

FWM8612

Fast Wavelength Meter

Version 2.5



Product Description

With the growing demand for communication data, it is necessary to have a larger capacity optical communication transmission system, which drives optical component/network equipment manufacturers to use coherent communication modules based on wavelength tunable lasers in their transmission backbone networks. At present, the wavelength tunable lasers and coherent modules will be used in MAN, or even access networks. Accurate measurement and wavelength calibration are crucial for tunable lasers. With the continuous increase of communication channels from the initial 40 waves to the current maximum 800, efficient and accurate wavelength testing is more critical than ever.

Semright Instruments FWM8612 fast wavelength meter is designed and developed to meet this new test requirement. Based on Fizeau interferometer technology, the FWM8612 is combined with temperature-stable controllers, multi-stage composite interferometers, and linear array CCD detectors. Different from conventional Michelson interferometer wavelength meters, the FWM8612 has an all-solid-state construction and optical design with no mechanical moving parts, allowing it to achieve accurate measurement of 1 pm at sampling rates of up to 1 kHz. Based on external triggering and fast power detection, the FWM8612 will be the best choice for accurate observation of wavelength and power synchronous transients.

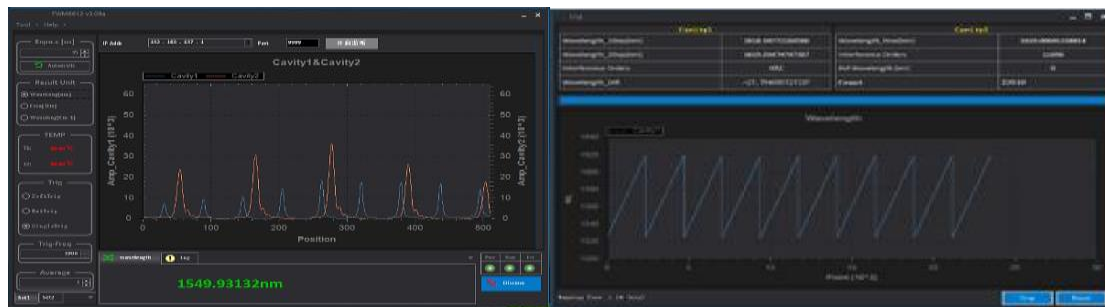
Key Features

- High wavelength accuracy: ± 0.33 ppm (typical value: ± 0.5 pm), it can be used for wavelength calibration and metering;
- All solid-state structure, optical design of non-mechanical moving parts, fast test speed: 1kHz refresh rate, suitable for transient wavelength and power test, greatly reducing the test time of iTLA, DBR and coherent communication modules;

- Support external trigger, and be able to conduct synchronous test with SMU precision source meter;
- Be applicable to iTLA and tunable laser fast wavelength test
- Support broadband mode, and be able to test 25 Gbps modulated optical signal
- Support drift test and maximum and minimum value display
- 0.1pm/12.5MHz wavelength resolution

Software function

Semight Instruments FWM8612 has very intuitive and simple interface GUI in which the system can be easily configured and all information can be displayed, and wavelength and power test are supported.



Technical Specification

Wavelength Indicators	Wavelength range	1250~1650 nm (182~240THz)
	Wavelength accuracy	± 0.33 ppm (± 0.5 pm@1550nm)
	Wavelength repeatability	± 0.07 ppm (± 0.1 pm@1550nm)
	Wavelength stability	$< \pm 0.3$ pm@24h
	Wavelength resolution	0.1 pm
	Unit	nm, cm ⁻¹ , THz
Power Indicators	Calibration accuracy	± 0.5 dB (± 30 nm from 1310 and 1550 nm)
	Linearity	± 0.5 dB (1250–1650 nm)
	Polarization Dependence	± 0.5 dB (1250–1650 nm)
	Display Resolution	0.01dB
Measurement Speed Indicators	Unit	dBm, mW
	Single sample	Single sample~200 Hz
	Speed@External trigger	1~1000 Hz
	Speed@Internal trigger	1~1000 Hz
Trigger Indicators	Trigger logic level	TTL
	External trigger	Support wavelength and power synchronized Trigger (1~1000 Hz)
	Internal trigger	Support internal trigger frequency configuration (1~1000 Hz)
Optical Signal	Maximum bandwidth	25GHz(200pm@1550nm)

Input Indicators	Input optical signal power range	-30 dBm~+10 dBm(8μW~10mW)
	Optical Interface	9/125 μm single-mode fiber (FC/PC)
	Optical interface return loss	>35 dB
Multi-peak Detection Indicators	Minimum frequency difference between main peak and secondary peak of multi-peak detection	2300 MHz
	Maximum frequency difference between main peak and secondary peak of multi-peak detection	17 dB
General Indicators	Built-in temperature control	Optical unit controls temperature with precise TEC
	Remote control	API supports remote control and high-speed sampling mode
	Environment	Indoor
	Work	15°C~+28°C, 30%~80% Relative Humidity with no condensation
	Storage	-10°C~70°C, 10%~90% Relative Humidity with no condensation

	Working pressure	500-900 mm Hg
	Power	LINE: 100-240 VAC, 50/60 Hz, 250 W FUSE: T3.15AL 250 VAC
	Dimensions (mm)	408*441*157 (with foot pad)
	Weight	Net weight 12.0 kg
	Communication interface	Export data flow by LAN、USB、RS232 External trigger interface: BNC (Internal/external trigger, high-speed acquisition mode) Support SCPI protocol

Ordering Information

FWM8612	Fast Wavelength Meter
Standard Accessories	Power cord、USB cable, Measurement Software and Drivers.

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Visit www.semight.com for more information.

*This information is subject to change without notice.