10 kHz
Linear for amplitude 1.0 V to 4.0 V
Rise/Fall Time: < 10 s

Option –T
Option –RT

T (TTL) or RT (Reverse TTL)
DC to 10 kHz
Rise/Fall Time: < 10 s

High Speed
DC to 100 kHz
Rise/Fall Time: < 0.8 s

DB9 Connector



Notes
[1] Typical profile
[2] 10 °and 15° not available on 4W and 7W models

Lasiris™ Magnum II

High Power Laser Diode Line Generator

Ordering Information

For all Magnum series, the warranty period shall be four thousand (4000) hours or one (1) year (whichever comes first) for the laser diode chip and one (1) year for the electronic, optical, and mechanical components. To order, use the following code: MAG 2– Wavelength – Diode Power – Pulsing Option (S, RS, T, RT) – Fan Angle. Add –100K after the Pulsing Option code for high-speed frequency (100 KHz). See Modulation Graphs for definitions. Add –SD to product code for the separate driver option (e.g., MAG2-680-500T-100K-20˚-SD). Note that the projected fan angle may be less than the lens fan angle.

	Magnum 500	Magnum 500	Magnum 1000	Magnum 1500	Magnum 2000
Wavelength[1] (nm)	635	680	680	665	810
Diode Power (mW)	500	500	1000	1500	2000
Beam Power (mW)	400	400	800	1200	1600
Electrical Power	12 VDC, 3A	12 VDC, 3A	12 VDC, 3A	12 VDC, 3A	12VDC, 5A
Lens Fan Angle[2]	10˚, 15˚, 20˚, 30˚, 40˚, 45˚, 55˚,60˚, 75˚, custom				

	Magnum 4000	Magnum 7000
Wavelength[1] (nm)	810	808
Diode Power (mW)	4000	7000
Beam Power (mW)	3200	5600
Electrical Power	12 VDC, 5A	12 VDC, 5A
Lens Fan Angle[2]	10˚, 15˚, 20˚, 30˚, 40˚, 45˚, 55˚,60˚, 75˚, custom	

[1] ±10 nm

[2] 10˚ and 15˚ not available on 4000 mW and 7000 mW models

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

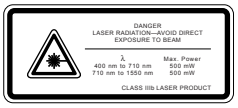
Coherent offers a limited warranty for all Lasiris lasers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.

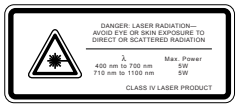
COHERENT®

www.Coherent.com

Coherent, Inc., Portland
27650 SW 95th Avenue
Wilsonville, OR 97070
United States
phone (800) 343-4912
(408) 764-4042
fax (503) 454-5727
e-mail LMC.sales@Coherent.com

Benelux +31 (30) 280 6060
China +86 (10) 6280 0209
France +33 (0)1 6985 5145
Germany +49 (6071) 968 333
Italy +39 (02) 34 530 214
Japan +81 (3) 5635 8700
Korea +82 (2) 460 7900
UK +44 (1353) 658 833





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