



ILLUMINATION

Lasiris™ PTL Laser

FEATURES

- Two year warranty
- 3 types of fiber endings: FC connector, focusable circular spot or structured light pattern
- Uniform intensity distribution with line generators
- Wide range of wavelengths, from 635 nm to 1550 nm
- ESD, over-temperature, over-voltage, and reverse-polarity protection
- Rugged, industrial-quality housing



FIBER-COUPLED STRUCTURED LIGHT PROJECTOR

StockerYale's Lasiris™ PTL series diode laser module is specifically designed to distance the diode laser from the focusing and beam shaping optics by a length of optical fiber. This can isolate and protect the diode from heat or harmful radiation sources. The diode is also protected by passive internal heat dissipation, a rugged housing, and reverse-polarity, over-voltage, over-temperature and ESD protection.

The Lasiris™ PTL laser uses patented optics to generate a uniform intensity line or crosshair. Other patterns are also available.

APPLICATIONS

- Industrial Inspection
- Machine Vision
- Alignment

OPTIONS AND CUSTOM UNITS

Customized lasers generating complex patterns can be built for your specific needs. The laser is available with options allowing you to strobe or control its output electronically (refer to the Power Options section in this brochure) and with a wide selection of accessories. Please contact our application engineers for specific requests, since custom units can be built for specialized applications.

SOME AVAILABLE PATTERNS

Single Line



Crosshair*



Parallel Lines



Single Square



Dot Line



7x7 Dot Matrix



Single Circle



7 Concentric Circles



Single Dot



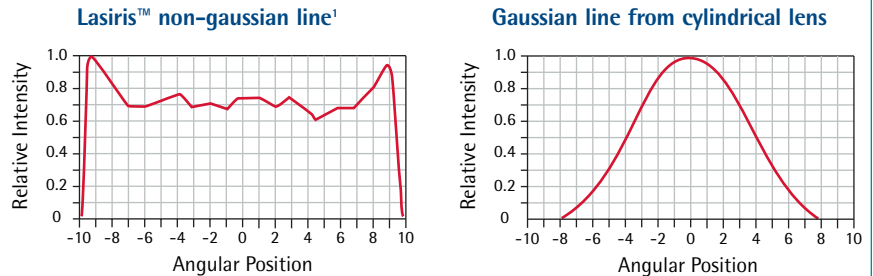
See ordering information section for more patterns or call us.

* 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

Line patterns projected by lasers are often generated by cylindrical optics that produce a gaussian line profile with a bright center and fading ends. Lasiris™ patented line-generating optics spread the light into a non-gaussian, evenly illuminated line.

LINE INTENSITY PROFILE ALONG LINE LENGTH



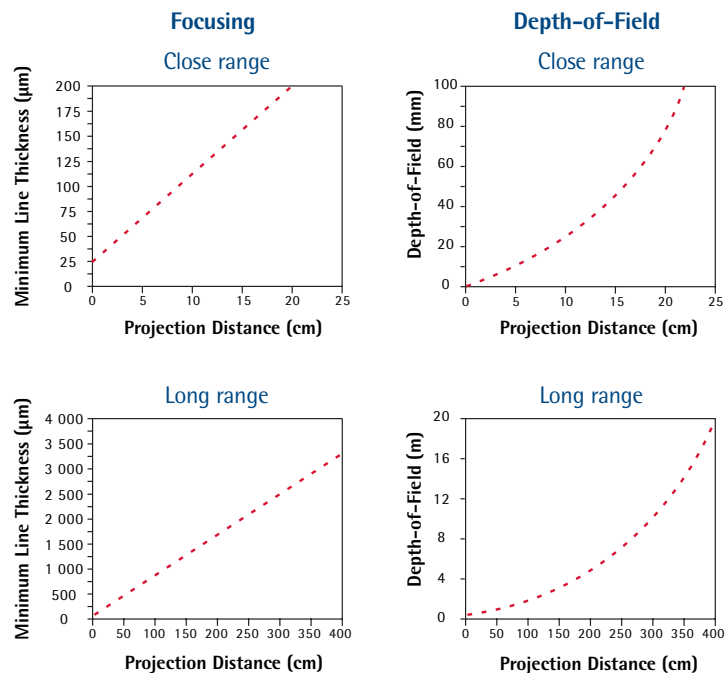
Relative intensity vs. angular position along line length

1) Typical profile

FOCUSING PERFORMANCE

Lasiris™ PTL lasers are focusable and can be adjusted by the user to produce a focused pattern at any projection distance. The beam can be collimated so that the pattern remains fairly constant over a long projection distance. The following figures show the typical focusing performance of the PTL laser with a standard collimator (different focusing properties are available, call for details). The focusing charts indicate the minimum line thickness (at $1/e^2$) achievable for a specific projection distance.

FOCUSING AND DEPTH-OF-FIELD PERFORMANCE



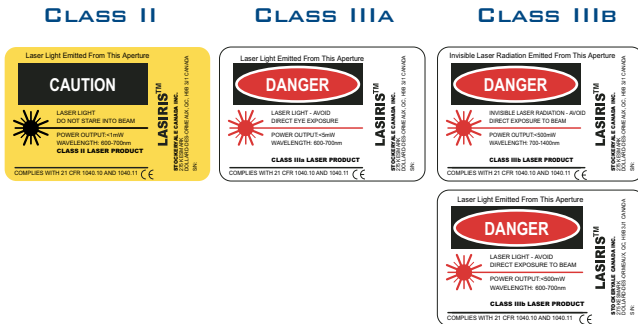
Other lenses are available with different focusing performance curves. Call for details.

LASERS AND EYE SAFETY

Our lasers can comply with CDRH and IEC certification and 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, Class IIIa, or Class 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	Laser module: 135 g Optical head: 15 g
Dimensions	See dimensional diagram
Housing material	Stainless steel optical head, Black anodized aluminum laser module

OPTICAL SPECIFICATIONS

Fiber type	Single-mode or multi-mode
Fiber length	2 m standard, or custom
Fiber end	FC connector or optical head
Optical head	Fixed or adjustable focus, line or pattern generator
Output beam	Diverging or collimated. Available diameters: 0.8 mm, 1.2 mm, 1.5 mm, 2.0 mm, & 2.7 mm
Output power	Varies with model
Wavelength	Varies with model
Line thickness	User adjustable

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	
optical head:	-10°C to +45°C
driver:	+10°C to +35°C
Wavelength drift	0.25 nm/°C
Over-temperature protection	
ELECTRICAL SPECIFICATIONS: POWER SUPPLY	
Input voltage	5 - 6 Vdc Optional 9,12,24 Vdc, 115/220 Vac
Connector type	Male phono-jack 3.5 mm Ø
Slow start time delay	10 µsec
Reverse-polarity protection, Over-voltage protection	

OPTIONS

POWER OPTIONS

Power Adjustment Potentiometer

The laser power can be easily changed by adjusting an optional built-in potentiometer with a small screwdriver. Indicate Code "P".

Pulsing & Power Adjustment

The power can be modulated or pulsed using an external signal Input voltage of 0 Vdc: "on", 5 Vdc: "off" (or can be reversed). See figure below.

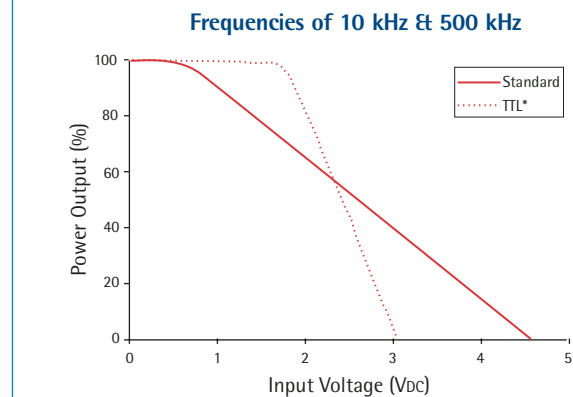
Coding:

- Standard S: 10 kHz FS*: 500 kHz
- TTL T*: 10 kHz FT*: 500 kHz

2 MHz available.

Impedance	> 1 kΩ
Rise/Fall time	10 µsec for 10 kHz, 0.23 µsec for 500 kHz

POWER ADJUSTMENT CURVES



*Not available on all models.

The standard slope can be modified.

ORDERING INFORMATION

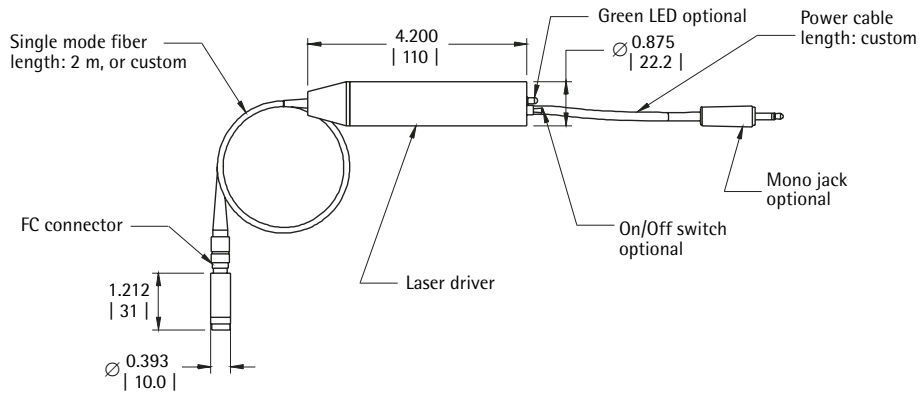
For details on selection of power and wavelengths, please contact our application engineers. PTL lasers are covered under a 2-year warranty (parts & labor).

STANDARD WAVELENGTHS	DIODE POWERS
635 nm	1, 5, 10, 15, 35 mW
660 nm	1, 5, 10, 20, 35, 50, 80 mW
690 nm	20, 35 mW
785 nm	20, 35, 75 mW
830 nm	30, 100, 150 mW

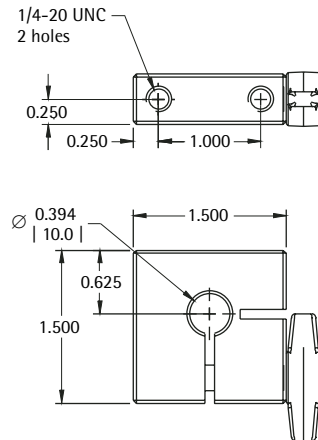
Other wavelengths and diode powers are available. Please call us for more details.

DIMENSIONAL DIAGRAMS

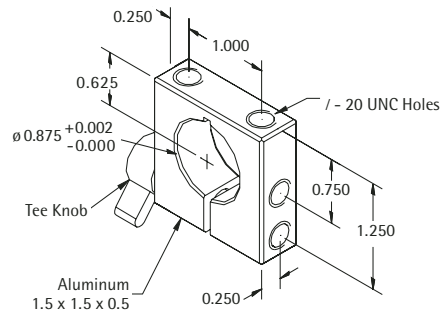
PTL PROJECTOR



M-10 MOUNTING BRACKET



M-875 MOUNTING BRACKET



in. [mm]

Patents: US #4,826,299 / CAN #1,276,827 / US #5,523,889 / Other patents pending

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.