

## Tunable Laser Source (TLS-101)



The TLS-101 is a compact tunable laser source for daily test and measurement applications. The laser can be step-tuned across the C or L band communication channels with a tuning resolution of 50 GHz in less than 20 ms. The internal wavelength locker assures that the wavelengths or frequencies of the output light are exactly on the ITU grid of the DWDM channels. The light source has three operation modes: fixed wavelength output for the user to select a static wavelength or frequency output, single-trip wavelength (frequency) scan with a user-set range, step, and speed, and round-trip frequency scan. Finally, the TLS-101 comes with USB, RS-232, Ethernet, and GPIB communication ports for easy, flexible interface with computers and other instruments. In particular, the Ethernet port allows the instrument to be controlled remotely, from home, office or a hotel room when on travel. The TLS-101 is an ideal source for WDM component testing, sensor interrogation, optical coherence tomography (OCT), PMD and PDL characterization, and for use in general purpose test and measurement applications.

### Specifications:

	C band	L band
Wavelength/Frequency Tuning Range	1528.77 to 1563.86nm 191.7 to 196.1THz	1568.77 to 1607.47 nm 186.5 to 191.1 THz
Number of ITU Channels	89	93
Tuning Resolution (Minimum Tuning Step)	50 GHz	50 GHz
Optical Power	13 dBm	10 dBm
Power Ripple	0.3 dB typical 0.5 dB max. } over tuning range	
Side Mode Suppression Ratio (SMSR)	> 40 dB	
Output Linewidth (Lorentz)	< 5 MHz (1MHz typical)	
Average Relative Intensity Noise (RIN)	(10 MHz -1GHz)	< -110 dB/Hz
	(1-10GHz)	< -145 dB/Hz
OSNR (0.1nm Bandwidth)	> 50 dB	
Polarization Extinction Ratio	> 20 dB	
Return Loss	> 40 dB	
Locked Frequency Accuracy	-1.8 to 1.8 GHz	
Shuttered Output Power	< -30 dBm	
Tuning Speed	20 ms for adjacent channels	
Operating Mode	Single wavelength output;	
	Single trip & round trip wavelength scanning	
Operating Temperature	5 to 50 °C	
Storage Temperature	0 to 70 °C	
Output Optical Interface	PM, FC/APC connector	
Communication Interface	USB, Ethernet, RS-232, and GPIB	
Electrical Power Supply	100 – 240 VAC, 50 – 60 Hz	
Dimensions	2U 19" half rack width	
	14" (L) x 8.5" (W) x 3.5" (H)	

### Features:

- Fast tuning speed (20 ms)
- High output power
- ITU grid locking
- Ethernet interface for remote control
- GPIB, USB, and RS-232 interfaces for flexibility

### Applications:

- WDM component testing and QA
- Fiber sensors
- PMD and PDL measurement
- Test & measurement
- Optical coherence tomography (OCT)
- R&D

### Related Products:

- Rack Mount Kit (RCK-001)
- Components

### Ordering Information:

