

TWR-1000 Tunable Wavelength Reference

Product Overview

The TWR-1000 generates a tunable PM-fiber coupled optical signal with stability and absolute wavelength accuracy on par with fixed wavelength references. The discretely tunable version can be programmed to be frequency-offset by ± 100 MHz from the side-peak of multiple gas absorption lines. The continuously tunable version adds a second laser with 35 nm continuous tuning range. Both lasers have < 20 kHz linewidth.

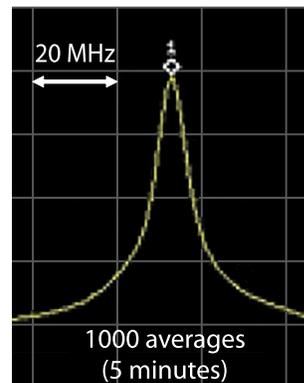
Features

- Polarization maintaining (PM) output fibers with optional programmable optical attenuation levels
- Discrete tunable highly stable output and widely tunable output
- Optional wave-meter interface
CW laser frequency measurements at up to 1 kHz refresh rate
- Inquire about 1310 nm version

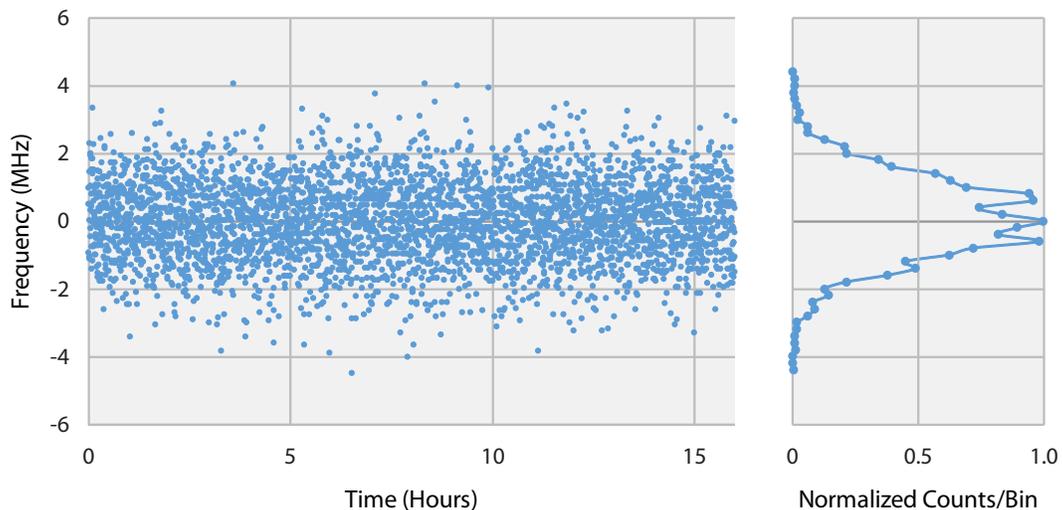
Applications

- Brillouin fiber amplifiers
- RF signal generation
beating tunable and fixed outputs
- One device serves as wavelength reference over entire C-band
- Optical component characterization
fiber Bragg grating drift, interferometer stability over temperature
- Interferometer stabilization

Beat Frequency of Continuously & Discretely Tunable Lasers



Discrete Laser Frequency Stability



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Product Specifications*

General

Linewidth	<15 kHz
Power	+10 dBm
Fiber Output	PM Fiber, FC/UPC connector

Discretely Tunable (Reference) Output

Stability	2 MHz RMS
Absolute accuracy	0.2 pm ^[1]
Tuning Range	±100 MHz from 20 center wavelength settings based on gas absorption lines ^[1]

Continuously Tunable Output

Stability	20 MHz RMS (one hour, typical); ±1 pm long term
Absolute accuracy	1 pm (1528 – 1541 nm); 2 pm (1542 – 1565 nm)
Wavelength tuning range	1528 – 1565 nm
Wavelength tuning time	10 seconds for 30 nm wavelength step 500 MHz/s controlled scans (50 GHz range)

Specifying Product Options

TWR-1000 - [X] - [Y]

- [X] "D" discrete tunable laser only
- "C" both discrete and tunable lasers
- [Y] "V" optional optical power control (PM variable optical attenuators)

* Specifications are estimates subject to change without notice.

[1] 1532.83036 nm default line (Acetylene P13);

Laser is locked to half-width point of gas line transition nominally ±250 MHz from center of absorption dip.

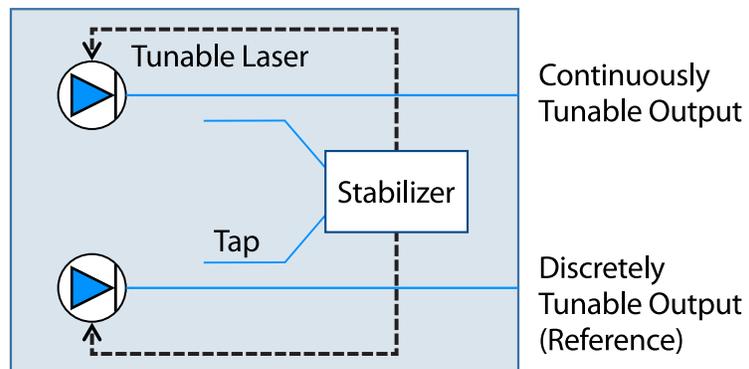
Most accurate lines (0.2 pm) are:

1528.01422, 1528.59381, 1532.83036, 1539.42979;

also available:

1529.7722, 1532.2059, 1534.0986, 1535.39270, 1536.0494,

1536.7125, 1538.0582.



— PM Fiber - - - - Electrical Connection