

TUNICS T100S-HP

High Power Tunable Laser

TUNICS' proven tunable laser design provides long-term reliability with uncompromised specifications. This latest version provides high output power across its full tuning range with ultra-low SSE noise. This is an easy to use and affordable instrument for all optics laboratories and will ensure your measurements are no longer limited by laser performance.

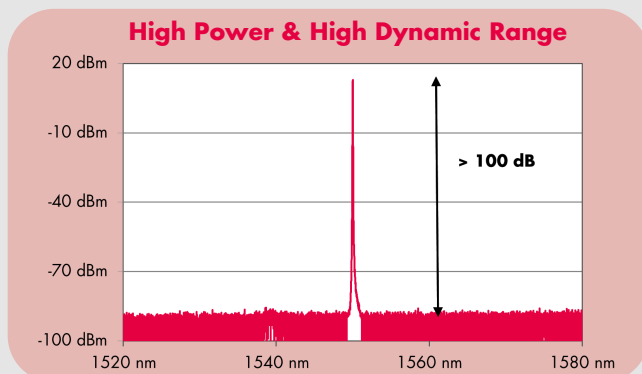


Key Features

+13 dBm Output Power

The TUNICS T100S-HP provides the highest fiber-coupled output power of any comparable tunable laser on the market today. *Essential* models emit over 10 mW (+10 dBm) over their entire tuning range. Peak power is 20 mW (+13 dBm) for all models.

Ultra-low Optical Noise



Yenista's unique T100 cavity eliminates the broadband spontaneous emission (SSE) that is normally present in an external cavity laser's output. This gives a dramatic improvement in a measurement's dynamic range and enables component characterization without compromise.

Built-in Wavelength Reference

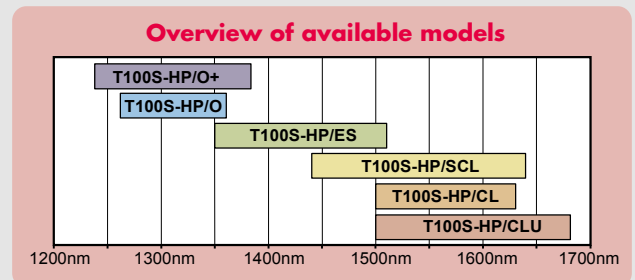
An internal wavelength reference ensures the high wavelength accuracy, better than ± 20 pm, is maintained in the long-term.

Step-by-Step or Fast Wavelength Scans

The laser can be tuned accurately to any wavelength or alternatively can be swept, at any speed from 1 to 100 nm/s over a range of wavelengths.

Wide Tuning Range

Six models are available. *Essential* models cover the standard telecom O and C & L wavelength bands. *Extended Range* models have very large wavelength ranges, up to 200 nm, extending from 1240 to 1680 nm.



Active Mode-Hop-Free Scan

Yenista's patented active mode-hop control ensures every scan is completely mode-hop-free. Reliable wavelength sweeps are attained with long-term reliability.

Applications

Telecom System & Component Testing

The ultra-low SSE is a big advantage and enables repeatable high dynamic range measurements. Production environments benefit from the proven reliability and fast mode-hop-free scan.

Interferometry & Metrology

For both stable and scanning interferometric systems.

Sensors & Spectroscopy

0.1 pm fine scanning and wavelength modulation are additional features available for these applications.

Scientific Research & Development

Extensive input and output ports provide added flexibility and satisfy a wide range of test requirements.

Specifications

		Essential Models		Extended Range Models			
		T100S-HP/O	T100S-HP/CL	T100S-HP/O+	T100S-HP/ES	T100S-HP/SCL	T100S-HP/CLU
Wavelength range		1260 to 1360	1500 to 1630	1240 to 1380	1350 to 1510	1440 to 1640	1500 to 1680
Output power	Over full wavelength range	≥ +10 dBm		≥ +8 dBm			
	Peak	≥ +13 dBm					
Signal to source spontaneous emission ratio ^{*1}		≥ 90 dB (100 dB typical)					
Side mode suppression ratio ^{*2}		≥45 dB					
Stability ^{*3}	Wavelength	±5 pm / h (±3 pm / h, ±5 pm / 24h typical)					
	Output power	±0.01 dB / h (±0.025 dB / 24h typical)					
Relative intensity noise ^{*2, *4}		-145 dB/Hz typical					
Spectral width (FWHM)		>100 MHz (coherence control on)					
		400 kHz typical (coherence control off)					
Absolute wavelength accuracy ^{*5}		±20 pm					
Wavelength setting repeatability		5 pm typical					
Wavelength setting resolution		1 pm (0.1 pm in fine tuning mode)					
Fine tuning mode range		±25 pm (±2 GHz)					
Tuning speed in step mode		approximately 1s for 100 nm step					
Mode-hop-free range ^{*6}		Full wavelength range					
Continuous sweep speed		Adjustable from 1 to 100 nm/s					
Power flatness during sweep		±0.25 dB typical					
Power repeatability sweep to sweep ^{*7}		±0.05 dB typical					
Low frequency modulation		DC to 8 MHz					
High frequency modulation		30 kHz to 200 MHz					
Output fiber type		SMF or PMF (option)					
Output connector		FC / APC					
Communication interfaces		RS-232C and GPIB (IEEE-488.1 ^{*8})					
Temperature / humidity range		+15° to +30°C (+60° to +85°F) / <80% (non-condensing)					
Power supply		100 to 240 V a.c. / 50 to 60 Hz / 60 W					
Laser safety classification		Class 1M					
Dimensions (W x D x H)		448 x 370 x 133 mm					
Weight		12.5 kg					

All specifications are given after 60 minutes warm-up.

*1: Measured over a 0.1 nm bandwidth ±1nm from the signal.

*2: For output power ≥0 dBm.

*3: Over one hour at constant temperature. *4: Measured at 100 MHz.

*5: At 23°±2°C. ±40 pm over full operating temperature range.

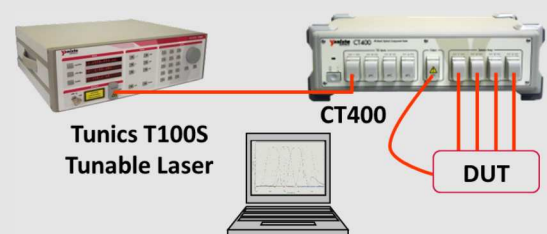
*6: Validated at 0 & +10 dBm for *essential* and 0 & +8 dBm for *extended range* models.

*7: Over 100 wavelength scans at constant temperature.

*8: Tested & validated with National Instruments GPIB Board.

Complete Test Solution

TUNICS lasers are designed to integrate with Yenista's CT400 Component Tester to provide a complete swept-wavelength test solution. The CT400 can combine up to four lasers to cover any wavelength range from 1260 to 1650 nm. 5 pm wavelength accuracy is achieved with 100 nm/s scans and 60 dB dynamic range.



TUNICS T100S-HP & CT400

Information and specifications are subject to change without notice.
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