

Lasiris™ Reduced Speckle Line Generator

FEATURES

- Diminishes speckle content
- Low spatial coherence
- Spectrally broadband beam
- Thermoelectrically cooled
- Line generators that have a uniform intensity distribution
- Red (680 nm) and infrared (810 nm) models available

APPLICATIONS

- High accuracy machine vision
- 3D contour mapping
- Biometrics
- Semiconductor inspection



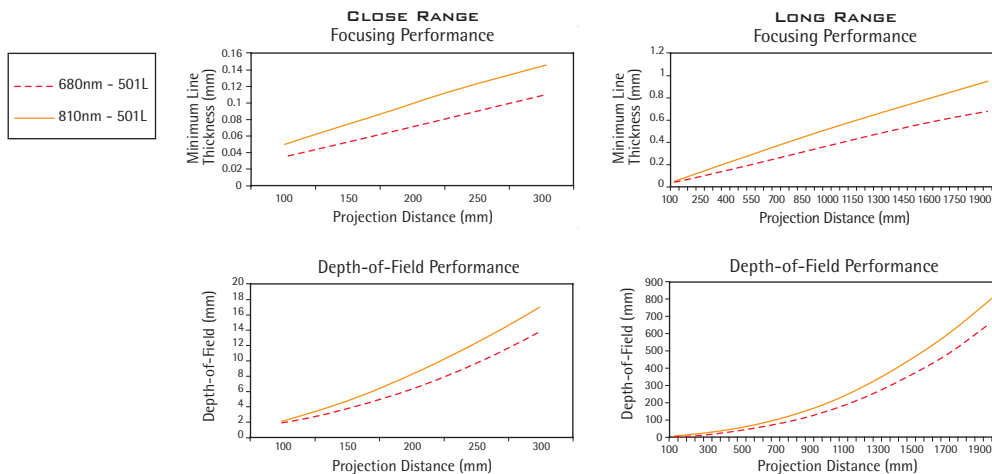
REDUCED COHERENT OPTICAL NOISE

The Lasiris™ Reduced Speckle Line Generator significantly diminishes the speckle content apparent in standard lasers, thereby increasing the accuracy of machine vision profiling applications. With its low spatial coherence and spectrally broadband beam, the module provides low speckle noise while maintaining tight focusing performance. Furthermore, it is thermoelectrically cooled, offering longer lifetime and excellent wavelength, power and pointing stabilities.

FOCUSING AND DEPTH-OF-FIELD PERFORMANCE

The following figures show the typical focusing and depth-of-field performance of the Reduced Speckle Line Generator, red (680 nm) and infrared (810 nm).

The Reduced Speckle Line Generator is designed for projection ranges of 100 mm and above. Please contact our application engineers for more details.



SPECIFICATIONS

OPTICAL SPECIFICATIONS

Center wavelength	680 nm, 810 nm ± 5 nm
Spectrum width (FWHM)	10 nm (for 680 nm); 15 nm (for 810 nm)
Diode power	3 mW
Fan angles	1, 5, 10, 15, 20, 30, 45, 60, 75, or 90°
Pattern	Single dot or line (uniform, non-Gaussian lengthwise, Gaussian widthwise)

ELECTRICAL SPECIFICATIONS: POWER SUPPLY

Voltage	6 Vdc ± 0.5 VDC; optional 5 Vdc
Current	2.5 A at start, 500 mA at ambient temperature
Internal power control	APC: constant power (ACC: constant current option)

ELECTRICAL SPECIFICATIONS: PULSING AND POWER ADJUSTMENT

The optical power can be easily changed by rotating the built-in potentiometer. The power can also be modulated or pulsed via the green and black wires of the connector (BNC cable also available). **Pulsing options:**

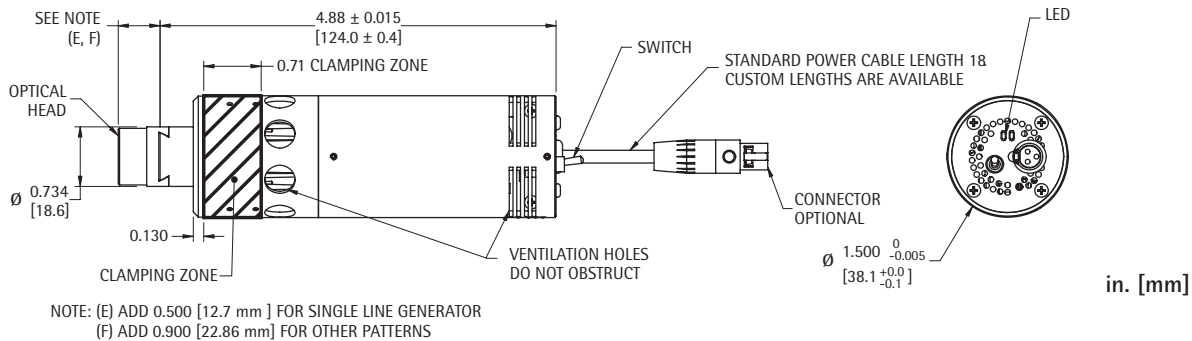
- Standard – code “S” – from DC to 100 kHz. The variation of the optical power with respect to the modulation voltage is almost linear. At 0 Vdc, the unit is at its maximum power. At 5 Vdc, the unit turns off.
- TTL – code “T” – pulse frequently up to 100 KHz (1 MHz option). Between 0 and 1 Vdc, the unit is at its maximum power. Between 3 and 5 Vdc, the unit turns off.

Impedance	> 1 kΩ
Rise / Fall time	1 μsec (for 100 kHz)

ORDERING INFORMATION

The Reduced Speckle Line Generator is covered under a warranty of 1 year (parts & labor). To order, use the following code: Housing (TEC) - Line or Dot Pattern (501L, 501D) - Wavelength (B680 or B810) - Pulsing Option (S or T) - Diode Power (3) - Fan Angle (1, 5, 10, 15, 20, 30, 45, 60, 75, or 90). E.g. TEC-501L-B680T-3-20. Call our application engineers for updates and other specifications.

DIMENSIONAL DIAGRAM



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.



MECHANICAL SPECIFICATIONS

Weight	210 g
Housing material	Black anodized aluminum
Operating temperature	-20 to +45 °C (over-temperature protection for diode)
Connector type	3-wire miniature connector (Switchcraft TA3FL) or custom
Reverse-polarity protection, over-voltage protection for diode, ESD protection	

ACCESSORIES

P-115-TEC: wall mount 115 VAC to 6 VDC power supply
P-220-TEC: wall mount 220 VAC to 6 VDC power supply
M-1.5: TEC mounting bracket

EYE SAFETY

Our products 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, viewing the beam with certain optical instruments (magnifiers, binoculars, etc.) may pose an eye hazard.

Call us or visit our website for further details.

