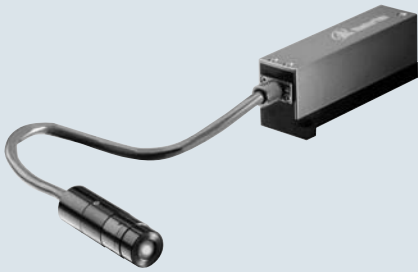


Lasiris ColdRay

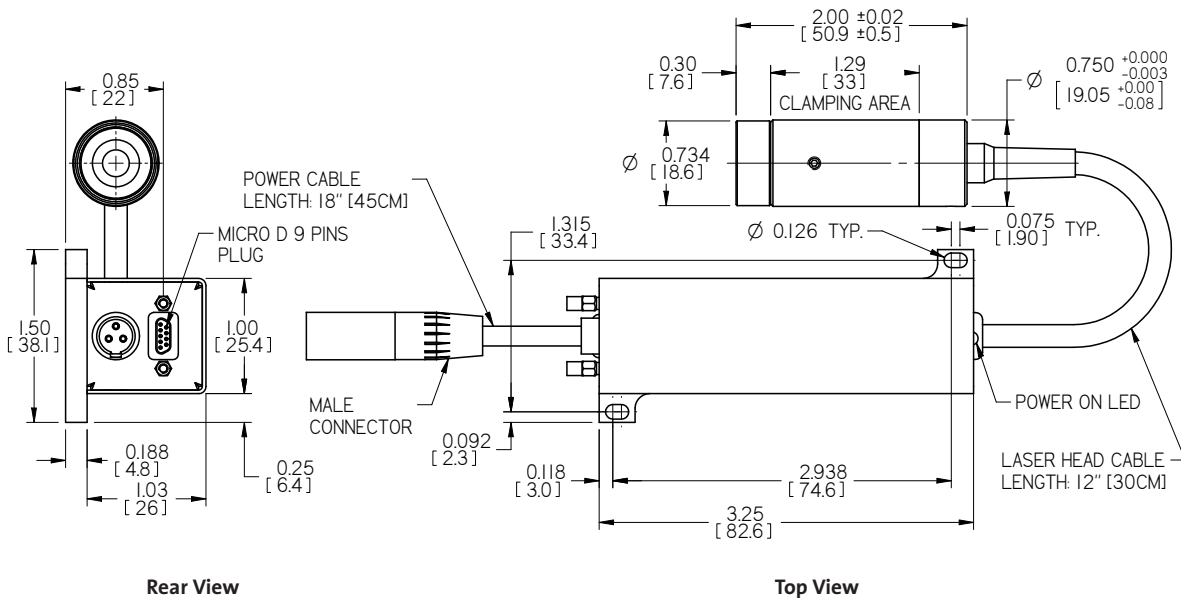
Compact Thermoelectrically Cooled Laser



Features

- 375, 405, 445, 473, 640, 660 nm
- Excellent wavelength and power stability
- Excellent pointing stability
- Compatible with Flat-Top Projector
- Extended lifetime

Mechanical Specifications



Superior Reliability & Performance

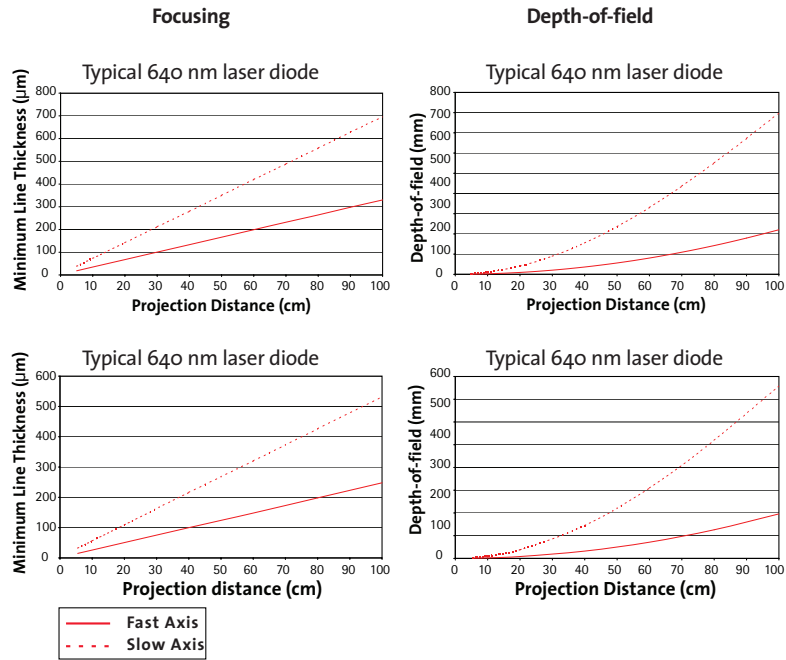
Lasiris™ ColdRay

Compact Thermoelectrically Cooled Laser

Focusing Performance

The following figures show the typical focusing and depth-of-field performance of the ColdRay laser beam. The focus charts indicate the minimum line thickness (at $1/e^2$) achievable for a specific projection distance. The depth-of-field is defined as twice the distance over which the thickness of the line has increased by a factor of $\sqrt{2}$.

Focusing and Depth-of-Field Performance



Wavelength-Dependent Parameters

Wavelength ¹ (nm)	375	405	445	473	640	660
Wavelength Tolerance (nm)	+5/-5	+8/-5	+5/-5	+5/-5	+5/-5	+10/-10
Maximum Laser Diode Power (mW)	20	120	50	20	80	150
Output Power after Collimating Optics	15	90	35	15	60	75
Coll. Beam Dia. ($1/e^2$) at Exit (mm) ²	2.6 X 1.0	2.3 X 1.1	2.6 X 1.0	2.8 X 1.1	2.8 X 1.3	2.2 X 1.3
Collimated Beam Divergence (mrad) ³	<0.6	<0.6	<0.7	<0.7	<0.8	<0.8
M^2	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2
Transverse Mode	TEM ₀₀	TEM ₀₀	TEM ₀₀	TEM ₀₀	TEM ₀₀	TEM ₀₀
Polarization Extinction Ratio ⁴ (dB)	≥ 17	≥ 17	≥ 17	≥ 17	≥ 17	≥ 17
Polarization Axis	TE	TE	TE	TE	TE	TE

Notes

¹ Other wavelengths available. Please call for more details

² Dependent on laser diode choice

³ Full angle. Dependent on laser diode choice

⁴ Typical

Lasiris™ ColdRay

Compact Thermoelectrically Cooled Laser

Optical Specifications

Power Stability in Operation 1 hr, 25°C (%)	≤±0.5
Power Stability in Operation 24 hrs, 25°C (%)	≤±1
Pointing Stability (μrad/°C)	<10
Noise	
RMS, 20 Hz to 20 MHz (%)	<0.5
P-P, 20 Hz to 20 MHz (%)	<1

Environmental Specifications

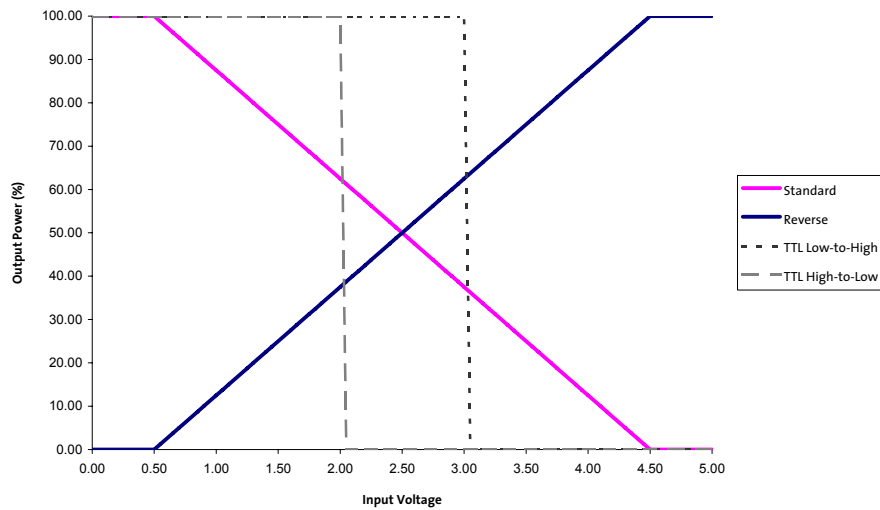
Operating Temperature (°C)	0 to 40
Storage Temperature (°C)	-20 to 60
Operating Pressure & Humidity	Atmospheric/non-condensing
Over-Temperature Protection, ESD Protection	

Electrical Specifications

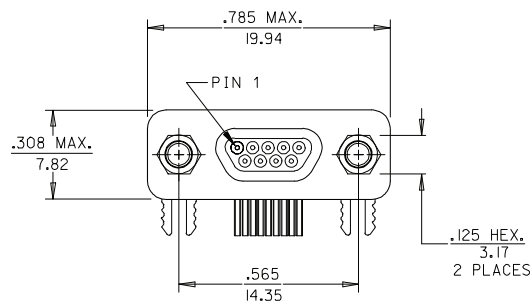
Input Voltage/Current (V)	5 ±10% at 2A max (typical 1A)
Modulation	
Rise/fall time (μs)	5 (faster response time available upon demand)
Reverse-Polarity Protection, Over-Voltage Protection	

Power Adjustment Curves

Power Adjustment Curves for Constant Power (APC)



DBg Pinout



- PIN1: TEC Control Voltage
- PIN2: Reserved for Calibration
- PIN3: Not Connected
- PIN4: Current Power Monitoring Output
- PIN5: Ground
- PIN6: TEC Current Monitoring
- PIN7: Modulation Input
- PIN8: Reserved for Calibration
- PIN9: Diode Temperature Monitoring

Lasiris™ ColdRay

Compact Thermoelectrically Cooled Laser

Ordering Information

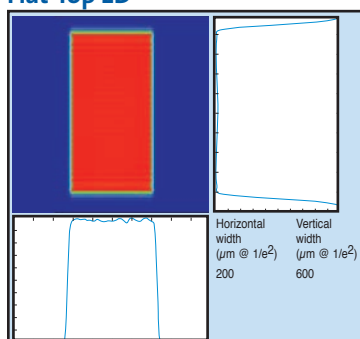
To order, use the following code: CR - Wavelength - Diode Power - Electronics Option - Focusing Distance (mm). Call us or visit our website for available optical patterns such as Flat-Top and diffractive optics.

Wavelength (nm)	375	405	445	473	640	660
Diode Power (mW)	20	5, 10, 20 ¹ , 30, 40	50	20	5, 10, 35, 80	35, 50, 100, 150 ¹
		60 ¹ , 80, 105 ¹ , 120				
Electronics Option	S, T, RS, RT					

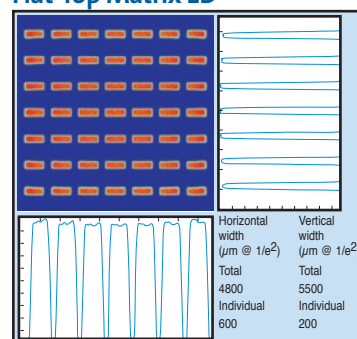
¹ No internal photodiode

Compatible with Micro Flat-Top Generators

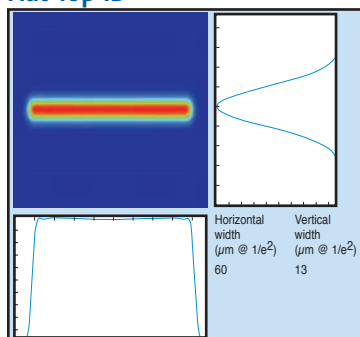
Flat-Top 2D



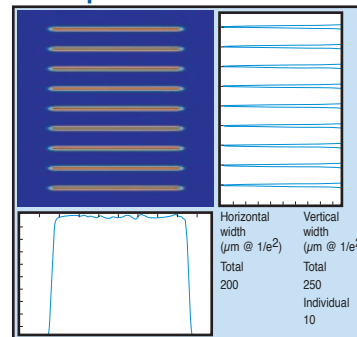
Flat-Top Matrix 2D



Flat-Top 1D



Flat-Top Matrix 1D



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, 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

