

Lasiris™ Green Laser

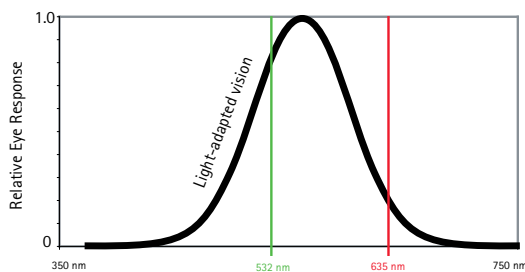
FEATURES

- High visibility, high contrast laser
- Stable output power
- Line generators that have a uniform intensity distribution
- Many patterns available
- Focusable
- ESD, over-voltage, and reverse-polarity protection



Green Laser with stable output power

StockerYale's Lasiris™ Green Lasers generate output power stabilized by an internal photodiode. The spot projected is circular in shape, and it can be used with our patented optical line generators that provide uniform distribution of light instead of the more common Gaussian distribution. This focusable laser has applications in machine vision, inspection, alignment and fluorescence microscopy, and is offered with a 1-year warranty.



High Visibility, High Contrast Green Beam

A green beam can provide better contrast on red hot metal. Another advantage is that a green beam is more visible to the human eye than red, thereby making the relative eye response to the green much higher. A 1 mW green beam (532 nm) will be better perceived by the human eye than a 1 mW red beam (635 nm).

Applications

The Lasiris™ Green laser is designed for applications where a red beam is inefficient or not applicable. Some applications include:

- High-end alignment and targeting
- Fluorescence microscopy
- Machine vision
- Positioning
- Industrial inspection
- R & D

Some available patterns

Crosshair*



Single Line



Single Square



Parallel Lines



7x7 Dot Matrix



Dot Line



7 Concentric Circles



Single Circle



Single Dot



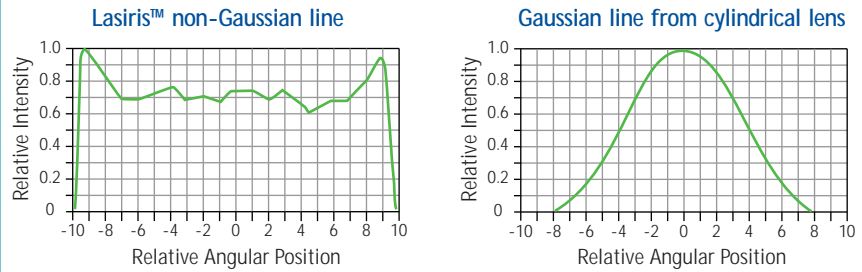
See ordering information section for more patterns or call us.

* Lasiris™ crosshair projectors have a single optical component, unlike conventional crosshairs that are formed either by using two lasers or by splitting and recombining one beam to form a cross.

Uniform intensity

Laser line patterns are often generated by cylindrical optics that produce a Gaussian line profile with a bright center and fading ends. Lasiris™ patented 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



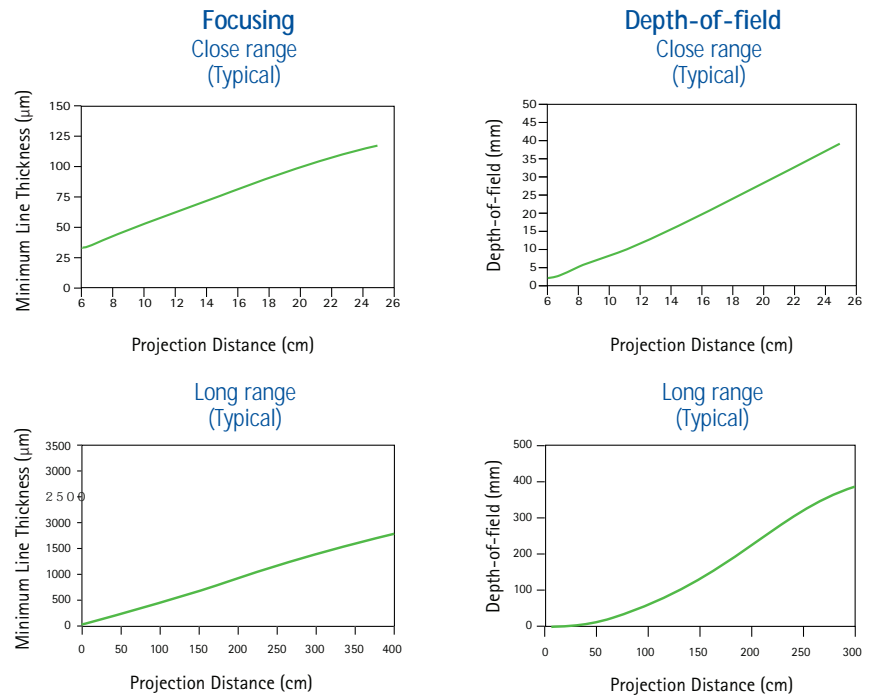
Relative intensity vs. angular position along line length

1) Typical profile

Focusing performance

The following figures show the typical focusing and depth-of-field performance of the Green laser projector. 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



Other lenses are available with different focusing performance curves. Call for details.

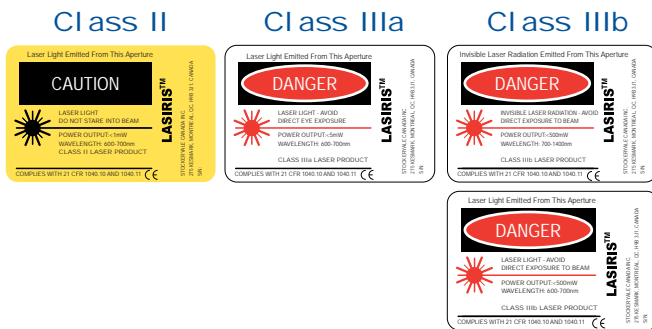
These focus charts are useful for establishing the smallest achievable line thickness for your application.

The laser can also be adjusted to project a thicker line at a given projection distance, or collimated for minimum divergence. By specifying the desired line thickness and working distance, the laser can be preset to your precise requirements.

Lasers and eye safety

Our lasers can comply with CDRH and IEC certification. Lasers fall in different safety classes depending on output power, wavelength and fan angle.

According to CDRH 21CFR1040.10 regulations, they can be classified Class II, IIIa, or IIIb.



According to IEC 60825-1 regulations, they can be classified Class 1, 1M, 2, 2M, 3R, or 3B. For Class 1M and 2M lasers, viewing the laser output with certain optical instruments (magnifiers, binoculars, etc.) may pose an eye hazard.

Call us or visit our website for further details.

CAUTION: It is important to follow laser safety rules and wear appropriate protective eyewear when working around lasers. Use of controls, adjustments or performance of procedures other than those specified in the instruction manual may result in hazardous radiation exposure.

Specifications

Mechanical specifications

Weight	100 g
Dimensions	See dimensional diagrams
Housing material	Black anodized aluminum
Mounting brackets	Ask for M-75 or M-75P

Optical specifications

Diode power	1, 5, 10 mW
Average power stability over the temperature range	± 10%
Average power stability at constant temperature	± 5%
Wavelength	532 nm ± 1 nm
Intensity distribution	TEM ₀₀ (Gaussian profile)
M ²	< 1.5
Factory set focus	1 meter
Line thickness	See focus charts
Bore sighting	< 3 mrad over focus range

Environmental specifications

Operating temperature	+15°C to +35°C
Storage temperature	-40°C to +50°C
ESD protection	Discharge: Contact = 4 kV; Indirect: 4 kV; Air: 8 kV

Electrical specifications

Input voltage	5 Vdc ± 1 volts
Connector type	Male phono-jack 3.5 mm φ
Operating mode	Constant average power
Reverse-polarity protection	Yes
Over-voltage protection	Up to +12 volts

Ordering information

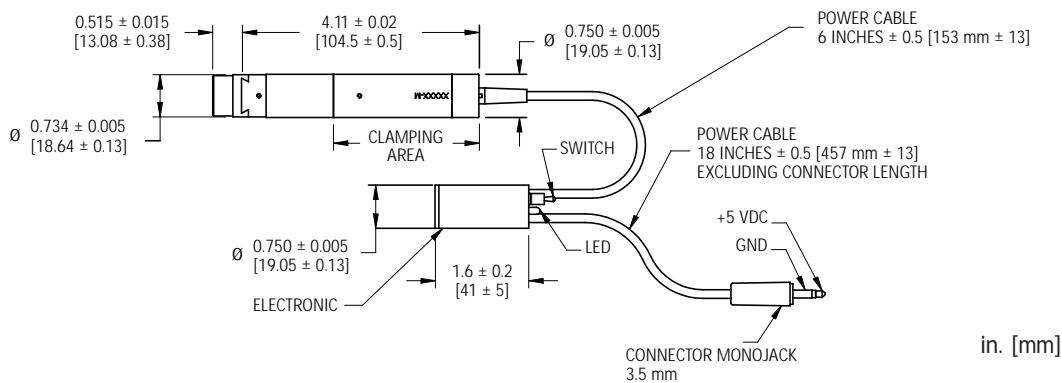
Green lasers are covered under a warranty of 1 year (parts & labor). To order, use this code: GLL - Pattern (substitute "L" for "D" for dot patterns) & Interbeam Angle - "532" for Wavelength - Diode Power - Fan Angle (for line) - "SD" for Separate Electronics (standard). E.g. GLL-503L(1.2°)-532-1-5-SD. Call us or visit our website for updates and other specifications.

Pattern		Interbeam angle ^(a)	Wavelength and Diode powers		Fan angle
			532 nm	1, 5, 10 mW	
501L or 501D	1 line or 1 dot	–			1° ^(b)
503L or 503D	3 lines or 3 dots	1.2°, 4.0°, 9.2°			5°
505L or 505D	5 lines or 5 dots	0.18°, 1.23°			10°
509L or 509D	9 lines or 9 dots	0.09°, 0.06°			15°
511L or 511D	11 lines or 11 dots	1.2°			20°
515L or 515D	15 lines or 15 dots	1.8°			30°
519L or 519D	19 lines or 19 dots	0.61°			45°
533L or 533D	33 lines or 33 dots	0.07°, 0.30°			60°
599L or 599D	99 lines or 99 dots	0.118°			75°
501S	1 square	2.3°			90° ^(b)
504G	4x4 grid	1.93°			Custom
501H	crosshair	–			
501C	1 circle	0.61°, 9.0°			
507C	7 concentric circles	0.61°			
507X	7x7 dot matrix	1.5°			
519X	19x19 dot matrix	0.61°			
Custom (please call us)					

(a) At 532 nm

(b) Not standard for crosshair projector.

Dimensional diagram Green Laser with pattern projector



Information and specifications contained herein are deemed to be reliable and accurate. StockerYale reserves the right to change these specifications at any time without notice.