INTUN™ Continuously Tunable Lasers (Page 1 of 2)

Features

- Wavelength Ranges from 770 - 1650 nm
- 4 Models with Output Powers Ranging from >5 to >20 mW
- Instantaneous Linewidth of 120 kHz (Minimum)

TL1550-B

Thorlabs offers a family of tunable lasers designed for demanding applications such as spectroscopy. With four models spanning the wavelength range from 770 nm to 1650 nm, this family covers the widest spectral range of any of our tunable products. The heart of the INTUN system is based on the same technology used in the high-performance PICO D tunable laser featured on pages 1086-1087.

All lasers in the INTUN family have reduced spontaneous emission to further improve the laser performance. The INTUN has an SM1-compatible thread on the output port and mounting holes for our 30 mm cage system to allow ease of use with our optomechanical equipment. The output is a collimated free-space beam.

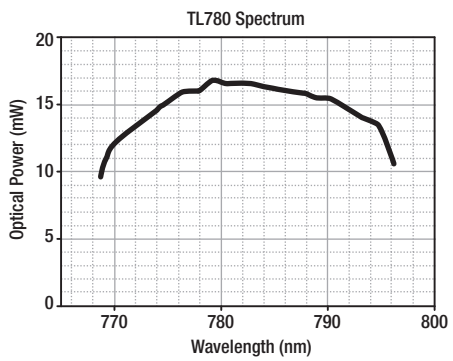
The INTUN-B has the means to lock the wavelength to an external wavelength reference such as a gas cell or a frequency comb. Contact techsupport@thorlabs.com for more information on this application (see pages 824-829 for our selection of gas cells).

The INTUN-B model comes with a simple LabVIEW™ software interface that enables the user to control the laser via a computer.

All communication with the laser is done via a convenient USB interface.

Applications

- Characterization of Optical Components
- Spectroscopy
- Polarization Measurements
- Real-Time Process Monitoring
- General R&D



Plot of TL780 INTUN Laser Showing Optical Power as a Function of Wavelength

Electric and Interface Specifications for the INTUN-B

DC Input	48 V/20 W
Analog Modulation Input	2 V_{p-p}
Analog Wavelength Output	0 - 4 V

Electrical Connectors

DC Input Voltage	Rear Panel Socket
Digital Status	0 - 5 V
Interlock	DB9
Communications	USB 2.0
Analog Inputs	BNC
Operating Temperature Range	15 - 30 °C
Dimensions	242 mm x 87 mm x 142 mm

Power supply and all required cables included.

INTUN™ Continuously Tunable Lasers (Page 2 of 2)

SM1-Compatible Thread on the Output Port and Mounting Holes for Cage Systems

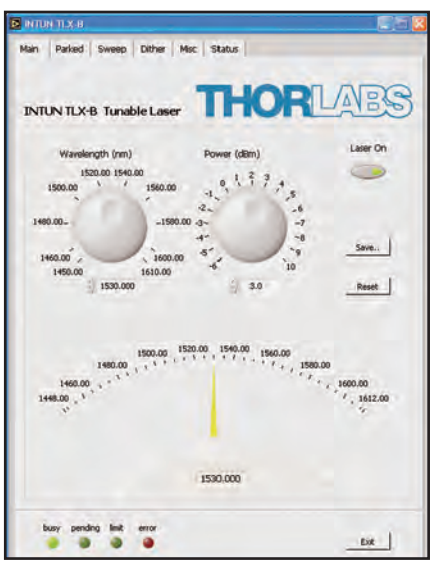
Optical Specifications

Wavelength Resolution	0.1 pm
Wavelength Repeatability	1 pm
Absolute Wavelength Accuracy	±50 pm
Wavelength Stability (1h/24hr)	±2 pm/±10 pm
Power Resolution	25 µW
Spectral Linewidth	150 kHz Max[a]
Effective Linewidth	1.5 MHz
Coherence Control	1 GHz or 2 GHz
Side Mode Suppression Ratio (SMSR)	45 dBc (Min)
Signal to Source Spontaneous Emission Ratio (SSE)	70 dB/nm[b]
Signal to Total Source Spontaneous Emission Ratio (STSSER)	65 dB
Optical Power Output	>5 mW to >20 mW
Relative Intensity Noise (RIN)	-140 (dB/Hz)
Continuous Tuning Speed TL780 TL980 TL1300 TL1550	 0 - 15 nm/s 0 - 15 nm/s 0 - 50 nm/s 0 - 50 nm/s
Optical Output	Collimated Free-Space Beam

[a] Measurement Time <1 ms.
[b] Depending on Applications

GUI for INTUN-B Series Lasers

The B series has a USB interface, providing remote digital functionality. Also, LabVIEW™ drivers are available for integration into customer software.



ITEM#	CENTER λ	TUNING RANGE	PIEZO TUNING RANGE	OPTICAL POWER TYPICAL	$	£	€	RMB
TL780-B	780 nm	15 nm	300 GHz	>5 mW	$ 21,924.00	£ 15,199.00	€ 19.465,00	¥ 185,127.00
TL980-B	980 nm	25 nm	200 GHz	>20 mW	$ 21,924.00	£ 15,199.00	€ 19.465,00	¥ 185,127.00
TL1300-B	1320 nm	>110 nm	200 GHz	>20 mW	$ 21,924.00	£ 15,199.00	€ 19.465,00	¥ 185,127.00
TL1550-B	1550 nm	>150 nm	175 GHz	>20 mW	$ 21,924.00	£ 15,199.00	€ 19.465,00	¥ 185,127.00