



WS Ultimate Wavelength Meter

Absolute accuracy: up to 2 MHz

Measurement Resolution: up to 500 kHz

For unrivaled precision!

The HighFinesse/Ångstrom WS Ultimate is the unsurpassed high-end instrument for wavelength measurement of pulsed or continuous laser sources. It delivers superb absolute and relative accuracy to address the highest application requirements.

The unmatched precision of the WS Ultimate is achieved by using two special multiple interferometer arrays in a unique geometric configuration.

The WSU is connected to the PC via a USB interface. The wavelength meter is ready for use as soon as the software delivered with the device is installed. Both optical elements and assigned electronics are packaged in a compact, thermally insulated housing.

The WSU design enables the integration of additional options, allowing customized solutions to specific applications even years after purchase.

Enter a new world of accuracy!



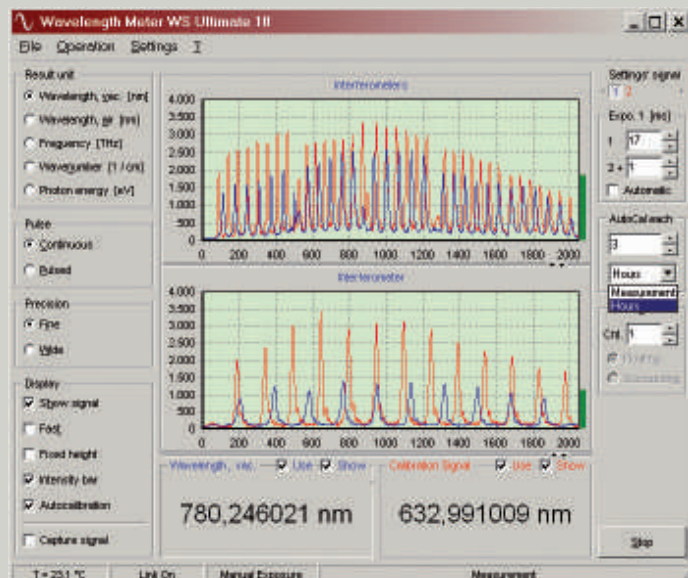
Ångstrom



HighFinesse
Laser and Electronic Systems

Technical Data		Unit	WSU-30	WSU-10	WSU-2
Measurement range availability	Standard (350 – 1120 nm)		●	●	●
	UV (248 – 1100 nm)		●	○	○
	IR (800 – 1750 nm)		●	●	○
Absolute accuracy ⁷⁾	192 – 370 nm ¹⁾	pm	0.1	0.1	0.1
	370 – 1100 nm	MHz	30	10 ⁵⁾	2 ⁶⁾
	1100 – 2250 nm		20	10 ⁵⁾	–
Quick coupling accuracy (with multi mode fiber)		MHz		100	
Measurement resolution		MHz	5	1 ⁵⁾	0.5 ⁶⁾
Linewidth option ³⁾	Accuracy	MHz	100 ⁴⁾		
	Max. bandwidth	GHz	0,8 (for high accuracy mode) – 8 (for low accuracy mode)		
Measurement speed ⁸⁾ (depending on PC hardware and settings)	Data acquisition	Hz	500		
	Wavelength calculation		400		
	Linewidth calculation		400		
	Pattern display		150		
Required input energy and power	Standard	μ J (or μ W) ⁹⁾	0.02 - 15		
	UV		0.02 – 10	–	–
	IR		2 – 200		–
Fizeau interferometers ²⁾	FSR	GHz	2 (15-20)		
Coupling fiber diameter		μ m	400 μ m or single mode fiberset		
Calibration			Stabilized HeNe laser or any other well known laser source $\Delta v < 3$ MHz		Any well known laser source $\Delta v < 1$ MHz
Calibration period			≤ 10 hours	≤ 1 hours	≤ 2 minutes
Warm-up time			> 30 minutes		
Dimensions L x W x H		mm	360 x 200 x 120		
Weight		kg	6.3		
Interface			High-speed USB 2.0 connection		
Power supply			Power consumption < 2.3 W, supply directly via USB cable, IR-II: external power supply included; IR-I and WSU via USB or external power supply possible		

1) With multi mode fiber 2) Values for wide-/fine-mode 3) Only for standard range 4) But not better than 5% of the linewidth 5) ± 200 nm around calibration wavelength 6) ± 2 nm around calibration wavelength 7) According to oo criteria 8) Without autocalibration usage
9) The cw power interpretation in μ W compares to an exposure of 1s (generally the energy needs to be divided by the exposure time to obtain the required power)



Autocalibration Option

Automatic, continuous calibration with calibration wavelength standard, settable measurement counts or time period between calibrations.

Quick coupling with included multi mode fiber

Fast measurement with an accuracy of 100 MHz due to the high sensitivity multi mode fiber provided.

Typical WSU applications

The WSU high-end wavelength meter is mostly used in specialized applications, such as scientific measurement and frequency standards, laser frequency stabilization for laser cooling, high-precision spectroscopy and atomic optics. The device's unparalleled accuracy of up to 2 MHz allows for high-precision wavelength control for example in high-end LIDAR applications.

Available WSU options

- Linewidth (L) ■ Multi-channel Switch (MC)
- PID-controller (PID) ■ TTL-trigger (TTL) ■ Double pulse (DP)