## Full-Band Tunable Laser TSL-210F

TSL-210F is a tunable laser that covers from O band to U band. Integrating optical laser units, the TSL-210F outputs power from 1260 to 1630 nm (370nm range). It can be easily controlled via GPIB with PC and software. It has excellent cost performance and shows advantages for various research and development.

## Features

370 nm wide tuning range 1260 to 1630 nm
Peak $>10 \mathrm{~mW}, 370 \mathrm{~nm}>4 \mathrm{~mW}$ (Typ.) high output power
$>$ Easy and automatic operation by exclusive software
High accuracy and stability
$>$ Built-in OTF and OVA option available



## Control Software

TSL-210F is equipped with a PC, GPIB board/cable, control software as standard and all functions are controlled by GPIB communication. It has excellent performance such as wide wavelength tuning from 1260 to 1630 nm and automatic control setting by just entering commands to the PC.

## Wavelength vs. Power Flatness



## -Specifications

| Category |  | Unit |  | Notes |
| :---: | :---: | :---: | :---: | :---: |
| Wavelength Characteristics | Tuning range (Maximum tuning width) | nm | 1260 to 1630 |  |
|  |  |  | 370 |  |
|  | Resolution | nm | <0.01 | $<0.001 \mathrm{~nm}$ (with fine tuning) |
|  | Accuracy | nm | < $\pm 0.1$ |  |
|  | Repeatability | nm | < $\pm 0.05$ | $\mathrm{N}=50$ / Measured at center wavelength |
|  | Stability | nm | $< \pm 0.01$ | After a warm-up 1h/1hour /Measured at center wavelength |
|  | Fine tuning range | GHz | 10 | $=0.08 \mathrm{~nm}$ |
|  | Tuning Speed | ms/nm | 170 | Excludes those points; 1350nm, 1440nm and 1530nm |
| Power* | Output power | mW | >3 | Peak > 8 mW |
|  | Accuracy | \% | <5 |  |
|  | Repeatability | dB | $< \pm 0.01$ | $\mathrm{N}=50$ /Measured at center wavelength /at 3mW |
|  | Stability | dB | $< \pm 0.01$ | After a warm-up 1h/1hour/Measured at center wavelength/at 3mW |
|  | APC flatness | dB | $< \pm 0.3$ | Measured at 3mW, APC: Automatic Power Control |
|  | (Built in attenuator option) | dB | 0 to 20 | Resolution 0.04dB (Typ.) |
|  | (Built in tracking filter option) | dB | 20\% down | 3dB bandwidth 3nm (Typ.), Resolution 0.24nm (Typ.) |
| Environmental Conditions | Operating temp. range | ${ }^{\circ} \mathrm{C}$ | 20~30 |  |
|  | Operating humidity range | \% | <80 | non condensing |
|  | Storage temp. range | ${ }^{\circ} \mathrm{C}$ | 10~40 |  |
|  | Storage humidity range | \% | <80 | non condensing |
|  | Recommendation calibration period | Year | 1 |  |
| Spectrum | Spectrum line width (Coh. OFF) | MHz | $<1$ | Measured at center wavelength |
|  | Spectrum line width (Coh. ON) |  | 1 to 500 | Variable/Measured at center wavelength |
|  | SSR | dB | >45 | Measured at center wavelength 50dB (Typ.) |
|  | RIN | dB | >145 | Measurement Freq. <1GHz |
| Interface | Optical connector | - | FC or SC |  |
|  | Optical Fiber | - | SMF |  |
|  | Connector Polish | - | SPC or APC |  |
|  | GP-IB \& RS-232C | - | Yes | IEEE-488 |
| Modulation | LF Modulation | KHz | 0 to 10 |  |
| Power supply | Voltage | V | AC100-240 |  |
|  | Power Consumption | VA | 72/92 | AC 100/120: 72 AC 230/240: 92 |
| Dimensions | Width x Height x Depth | mm | $430 \times 220 \times 450$ |  |
|  | Weight | kg | 20 |  |

*For certain wavelengths below 1500nm performance may not meet specification due to OH absorption.

Ordering Code
TSL-210F-260630-S - $\triangle$ - $\square$ B $-00-0-$ - C- $\square$ - 0

