

Fast Wavelength Meter 1250-1650nm (182-240THz)



● Product Description

With the growing demand for communication data, a larger capacity optical communication transmission system is needed, which has driven optical component and network equipment manufacturers to use coherent communication modules based on wavelength tunable lasers in transmission backbone networks. At present, the scope of use of wavelength tunable lasers and coherent modules will further sink to the metropolitan area network and even access network. A very important test for tunable lasers is accurate measurement and wavelength calibration. With the continuous increase in communication channels, from the initial 40



waves to the current highest 800 waves, fast and accurate wavelength testing is more critical than ever. Our fast wavelength meter is designed and developed to meet this new test demand. The product is based on Fizeau interferometer technology, combining temperature-controlled interferometers, multi-stage compound interferometer cavities and linear array CCD detectors. Unlike traditional ordinary wavelength meters based on Michelson interferometers, this product adopts a fully solid-state structure and non-mechanical moving parts optical design, which enables it to ensure very high measurement accuracy (1pm) while having an ultra-high-speed measurement rate (up to 1kHz wavelength refresh rate). Combined with external triggering and fast power detection functions, this product becomes the best choice for accurately observing synchronous transient changes in wavelength and power.

● Product features

High wavelength accuracy: $\pm 0.33\text{ppm}$ (typical value: $\pm 0.5\text{pm}$), can be used for wavelength calibration and measurement 、 All-solid-state structure, optical design with no mechanical moving parts. Fast test speed: 1kHz refresh rate, suitable for transient wavelength and power testing, greatly reducing the test time of iTLA, DBR and coherent communication



modules、 Support external triggering, and can be used with SMU precision source meter for synchronous testing、 Suitable for iTLA and tunable laser fast wavelength testing 、 Support broadband mode, can test 25Gbps modulated optical signals、 Supports drift test and Max. Min. Value Display、 0.1pm/12.5MHz wavelength resolution.

● Part Number

MP-FWM-1216

● Application area

Optical communication testing | Laser development | Spectral analysis |
Production testing | Scientific research experiments

● Core parameters

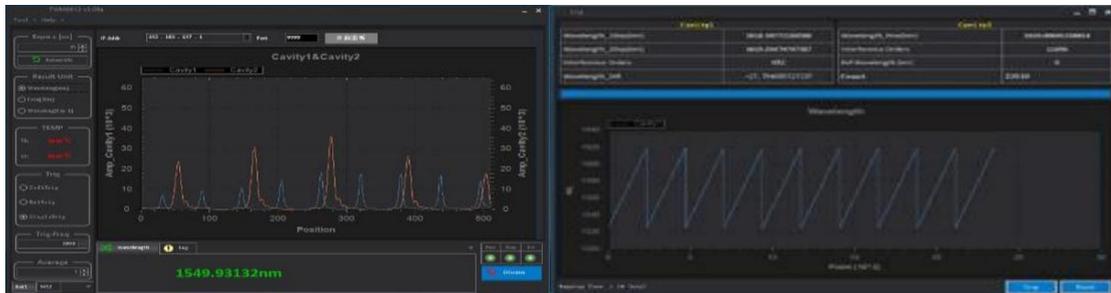
Wavelength Range	Wavelength Accuracy	Wavelength Resolution
1250-1650nm	$\pm 0.33\text{ppm}$	0.1pm



● General Parameters

Software Features

The product's interface GUI is very intuitive and concise, allowing easy configuration of the system and display of all information, while supporting wavelength and power testing.



Wavelength index	Wavelength range	1250~1650 nm (182~240THz)
	Wavelength accuracy	± 0.33 ppm (± 0.5 pm@1550 nm)
	Wavelength repeatability	± 0.07 ppm (± 0.1 pm@1550 nm)
	Wavelength stability	$< \pm 0.3$ pm@24 hours
	Wavelength resolution	0.1pm
	unit	nm, cm ⁻¹ , THz

Power Index	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	0.01 dB
Measuring speed index	unit	dBm, mW
	Single Sampling	Single sampling~200 Hz
	Speed@ External Trigger	1~1000 Hz
	Speed @ Internal Trigger	1~1000 Hz
Trigger indicator	Trigger logic level	TTL
	External trigger	Support wavelength and power synchronous trigger (1~1000 Hz)
	Internal trigger	Support internal trigger frequency setting (1~1000 Hz)
Optical signal input index	Max. Bandwidth	25 GHz (200 pm @1550 nm)
	Input optical signal power range	-30 dBm~+10 dBm (8 μ W~10 mW)
	Optical Interface	9/125 μ m single-mode fiber (FC/PC)
	Optical interface return loss	>35 dB
Multi-peak detection index	Minimum frequency difference between main peak and secondary peak in multi-peak detection	2300 MHz
	Multi-peak detection main peak/secondary peak maximum power difference	17 dB
General indicators	Built-in temperature control	Optical unit uses precision TEC to control temperature



	Remote Control	API supports remote control and high-speed sampling working mode
	environment	Use in indoor facilities
	Work	15 ° C to + 28 ° C, 30 % to 80 % relative humidity without condensation
	store	-10 ° C to 70 ° C, 10 % to 90 % relative humidity non-condensing
	Working air pressure	500-900 mm Hg
	power supply	Voltage range: 100-240 VAC, frequency range: 50/60 Hz, Max. Power: 250 W, Fuse Specification T3.15AL 250 V AC
	Dimensions (mm)	408*441*157 (with foot pad)
	weight	Net weight 12.0 kg
	Communication interface	Communication interface: LAN, USB, RS232; External trigger interface: BN C (Internal/external trigger, high-speed acquisition mode) supports SCPI protocol

Procurement Information

MP-FWM1216- 1KHz	Fast Wavelength Meter
Standard accessories	Power cord, USB cable, measurement software and drivers.