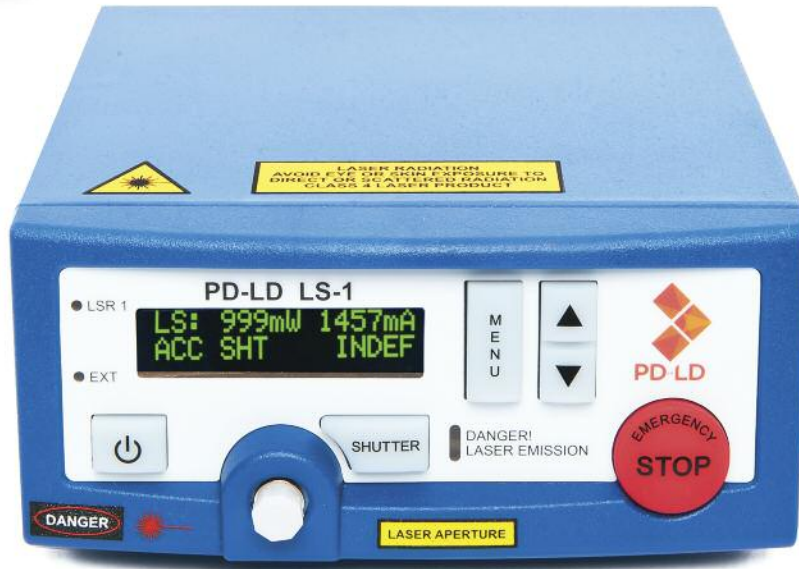




Wavelength Stabilized Instruments

# LS Series

LS-1 VBG®-STABILIZED SINGLE LASER SOURCE



Key Performance Features	Applications
<ul style="list-style-type: none"> <li>• High Power Lasers, Up to 1 Watt</li> <li>• Narrow Line Width, &lt; 0.1 nm</li> <li>• Excellent Wavelength Stability, +/- 0.005 nm</li> <li>• Excellent Power Stability, +/- 0.5 %</li> <li>• Built-in Optical Switch and Shutter</li> <li>• Fully Programmable through USB Interface</li> </ul>	<ul style="list-style-type: none"> <li>• Raman Spectroscopy</li> <li>• Bioinstrumentation</li> <li>• Cytometry</li> <li>• Metrology</li> <li>• Confocal Microscopy</li> <li>• Interferometry</li> </ul>

Standard Wavelengths (nm)	647 nm	785 nm	830 nm	1064 nm
---------------------------	--------	--------	--------	---------

# LS Series

LS-1 VBG®-STABILIZED SINGLE LASER SOURCE



Optical Characteristics					
Standard Wavelengths (nm)	647	785	830	1064	Multimode laser
Center $\lambda$ tolerance [nm]	+/- 0.5				
Wavelength stability [nm]	+/- 0.005 over 8 hours				
Linewidth [nm]	Typ. 0.08; max. 0.10				
Linewidth [ $\text{cm}^{-1}$ ]	Typ. 1.3; max. 2.4				
ASE suppression [dB]	>40				

Power Characteristics					
Output from fiber [mw]	>500	>600	>600	>800	Multimode laser
Adjustability % full power	10-100				
ACC Adjustment Resolution	1mA				
APC Adjustment Resolution	5mW				
Output power stability %	+/- 0.5 over 8 hours				
Noise RMS %	< 0.25				
Noise P - P %	< 1				
Digital modulation	10 kHz*				
Analog modulation	10 Hz**				
Power consumption [W]	30				
Warm up time [min]	1				

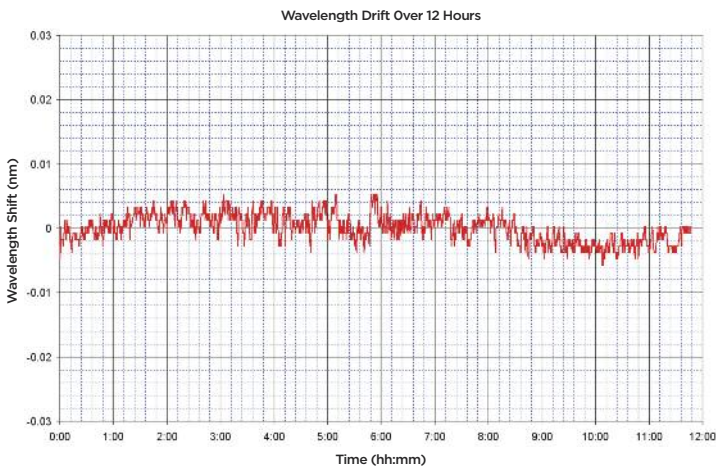
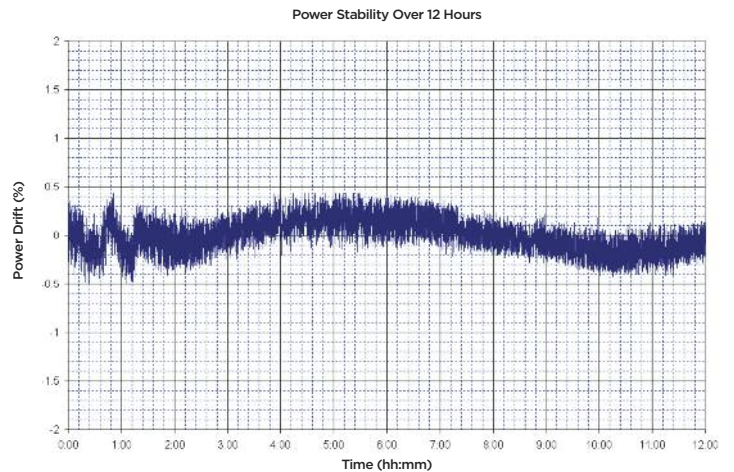
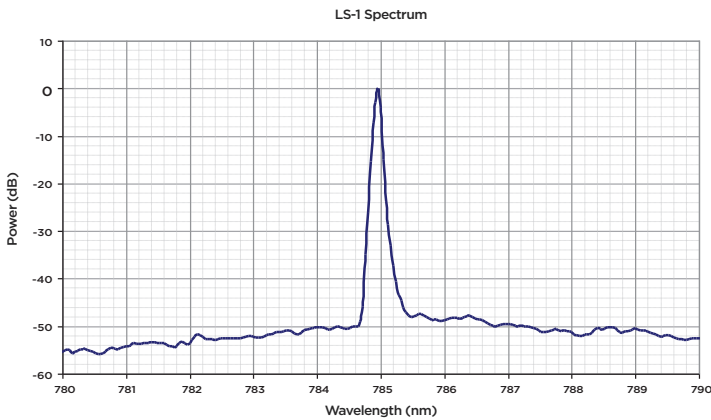
\* Modulation is only available in ACC mode  
 \*\* 10Hz in ACC mode only, APC mode is 0.5Hz

General and Environmental Characteristics	
CDRH classification	Class IV
Operating temperature C	10-40
Storage temperature C	-10-60
Humidity noncondensing %	< 95
Interfaces	USB 2.0, BNC

Output Fiber Characteristics	
Fiber type	105 um core; 0.22 NA (Other available)
Connector type	FC/PC standard (Other available)

Electrical Characteristics	
Line Voltage	100-240 VAC 50/60Hz
Analog Input	0-5V
Modulation Input	5V Logic Level
Shutter Input	5V Logic Level

Optical Shutter Characteristics	
Switching time [ms]	< 10
Crosstalk [dB]	< -55



Specifications Subject to Change



# LS Series

LS-1 VBG®-STABILIZED SINGLE LASER SOURCE

Weight = ~1200 grams

Dimensions (mm) = 84 (h) x 174 (w) x 190 (d)    Display size (mm) = 58 (w) x 12 (h)



## LS-1 VBG®-Stabilized Single Laser Source

PD-LD's LS-1 VBG®-stabilized single-laser source is based on a fiber-coupled high-power laser diode that is spectrally narrowed and wavelength-stabilized by use of the VBG® technology. Standard wavelengths—647, 785, 830 and 1064 nm—are available and custom wavelengths may be produced upon request.

The product contains a unique high-power fiber-optic switch with internal beam dump, which permits rapid on-and-off switching of the laser source, while ensuring that no laser emission emerges from the output port in between the measurements.

The source features compact, rugged construction, a user-centric design, and ease of integration with existing laboratory equipment. It is easy to operate either from the front panel or remotely via the USB interface. External modulation, shutter control and analog power control are available.

# LS Series

LS-1 VBG®-STABILIZED SINGLE LASER SOURCE



## Ordering Information

LS-N- $\lambda_1\lambda_1$ -F CC

**LS** = Laser Source

**N** = Number of Lasers  
1 = 1 Laser

$\lambda_1\lambda_1$  = Laser 1 Wavelength  
64 = 647 nm  
78 = 785 nm  
83 = 830 nm  
10 = 1064 nm

**CC** = Connector Type

**FC** = FC/PC  
**FA** = FC/APC  
**SM** = SMA

**F** = Fiber Size

1 = 105  $\mu$ m core, 0.22 NA

