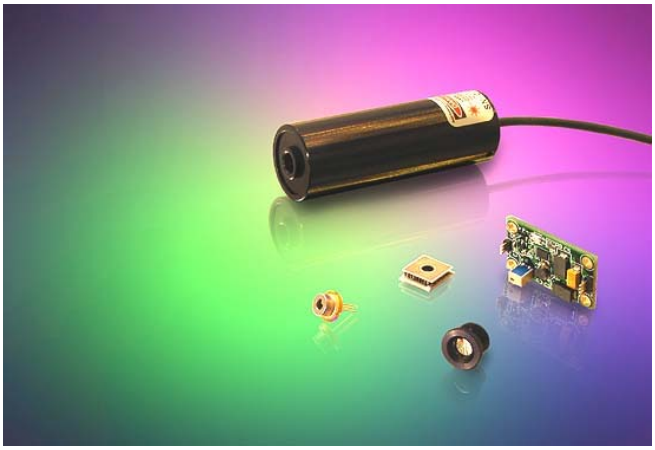
TECBL Series

Thermoelectrically Cooled Blue Laser System



WSTech's TECBL Series Thermoelectrically Cooled Blue Laser Module is a compact self-contained, highly reliable laser operating at very stable wavelength and power. Build in temperature controller stabilizes the laser temperature within ±0.01°C. The laser output power stability is better than 1% over long term. The stable power, low noise and beam pointing stability of this laser are ideal for bioanalytical, measurement and imaging applications. The laser comes with a power supply for plug and play operation.

The TECBL series lasers can be customized to include modulation option and beam shaping line optics.

Product Features

- ***Integrated TEC & Laser Controller***
- ***Low RMS Noise***
- ***Excellent Power and Wavelength Stability***
- ***Excellent Beam Quality***
- ***Compact Size, 1 × 3 inch***
- ***ESD and Over-Temperature Protection***
- ***Long Life Time***
- ***Low Power Consumption, < 2W***

Applications

- ***Bioanalytical***
- ***DNA Sequencing***
- ***Flow Cytometry***
- ***Medical Imaging***
- ***Capillary Electrophoresis***
- ***Confocal Microscopy***
- ***Particle Counting***
- ***Interferometer***
- ***Printing (Reprographics)***

ISO9001:2000 Registered

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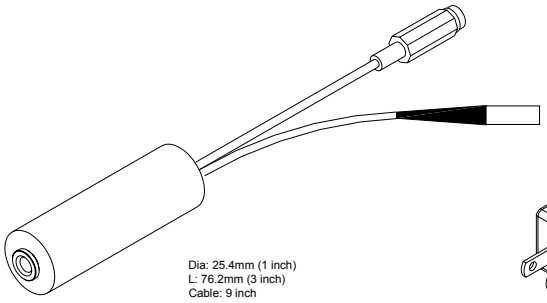
Specification

Optical	Wavelength	405nm
	Power Stability	<0.5%
	RMS Noise(0~20MHz)	<0.5%
	P-P Noise	<5% over 8hrs
	Spatial Mode	Single Mode Laser
	Spot Size	Adjustable or Collimated (5mm)
	Divergence at the collimation	< 1 mrad
	Beam shape	Elliptical
	Pointing Stability	< ±25 μrad
	Polarization	Linear, 100:1
Electrical	Laser Drive	CW , Constant current control
	Laser Operating Voltage	5V DC
	TEC Controller operating Voltage	3.3VDC
	Operating Current	<0.5A
	Electrical Connections	Laser - 2.1mm power jack TEC controller - 3 pin connector
	Power Supply	100 – 240VAC, 50 – 60 Hz
Mechanical	Dimension (Dia x L)	25.4 x 76.2 mm (1" × 3")
	Weight	75g
	Operating Temperature	10°C to +40°C(With adequate heat sink)
	Storage Temperature	-10ºC to +50°C
	Heat Sink Requirements	Recommended for extended use

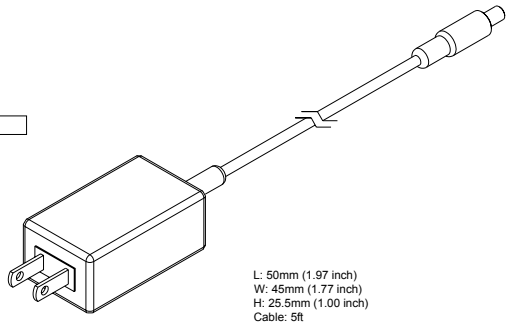
Thermal Management: The TECBL Series Laser System is designed to dissipate heat through its body. Please ensure that the mounting brackets are not made of insulating material. For proper heat dissipation and cooling, do not restrict air circulation around the device. An additional heat sink with integrated fan can be used to maximize the performance and extend the life of the laser system.

Mechanical Drawing

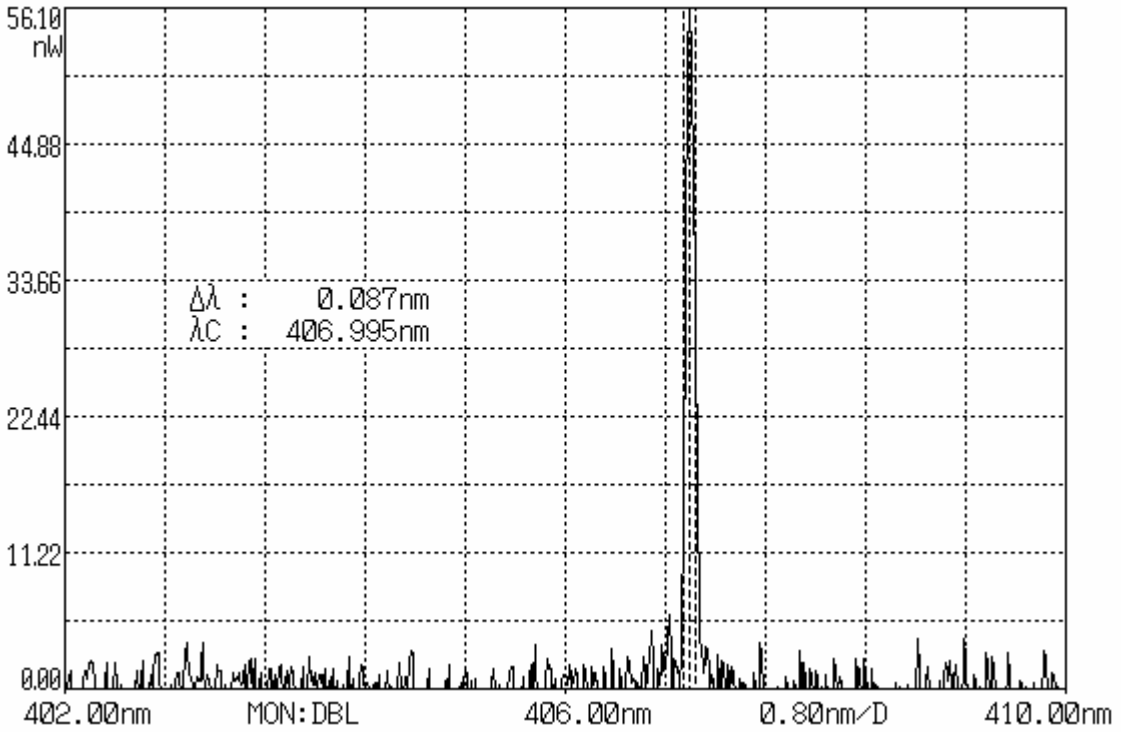
Laser

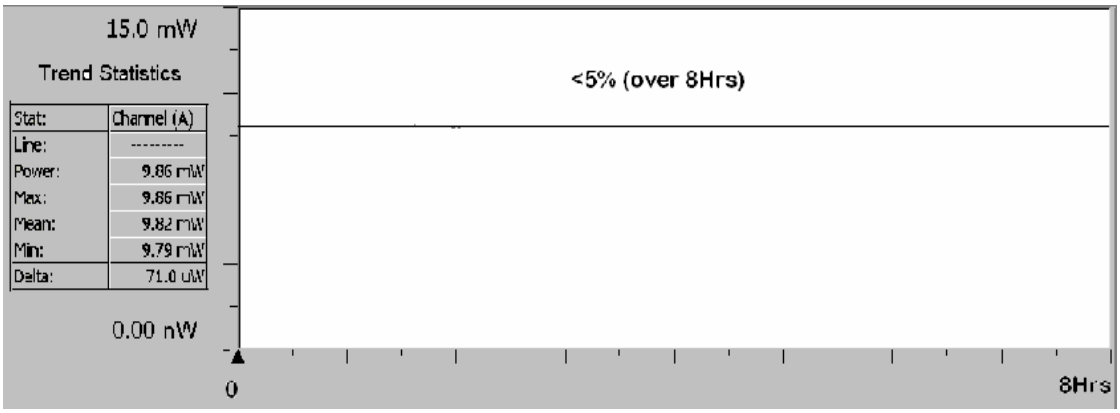


Power Supply

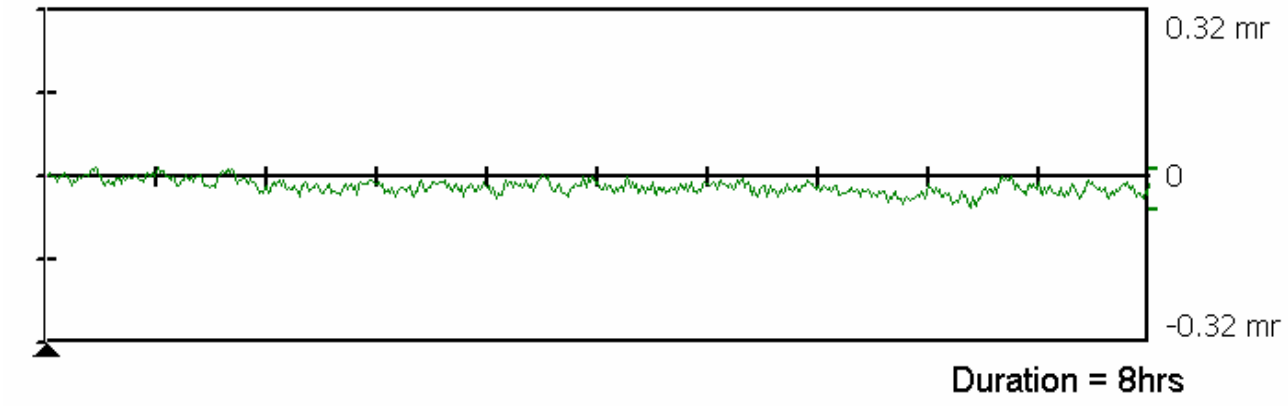


Typical Characteristics *of TEC Blue Laser System*





Peak to Peak Noise



Beam Pointing Stability

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Order Information

Power	Part No.	Classification
1 mW	TECBL- 1G - 405	Class II*
5 mW	TECBL- 5G - 405	Class IIIa*
10 mW	TECBL-10G-405	Class IIIb**
20 mW	TECBL-20G-405	Class IIIb **
30 mW	TECBL-30G-405	Class IIIb**

*Complies with CDRH 21CFRH 1040.10
** Modules sold solely for use in OEM equipment, OEM is responsible for compliance with all safety regulations.

Operational Hazard-Semiconductor Laser Diode Module: This laser module emits radiation that is visible and harmful to human eye. When in use, do not look directly into the laser emitting aperture. Direct viewing of laser diode emission at close range may cause eye damage.

Limited Warranty: One year. No warranty coverage for disassembly, modifications or damage due to abuse or misapplication.

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