

## Nano-Tune Tunable laser

Ultra Compact Tunable Diode Laser with integral spectrometer  
for Real Time  $\lambda$  monitoring & control



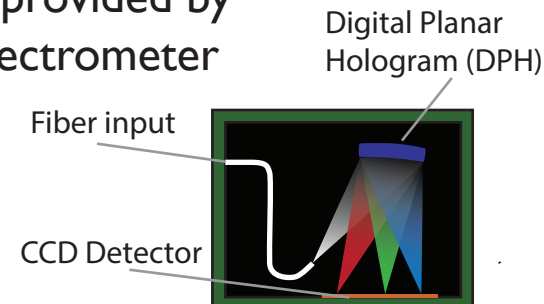
### Features:

- Real Time Wavelength Monitoring & Control
- Tunable over  $\sim 10$  nm range @ high resolution
- Single Mode Lasing without Mode-Hopping
- Cost Efficient over externally stabilized lasers
- Optimized for both industrial Integration & Scientific Applications
- Temperature Stabilized
- Ultra Compact Package Size
- USB Controlled

The Nano-Tune Tunable Diode Laser incorporates a highly stable diode laser system with an integral high resolution spectrometer to provide real time monitoring and closed-loop control of the laser output. Nano-Tune tunable diode lasers are tunable over a wide wavelength range ( $\sim 10$ nm) at very high intervals (0.2 nm steps) thru the monitoring and control provided by the integral spectrometer. This monitor and control feedback loop allows users to fine tune the emission within a longitudinal mode without worrying about the laser diode jumping (mode hopping) into the next mode. At the heart of the monitor and control loop is a Nano-Stick DPH spectrometer that provides very high resolution in an incredibly small package and at a very affordable price to provide extreme diode laser performance at a fraction of the price of externally stabilized laser systems. This combination of high performance diode laser and integral spectrometer in a highly cost effective and ultra compact package, makes the Nano-Tune diode laser system perfectly suited for the most demanding industrial and scientific applications.

### Monitoring and Control provided by integral **Nano-Stick** spectrometer

- Extremely Compact package
- Ultra high resolution
- Optics integrated on wafer chip
- Revolutionary DPH technology
- Cost Efficient



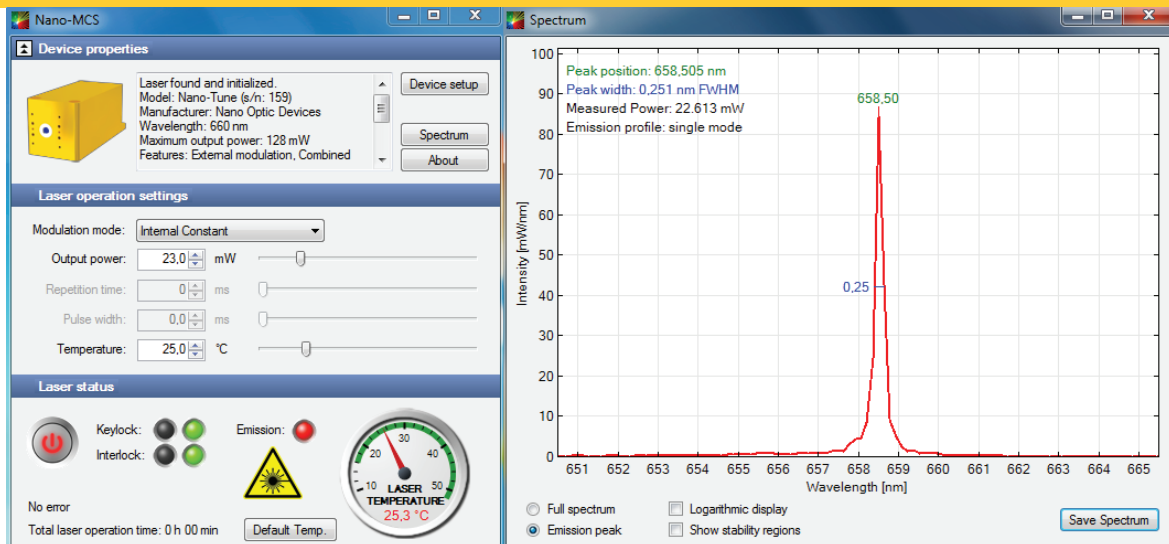
## Technical specifications

Beam Diameter	1.2 x 2.2 mm	RMS Noise	< 2%
Divergence	< 0.9 mrad	Power Stability (drift)	< 1%
Beam Mode	TEM <sub>00</sub>	Pointing Stability	< 5 μrad/K
Polarization	Linear, > 100:1	Temperature Accuracy	< 10 mK
Polarization Direction	Horizontal	Warm-up	5 s
Beam Alignment	< 5 mrad and < 0.1 mm	Calibration time	5 min
Control Modes	Power, Temp & modulation	Drive mode	Active Current Control
Modulation	Analog & Digital	Size	90 x 40 x 40 mm

## Standard Models NT-642 NT-785 NT-XXX

Wavelength	642 nm	785 nm	user's choice*	* Wide selection of other wavelengths available including 635, 638, 660, 685, 705, 730, 808, 830, 852, 905, 915, 940, 980 and 1064 nm.
MAX Output Power	125 mW	100 mW	λ dependent	

## Nano-MCS Monitoring and Control Software (included)



- Complete Monitoring and Control of laser and Integral Spectrometer
- Real Time feedback Loop for Monitoring and Controlling laser output
- Spectrometer displays peak wavelength, peak width and measured output power
- Ability to change display options and save spectrum files
- Driver Interface included for user's own custom application software