Diode Laser Modules

SureLock™

BT Series Mini-Benchtop Stabilized Laser

Coherent BT Stablized Lasers are engineered to be ultra-compact, durable, and easy to use, making them an ideal choice for Raman spectroscopy applications. Featuring the Coherent SureLock™ Laser, the BT Mini-Benchtop Laser ensures steady, high-power, and spectrum-narrowed performance while maintaining low power consumption. All SureLock™ Series lasers are stabilized by the Coherent PowerLocker® Volume Holographic Grating (VHG), providing precise, ultra-stable center wavelengths with narrow spectral bandwidth. This stability is maintained across full power range, from 0% to 100%, ensuring consistent spectral performance, making these lasers highly reliable for demanding applications.

The BT Laser comes equipped with easy-to-adjust local manual controls, a standard FC/PC connectorized fiber output, and a user-friendly touchscreen interface. It offers better than 1% power stability and a warm-up time of less than 1 minute, ensuring quick and reliable operation. Designed for both laboratory and OEM use, these lasers deliver

FEATURES

- Achieve high resolution and precise Raman measurements with narrow spectral bandwidth, typical 0.08 nm
- Adjustable output from few mW to 500 mW for a broad range of Raman applications
- High signal purity for accurate spectra with side mode suppression ratio, SMSR, greater than 40 dB
- Simplify setup complexity and insure consistent results with integrated drive electronics and temperature control
- User friendly digital and manual controls allowing for precise tuning to meet specific needs
- Plug-and-play with integrated e-stop and keyswitch
- Connectorized FC/PC 105 µm MM, 0.22 NA fiber coupled output
- Optional patch cables available for either FC/PC or SMA end connector
- Customized wavelength options available

APPLICATIONS

- Raman Spectroscopy
- Metrology
- Bioinstrumentation
- Sensing
- Analytical Instrumentation

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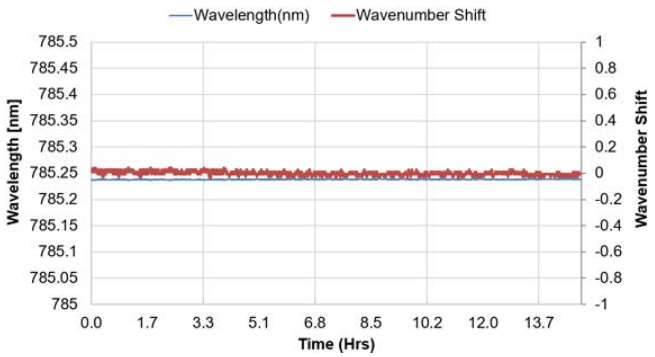
Specifications	638 nm	785 nm	830 nm	1064 nm
SKU	115-81063-012	115-81063-001	115-81063-002	115-81063-005
Output Power (mW) (maximum)	300	<500	<500	<500
Center Wavelength (nm) Minimum Typical Maximum	 637.5 638 638.5	 784.5 785 785.5	 829.5 830 830.5	 1063.5 1064 1064.5
Spectral Bandwidth (FWHM nm) Typical Maximum	 0.07 0.15	 0.08 0.15	 0.08 0.15	 0.09 0.15
Spectral Bandwidth (FWHM cm^{-1}) Typical Maximum	 1.7 3.7	 1.2 2.4	 1.2 2.2	 0.8 1.3
Side Mode Suppression Ratio (dB)	40			
Central Stabilized Temp.[1] (°C) Minimum Maximum	 20 40			
Fiber Type (standard)	105 µm core 0.22NA FC/ PC Connector. Optional patch cable with FC/PC or SMA available			
Operating Requirements				
Current (mA) (maximum)	2			
Input Voltage (VAC)	90 to 240/50 to 60 Hz			
Operating Temperature[2] (°C) Minimum Typical Maximum	 0 25 40			
Storage Temperature[2] (°C) Minimum Maximum	 -10 60			

All specifications are at rated power with a case temperature of 25°C unless otherwise noted. Wavelengths specified are vacuum referenced. Ex: 632.991nm vacuum referenced is equivalent to 632.816nm standard air referenced for HeN.

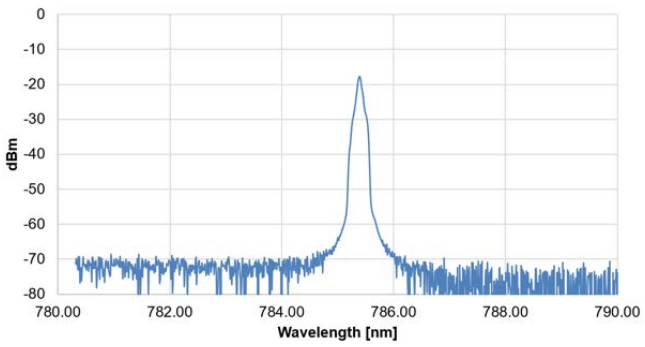
1. Temperature set point is internal TEC set point. R-T thermistor data is available to determine actual thermistor setting.
2. Non-condensing.

Typical Performance Data

Typical Wavelength Stability

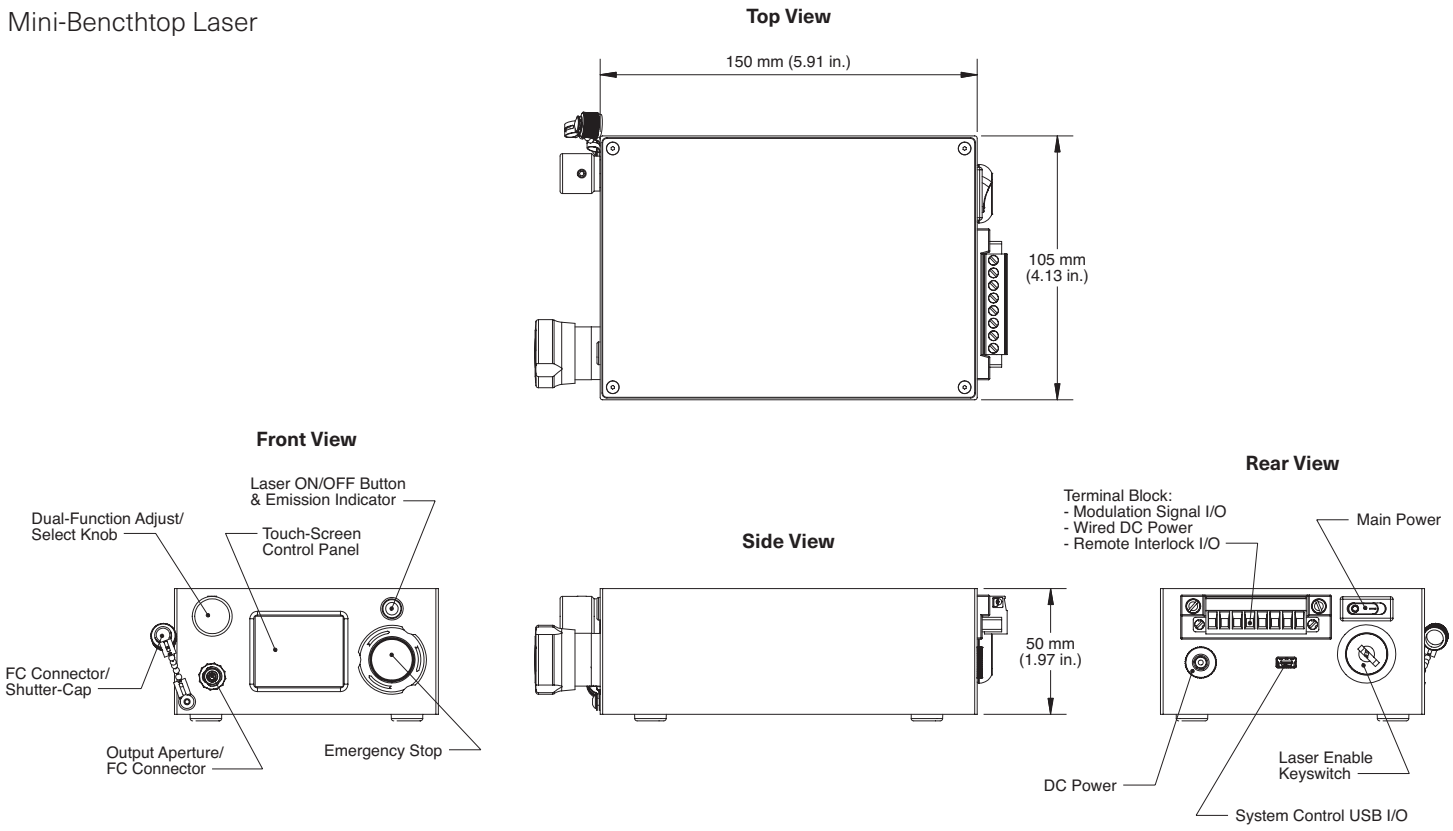


Optical Spectrum (sample)



Mechanical Specifications

Mini-Bencthtop Laser



Optional Accessories
118-90000-414; FC/UPC to FC/UPC Connectors, 105um 0.22NA Fiber, Step Index, 3mm OD SS Jacket, 3 Meters Long
118-90000-415; FC/UPC to SMA905 Connectors, 105um 0.22NA Fiber, Step Index, 3mm OD SS Jacket, 3 Meters Long
118-90000-350; E2000-UPC to FC/PC, 105um 0.22NA Fiber, Step Index, 3mm OD SS Jacket, 3 Meters Long

PIN	Description
1	Digital M+
2	Signal GND
3	Analog M+
4	N/C
5	5-12V DC
6	DC GND
7	Interlock
8	Interlock

Fiber Tip Cleanliness: Inspect and clean all fiber tips before mate. Dirty or contaminated fiber tips could cause permanent damage to fiber connector. Cover all fiber tips when not in use. Damage to fiber connector is not covered by warranty.

Laser Eye Safety: Use protective eyewear and follow local regulatory requirements for use of laser diodes.

Environmental Conditions: Units are intended for use in laboratory environments with reasonable airflow for thermal dissipation. Allow reasonable clearance around the unit for air flow.

Remote Control Limitations: Values entered via USB are not limit or type checked. Improper use may result in permanent damage to the laser diode.

For more information
www.coherent.com