



HighFinesse
Laser and Electronic Systems

UPCOMING
NEW PRODUCT
LWA-100k



Linewidth Analyzer LWA-100k Series

The extremely versatile high-end instrument for measuring, analyzing and live-monitoring the frequency noise of lasers

Key Features

The superb sensitivity of the LWA-100k is achieved by combining an interferometric working principle with high-end optical and electronic components.

- Frequency noise density and optical lineshape analysis
- Broad wavelength range from 1064 nm to 1625 nm
For customized wavelength ranges please contact: service@highfinesse.de
- Extremely fast analysis: up to real time measurements and evaluation



Specifications

Analyzer Unit	Unit	LWA-100k NIR				
Input		min.		max.		
Wavelength range	nm	1064		1625		
Input Power range	mW	0.5		10		
Laser type		CW, single-mode				
Input type		FC/APC				
Sample frequency noise specification for different frequency ranges ¹⁾	Hz	10	100	1 k	10 k	> 100 k
Noise floor	Hz/√Hz	< 1000	< 200	< 50	< 30	< 25
Frequency noise density range	Hz/√Hz	25 – 10 M				
Frequency noise bandwidth	Hz	10 – 10 M				
Minimum intrinsic linewidth (Lorentzian linewidth)	Hz	< 2 k				
Effective linewidth range (optical linewidth)	Hz	< 10 k – 10 M				
Dynamic range	dB	60				

¹⁾ Specified for 5 mW input power at a wavelength of 1550 nm.

Find more information and detailed technical specifications on our website:

www.highfinesse.de/lwa100

HighFinesse Linewidth Analyzer · LWA-100k · 08-2020

This document provides general information only and may be subject to change at any time without prior notice.

Fields of Application

- Laser manufacturing
- Laser characterization
- Optical telecommunications
- Linewidth reduction
- Quantum technologies

Detailed Analysis

- Measure effect of power supply noise, laser current controller noise and acoustical noise
- Characterization of phase and/or frequency modulated laser sources
- Feedback loop optimization
- Optical linewidth estimation by beta-separation method
- Timeseries of frequency deviations





HighFinesse
Laser and Electronic Systems



Wavelength Meter

HighFinesse/Ångstrom offers sensitive and compact wavelength meters with a large spectral range for high speed measurement of lasers. The optical unit consists of temperature-controlled Fizeau-based interferometers that are read out by photodiode arrays. The high absolute accuracy is achieved by use of solid state, non-moving optics. The optical unit and associated electronics are housed in a compact, thermal casing. The connection to a computer or notebook is realized via a highspeed USB 2.0 port, which allows a high data read-out rate. The analyzing software displays all the interferometer information.



Spectrometer OSA

HighFinesse/Ångstrom optical spectrometers LSA and HDSA are designed to analyze the multi-line or broadband spectrum of light sources like cw and pulsed lasers, gas discharge lamps, super luminescence diodes, semiconductor laser diodes and LEDs. They are suitable to analyze the spectrum of telecom signals, resolve Fabry-Perot modes of a gain chip, and produce a spectral measurement of gas absorption.



Precision Current Sources

HighFinesse Precision Current Sources have been developed for experiments and quantum technologies in the areas of Cold atom physics and solid-state-physics. The linearly regulated BCS (Bipolar Current Source) and UCS (Unipolar Current Source) series deliver highly stable, low noise source currents for high precision magnetic field control. The current output is floating or is on a user defined potential. Ultrafast response to control signals and trigger functions, clear grounding, connection and signal isolation schemes make the integration of the current sources into complex experimental systems easy.



HighFinesse GmbH
Wöhrdstraße 4
72072 Tübingen, Germany



T + 49 (0) 7071 - 53 918 0
F + 49 (0) 7071 - 53 918 99
M info@highfinesse.com



Additional information
and distributors:
www.highfinesse.com