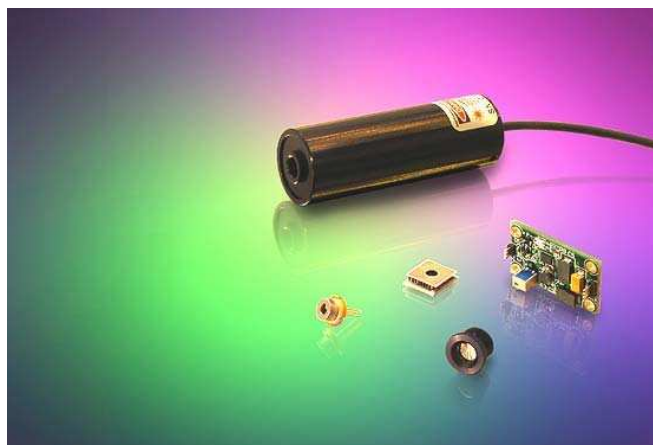


TECGL Series

Thermoelectrically Cooled Modulated Green Laser System



The **TECGL Series Thermoelectrically Cooled Green Laser System** from WSTech is a self-contained laser module composed of a laser head and optics with a built in temperature controller and driver circuit in a compact and rugged package. The built-in temperature controller controls the laser temperature with a stability of $\pm 0.01^{\circ}\text{C}$. The laser output power stability is less than 1% over a long term. The stable power and exceptional beam pointing characteristics of this laser makes it ideal for medical and imaging applications.

All standard TECGL series lasers are supplied with a 3.3 VDC power supply and do not need any additional instrumentation. They are available in output power ranges of 1mW to 30mW.

It is TTL Modulatable from CW up to 3kHz.

Product Features

- *Integrated TEC & Laser Controller*
- *Compact Size, 1 × 4 inch*
- *Low RMS Noise*
- *Excellent Beam Quality*
- *Excellent Power and Wavelength Stability*
- *ESD and Over-Temperature Protection*
- *Long Life Time*
- *Low Power Consumption, < 2W*

Application

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

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Specification

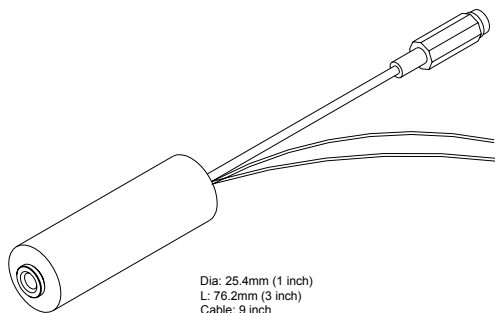
Optical	Wavelength	532 nm	
	Power Stability	<0.5%	
	RMS Noise (0~20 MHz)	<0.5%	
	P-P Noise	<5% over 8hrs	
	Spatial Mode	TEM ₀₀	
	M ²	< 1.1	
	Beam Diameter @ 1/e ²	< 1.2 mm	
	Beam Divergence	< 1 mrad	
	Beam Shape	Circular (1:1.1)	
	Pointing Stability	< ±25 μrad	
	Polarization Ratio	> 100:1 (higher ratio upon request)	
	Electrical	Operating Voltage	3.3 V DC
		Operating Current	<0.5 A
Modulation frequency		3kHz	
TTL Input		Low(0~0.8V), High(1-3.3V)	
Absolutely Maximum TTL Signal*		3.3V DC	
Electrical Connections		Power Connector(+ Red, - Black), TTL(Signal-White, -Black)	
Power Consumption		< 2W	
Warm up time		< 1 min	
Mechanical	Dimension (Length x Dia) mm	101.6mm x 25.4 mm	
	Weight	95 g	
	Operating Temperature	10°C to +40°C *	
	Storage Temperature	-10°C to +50°C	
	Heat Sink Requirements	Recommended for extended use	

****Thermal Management** TECGL Series Laser System is designed to dissipate heat through its body. For proper cooling, do not restrict air circulation around the device.

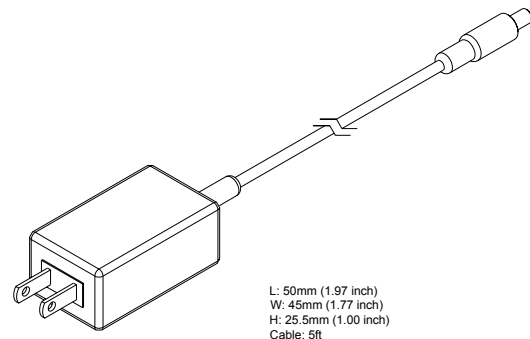
An additional heat sink should be used to maximize the performance of the laser system if the operating temperature is more than 30°C.

Mechanical Drawing

Laser



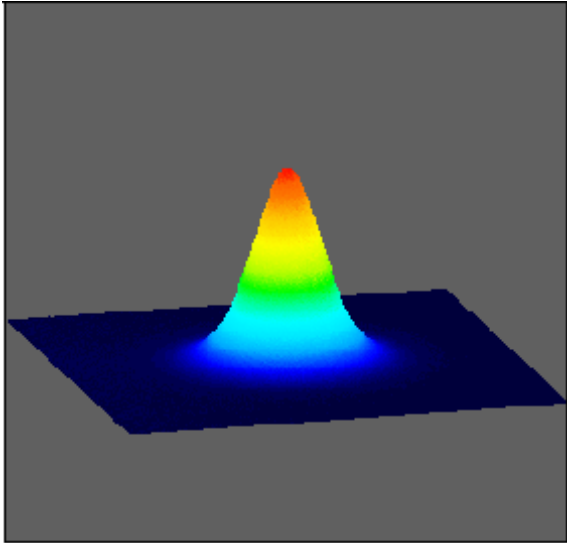
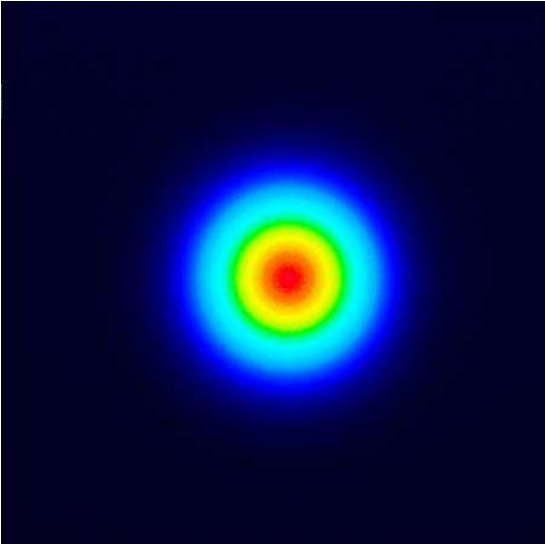
Power Supply



TECGL Series

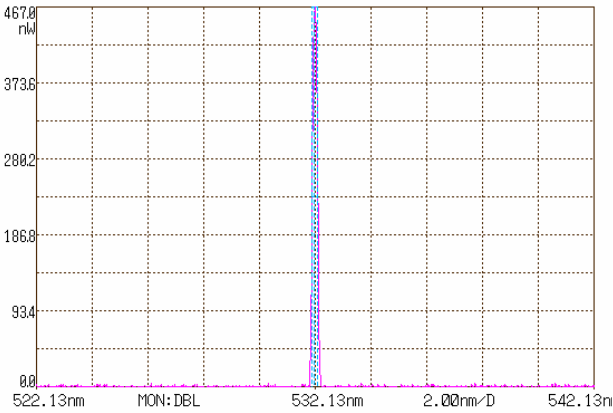
Thermoelectrically Cooled Modulated Green Laser System

Typical Characteristics

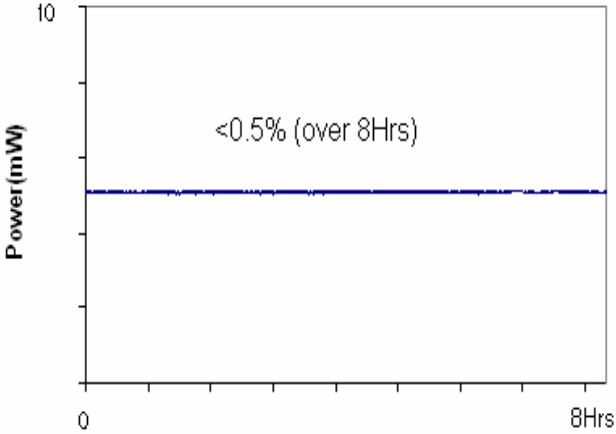


Beam Profile

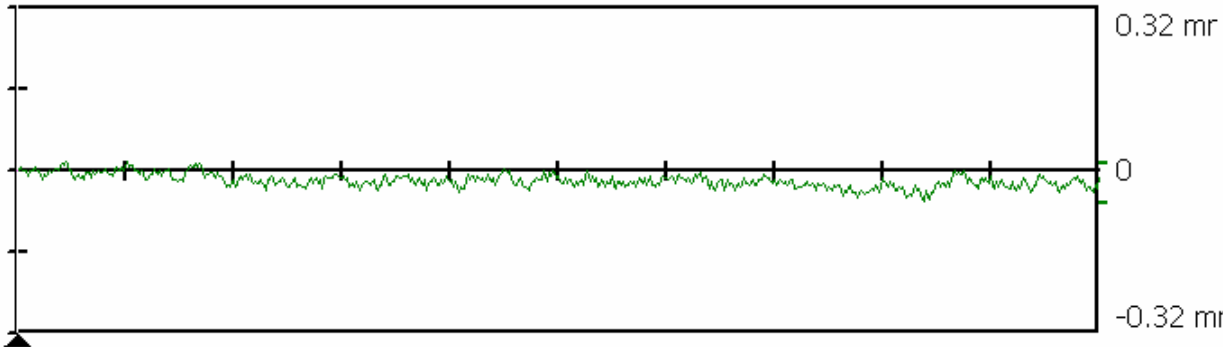
SPECTRAL WIDTH : <ENVELOPE>
THRESH LVL1 : 3.0dB K : 1.00 $\Delta\lambda$: 0.192nm
THRESH LVL2 : 13.0dB MODE : 1 λ_C : 532.122nm



Wavelength



Power Stability



Duration = 8hrs

Beam Pointing Stability

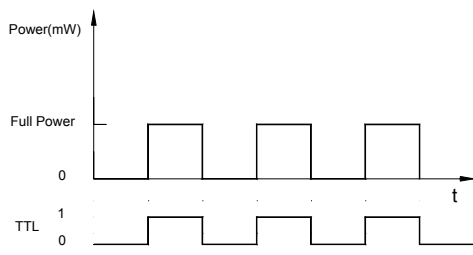
TECGL Series

Thermoelectrically Cooled Modulated Green Laser System

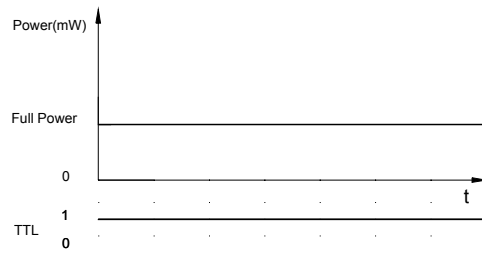
TTL Modulation

The TECGL series modulated green laser system is TTL modulatable between 0 and the full power by applying an external TTL input signal (e.g. from function generator) using third white wire. When the TTL input is Low the laser power is completely off. When the TTL input is high the laser output is at Full Power. The TTL signal can be any on-off time combination.

It can also be operated continuously by applying a high signal to the TTL input which can be done by connecting the white wire and red wire together.



TTL Modulation



Continuous operation

Order Information

Part No.	Power(mW)	Class	Operation Mode
TECGL-01-TTL*	1	II	CW
TECGL-05-TTL*	5	IIIa	CW
TECGL-10-TTL**	10	IIIb	CW
TECGL-20-TTL**	20	IIIb	CW
TECGL-30-TTL**	30	IIIb	CW

*Complies with CDRH 21CFR 1040.10

** Module components sold solely for use in OEM equipment, OEM is responsible for compliance with all applicable 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.

World Star Tech.

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