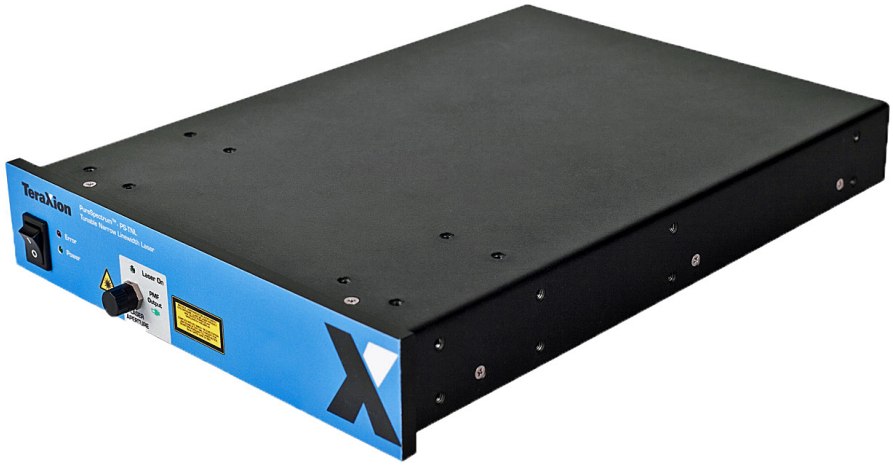
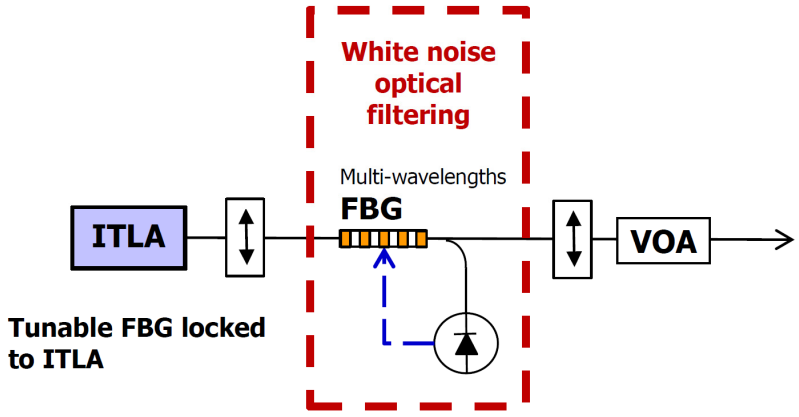
PureSpectrum™

# TNL–TUNABLE NARROW LINEWIDTH LASER

**The PureSpectrum™-TNL sets the mark for next-generation ITLA performances.**




The PS-TNL is a continuous wave ITLA based, C-band tunable, narrow-linewidth laser source, featuring optical filtering of white frequency noise by an ultra narrowband multi-wavelengths Fiber Bragg Grating (FBG), optimized for




## Features

- Dual-mode laser source: Native ITLA and white noise suppressed
- 1 kHz linewidth

## Applications

- Coherent communications research (CW signal & local oscillator—LO)
- Test & measurement

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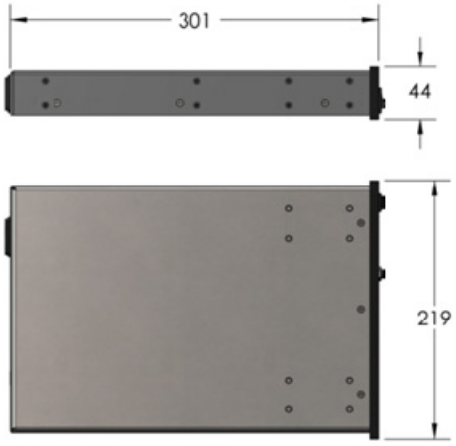
## Optical Characteristics

| | Units | Specifications |
|---|---|---|
| Wavelength Range | nm | 1527.6 – 1565.5 |
| Grid Spacing[1] | | Gridless operation |
| Linewidth[2] | kHz | < 1 |
| Frequency Noise | $Hz^2/Hz$ | <800 (50 MHz – 200 MHz)<br><100 (200 MHz – 500 MHz)<br><50 (>500 MHz) |
| Relative Intensity Noise | dBc/Hz | <-120 (1 MHz - 100 MHz)<br><-150 (>100 MHz) |
| Frequency Stability | MHz | ± 50 typ. over an hour |
| Frequency Accuracy | GHz | <± 0.5 BOL <± 2.5 EOL |
| Side Mode Suppression Ratio (SMSR) | dB | < 45 dB (50 dB typ.) |
| Maximum Optical Output Power | dBm | 10 typ. |
| Power Attenuation Range | dB | > 20 |
| Power Setting Resolution | dB | 0.1 |
| Polarization Extinction Ratio | dB | > 17 |
| Output Type | | CW |

## General Characteristics

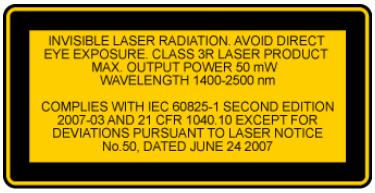
| | | |
|---|---|---|
| Dimensions | mm | H: 44; W: 219; D: 301<br>1U, 42 HP, rackmount |
| Optical Connector[3] | | FC/APC |
| Fiber Type | | 9/125 Panda PMF |
| Communication Port | | USB 2.0 |
| Operating Conditions | °C | +10 to +35 |
| Storage Conditions | °C | -40 to +85 |
| PC-Side Software[4] | | PS-TNL Control & Monitoring Software |

**Typical specifications may vary depending upon user's requirements.**




(1): Tuning condition is “set and position” (2 min. typical for the tuning and alignment) - no continuous sweep tuning.
(2): Lorentzian contribution to linewidth calculated from white frequency noise value at >500 MHz: $\Delta v = \pi S_0$
(3): Other connectors optional
(4): Windows XP/VISTA/7 Compatible

## Laser safety information




MKT-FTECH-PS-TNL 201309-3.1

### Ordering information

For orders, questions, specific requirements or to learn more about TeraXion’s products, contact us at

info@teraxion.com



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