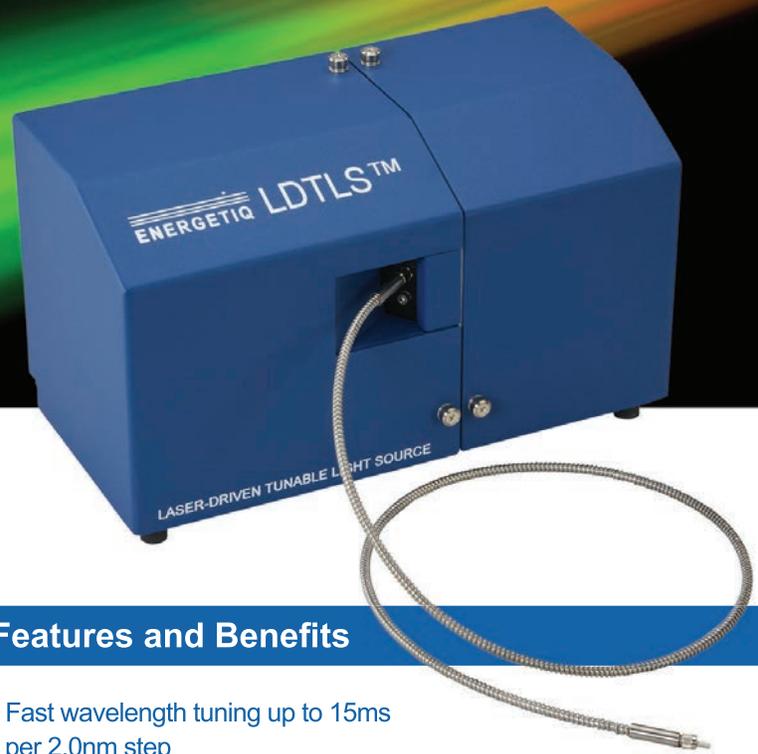


# TLS-EQ-9

## Laser-Driven Tunable Light Source



The Laser-Driven Tunable Light Source (LDTLS™) is a compact, fully-integrated, broadband source that allows precise tuning to desired wavelength bands. The LDTLS was designed around Energetiq's proven Laser-Driven Light Source (LDLS™) technology to provide the high brightness, high stability, broad wavelength range, and low maintenance of the LDLS, all in a tunable source.

The TLS-EQ-9 model is based on the EQ-9 LDLS, offering mid-range output power in a flexible, easy-to-use package. The broad wavelength range of the TLS-EQ-9 provides bright output from 400nm to 1,100nm, covering the visible wavelength range into the near infrared (NIR). The spectral resolution of the TLS-EQ-9 is user-configurable, allowing users to select different bandwidths for different applications. The stable performance of the TLS-EQ-9 translates to consistent, reliable results. The fast step time and high brightness of the TLS-EQ-9 enable high process throughput.

Users will find the TLS-EQ-9 to be extremely easy to use and maintain. The intuitive graphical user interface (GUI) allows for the creation of automated scans to rapidly step between prescribed wavelength bands. The fiber-coupled output of the TLS-EQ-9 makes it simple to integrate into a variety of optical configurations. The TLS-EQ-9 can run 24 hours a day and seven days per week (24/7) for over a year between bulb changes.

### Features and Benefits

- Fast wavelength tuning up to 15ms per 2.0nm step
- Etendue-matched monochromator with high efficiency optical design for maximum light throughput
- Configurable/flexible spectral resolution
- Long lifetime of ~10,000 hours between bulb changes for low cost-of-ownership
- Low noise and high stability for precise measurements
- User friendly computer interface / GUI
- Convenient optical fiber output easily integrates into a range of applications
- Achromatic reflective coupling optics for aberration free radiation collection and focusing

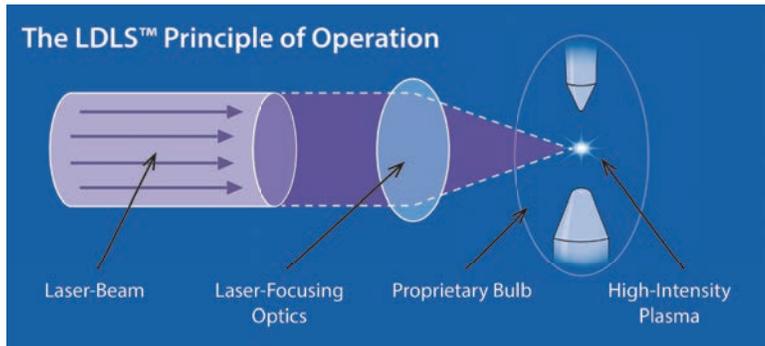
### Applications

- Optical Sensor Testing and Calibration
- Scientific Research
- Thin-Film Measurements
- Materials Characterization



### About Energetiq

*Energetiq Technology, Inc. is a wholly-owned subsidiary of Hamamatsu Photonics. Energetiq combines its deep understanding of the plasma physics needed for high-brightness light generation with its long experience in building rugged industrial & scientific products. The result is that users can expect the highest levels of performance combined with the highest reliability.*

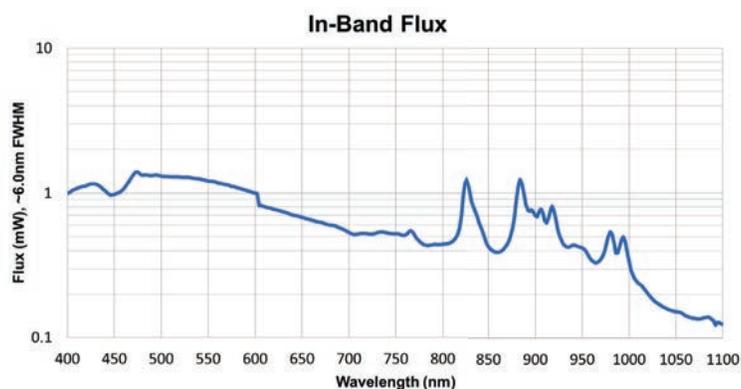


**TLS-EQ-9 (Rear View)**



## Spectral Output

TLS-EQ-9 offers spectral output across a broad wavelength range. The chart on the right shows the spectral output from 400nm - 1100nm.



## Specifications

### Overview

- Spectral Range: 400nm to 1100nm
- Wavelength Accuracy:  $\pm 0.5$ nm
- Typical Bulb Life: >9,000 hours
- Optical fiber output via SMA connector
- Adjustable bandwidth

### Physical Specifications

#### TLS-EQ-9

- Tunable Light Source

#### System Dimensions (H x W x D)

35.6 x 27 x 23.3 cm  
14 x 250 x 9.17 in

#### Weight

8kg  
17.5 lbs

### Utility Requirements

- Electrical: 100-240 VAC, 50/60Hz
- Purge Nitrogen: 0.4 liter/min
- Compliance: CE Mark, Class 1

Patent Numbers: US: 7435982; 7786455; 8525138; 8969841; 9048000; 9185786 -- Japan: 5410958; 5628253 -- Korea: 10-1507617 -- UK: GB2450045 -- *Other Patents Pending*