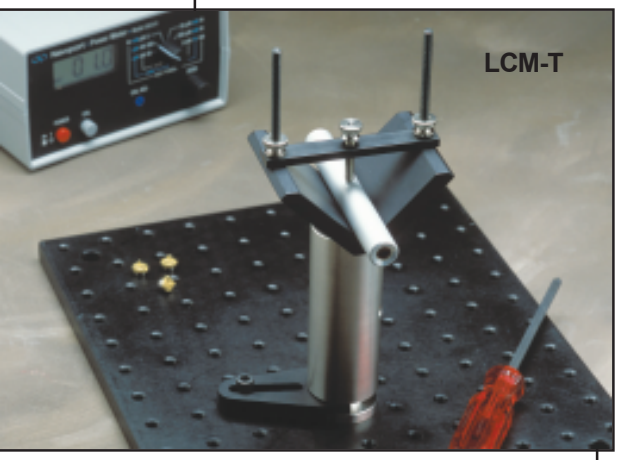
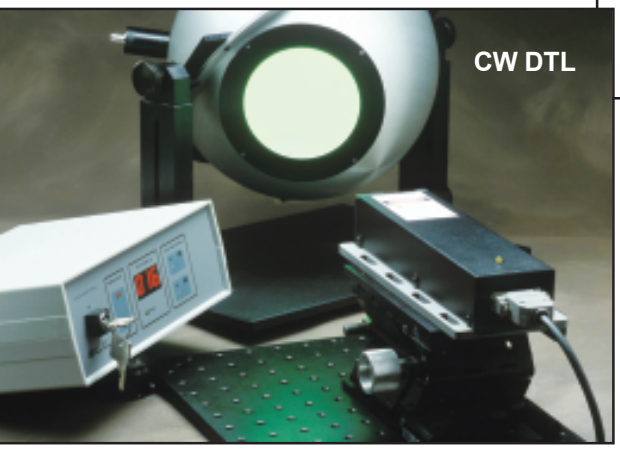
For technical assistance or to order, call (501)407-0712.

Diode-Pumped Solid State Lasers

OEM & Laboratory DPSS Lasers





DPSS lasers at a glance

Power Technology, Inc.'s diode-pumped solid state (DPSS) OEM laser modules and turnkey systems are ideal alternatives to traditional lamp-pumped lasers. DPSS lasers are inherently wavelength stable and provide a clean, TEM_{00} quality beam. These exceptional traits help make DPSS lasers suitable for such applications as biofluorescence, spectroscopy, rangefinding, and illumination, and holography.

Available at 1064, 532, 355, and 266nm, our DPSS lasers offer a variety of wavelengths across the spectrum, making it easy for you to find the ideal solution for your application. In addition, users may select a laser with or without a second harmonic generator for infrared, visible, or ultraviolet output.

Available wavelengths

- **LCM-T**: 532, 1064nm
- **LCM-S**: 532nm
- **DTL, CW**: 532, 1064nm
- **DTL, Q-switched**: 266, 355, 532, 1064nm

Features

- Active temperature control
- Stable wavelength
- Optional beam centering
- One year warranty

Potential applications

- Holography
- Biofluorescence
- Imaging on film
- Spectroscopy
- Illumination
- Rangefinding

LCM-T & LCM-S laser modules

Our compact LCM-T series DPSS laser modules for the OEM offer a maximum output of 20mW at 532nm and 100mW at 1064nm. An ideal choice for any number of analytical applications, each LCM-T module features an active power stabilization control loop. This control loop constantly monitors the output of the laser module—not the diode—to maintain a stable output power over a wide temperature range.

Our LCM-S modules feature a narrow spectral width at 532nm. Two models are available: a 40mW version and a 20mW low noise version.

DTL series turnkey systems

Designed for laboratory use, DTL laser systems include a laser head and turnkey power source. These air-cooled laser systems incorporate thermoelectric cooling and active temperature control circuitry to provide output stability of better than 2% per hour.

Each DTL system features a laser head, turnkey power source, on/off key switch, power adjustment, digital power meter, emissions indicator, remote interlock, and shutter. DTL systems are available in a pulsed (Q-switched) or continuous wave (CW) mode. The output power of each Q-switched system is factory preset to a customer-specified level, while the operating power of each CW system can be controlled manually or from a remote location via a 0 to 5V control voltage.

Each DTL system offers a beam size that is typically less than 2mm in diameter. CW models are available in the infrared (1064nm) and green (532nm). Q-switched models are available in the infrared (1064nm), green (532nm), and ultraviolet (266 and 355nm).

See the following pages for additional information on our DPSS LCM-T, LCM-S, and DTL series lasers. If you have any questions, please give one of our sales engineers a call.

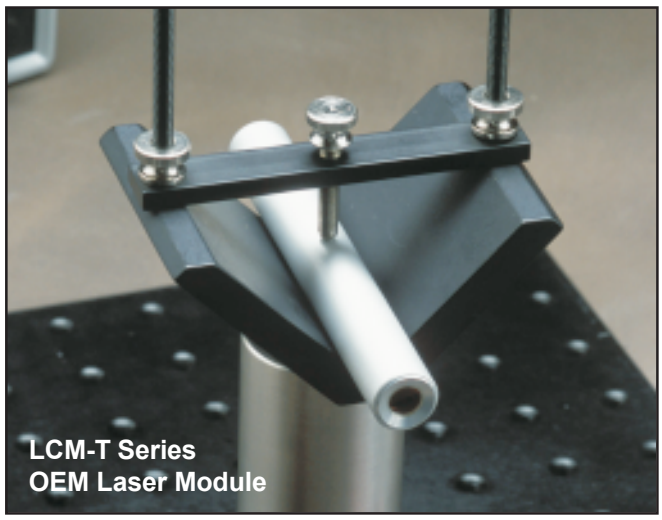
Power Technology Incorporated

P.O. Box 191117, Little Rock, AR 72219-1117 USA (501)407-0712 Fax:(501)407-0036 http://www.powertechnology.com

LCM-T series modules are compact diode-pumped solid state OEM units perfect for a variety of analytical applications.

Our LCM-T series DPSS laser modules feature a maximum output power of 20mW at 532nm and 100mW at 1064nm. The units operate from 3.3 to 3.5VDC and are designed for quick installation and easy operation. Each offers a mean time to failure in excess of 5000 hours. For end users, an optional CDRH compliant system is available.

In addition, each LCM-T features an active power stabilization control loop. This loop constantly monitors the output of the laser module—not the diode—to maintain a stable output power over a wide temperature range.

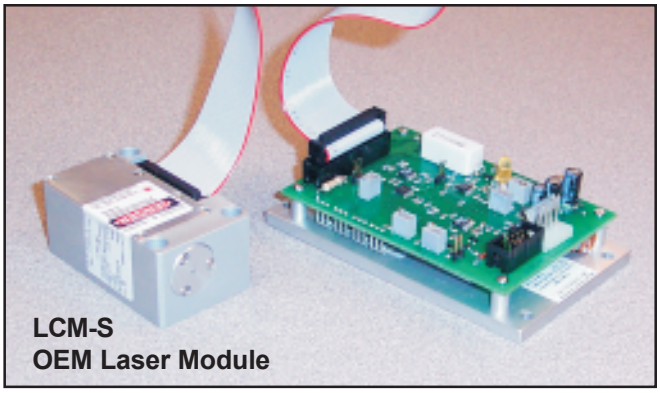


LCM-T Series
OEM Laser Module

Model	LCM-T-111	LCM-T-112
Output power (mW)	20	100
Wavelength (nm)	532	1064
Dimensions, Ø x L, in. [mm]	.58 ± 0.004 x 4.41 ± 0.012 [14.81 ± 0.10 x 112.01 ± 0.30]	
Input voltage (VDC/A)	3.3 - 3.5 / 1.4	3.3 - 3.5 / 1.4
Beam mode	TEM_{00}	
Beam diameter (mm)	1.0 ± 0.2	
Beam diverg (1/2 angle, $1/e^2$, mrad)	0.6 ± 0.1	1.2 ± 0.2
Polarization	linear	
Stability at constant temp (%/8hours)	<2	
Operating temperature range (°C)	15-35	

Our LCM-S modules yield bright green output and an exceptionally narrow spectral width.

The LCM-S-111 provides 20mW of green output at 532nm and offers an ultra-low noise level of less than 0.5% RMS. The unit operates in single longitudinal mode. The LCM-S-211 provides 40mW of green output at 532nm. Both LCM-S modules operate from 4.5 to 6VDC, and both are ideal for applications ranging from spectroscopy to holography to interferometry.



LCM-S
OEM Laser Module

Model	LCM-S-111	LCM-S-211
Output power (mW)	20	40
Wavelength (nm)	532	
Head dimensions, in. [mm]	2.56 x 1.57 x 1.14 [65 x 40 x 29]	
Power suppy dimensions, in. [mm]	4.33 x 2.68 x 1.57 [110 x 68 x 40]	
Input voltage (VDC/A)	4.5 - 6 / max 4	
Beam mode	**Single longitudinal mode** Transverse mode TEM_{00}, M^2 <1.2 (typ 1.1), Ellipticity - 0.95-1.05	
Beam waist diameter (mm, $1/e^2$)	0.070 ± 0.007	
Beam diverg (1/2 angle, $1/e^2$, mrad)	5.0 ± 0.5	

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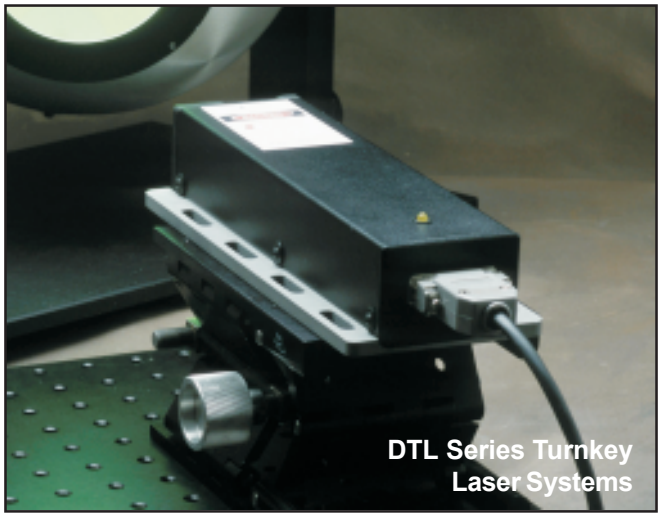

DTL Series Turnkey Laser Systems

DTL laser systems are designed for the laboratory and a variety of applications requiring a turnkey system. Each DTL system features an on/off key switch, power adjustment, digital power meter, emissions indicator, remote interlock, and shutter.

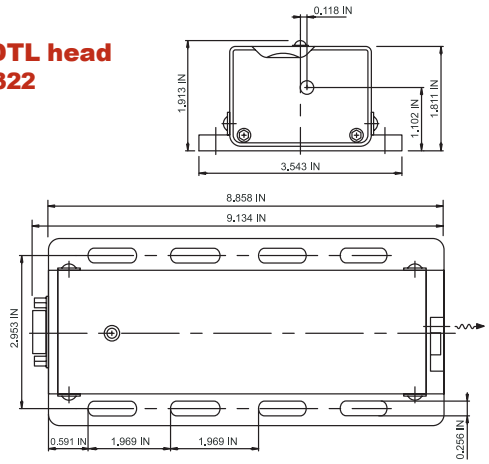
CW laser systems

Each of our air-cooled CW laser systems incorporates thermoelectric cooling and active temperature control circuitry to provide output stability of better than 2% per hour. The operating power on our CW systems can be adjusted either manually or from a remote location via a 0 to 5V control voltage.

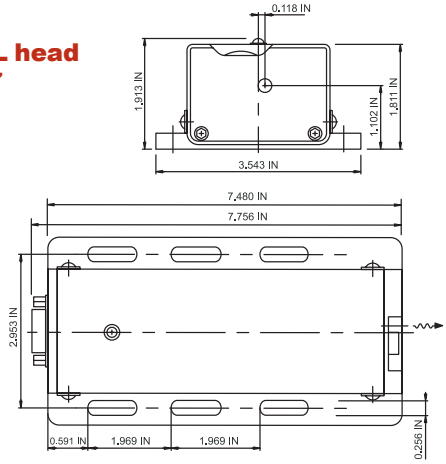
CW laser systems are ideal for bioflourescence, imaging on film, and other applications requiring wavelength stability and a narrow spectral width.

Model	DTL-317	DTL-322
Output power (mW)	50	1000
Wavelength (nm)	532	1064
Head dimensions, in. [mm]	3.54 x 7.48 x 1.81 [90 x 190 x 46]	3.54 x 8.86 x 1.81 [90 x 225 x 46]
Power supply dimensions, in. [mm]	10.24 x 7.76 x 3.54 [260 x 197 x 90]	
Beam diameter (typical, mm)	1.5	
Beam diverg (1/2 angle, $1/e^2$, mrad)	0.4	0.8
Output stability (%/hour)	<1	<2

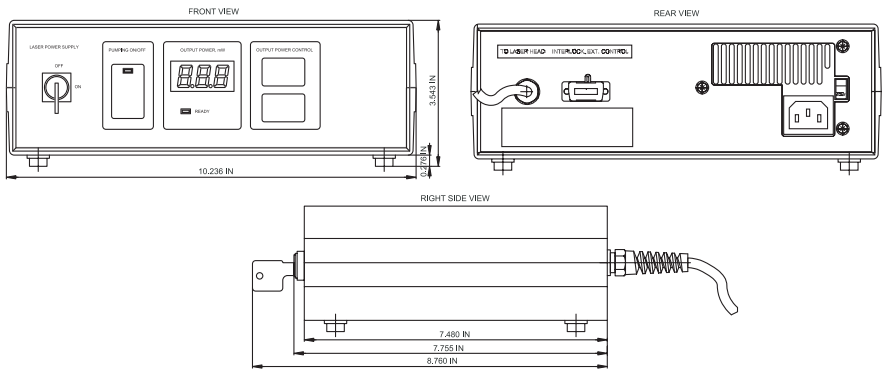
CW DTL head DTL-322



CW DTL head DTL-317



CW DTL power supply

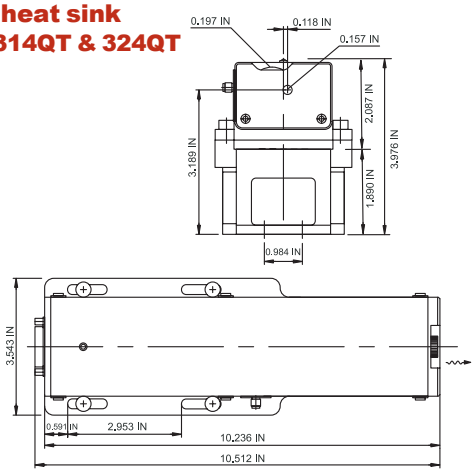


Q-switched laser systems with triggered mode of operation

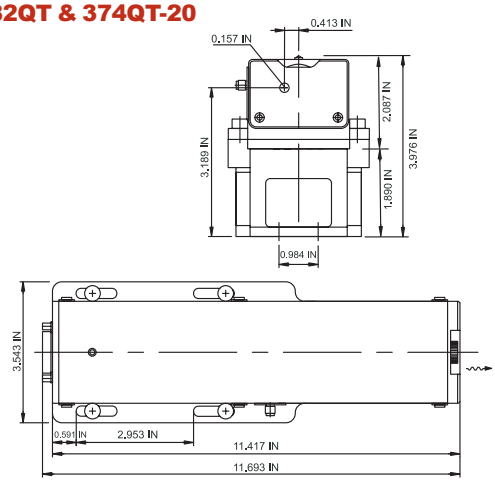
Not all applications require a CW laser system, so we offer Q-switched systems with internal and external triggering. Our Q-switched systems feature wavelengths from 266 to 1064nm, giving users a choice of IR, green, and UV output. Q-switched systems are ideal for those applications requiring high peak pulse powers. They are also useful in synchronization applications when supplied with an external trigger pulse.

Model	DTL-382QT	DTL-374QT	DTL-314QT	DTL-324QT
Wavelength (nm)	266	355	532	1064
Head dimensions, in. [mm]	3.45 x 11.42 x 2.05 [90 x 290 x 52]		3.54 x 10.24 x 2.05 [90 x 260 x 52]	
Power supply dimensions, in. [mm]	3.54 x 10.24 x 7.76 [90 x 260 x 197]			
Pulse energy (µJ)	3	>20 (1kHz), 0.7 (10kHz)	>20 (1kHz), >3 (10kHz)	>100 (1kHz), >40 (10kHz)
Pulse length at 1kHz (ns)	<10			
Beam diameter (typical, mm)	<2	<0.8	<0.4	<1.5
Beam diverg (1/2 angle, $1/e^2$, mrad)	-	<4	1.5	0.8

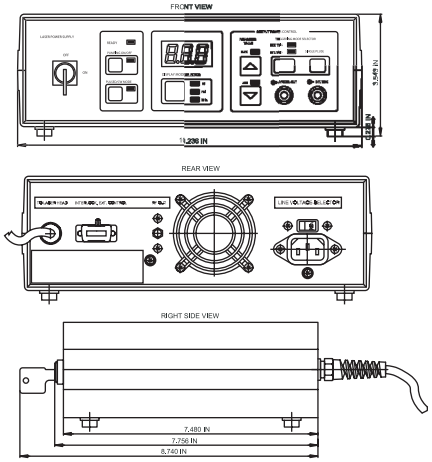
Green & IR AOM Q-switch DTL head with heat sink DTL-314QT & 324QT



UV AOM Q-switch DTL head with heat sink DDTL-382QT & 374QT-20



Q-switched DTL power supply



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