

# HI-Q<sup>®</sup> RELATIVE INTENSITY NOISE ANALYZER

The OEwaves' HI-Q<sup>®</sup> OE4001 Relative Intensity Noise (RIN) Analyzer offers a fully automated measurement of ultra-low RIN CW laser sources.



HI-Q<sup>®</sup> RIN Analyzer is capable of automatically and rapidly measuring relative intensity noise spectrum without complex setup.

This system is unique in wideband measurement. The complete system operates with ease, speed and precision via a simple graphic user interface on a dedicated PC. No additional test equipment required. The unmatched ultra-low relative intensity noise analyzer is scalable to various input wavelength bands and is available with multiple frequency range options. This system is ideal for manufacturing and research environments.

## FEATURES

- Ultra-Low Relative Intensity Noise Measurement
- Fast Real-Time Measurement
- User Friendly Interface
- Simple PC-based Operation
- 3U x 19" Rack System

## OPTIONAL CONFIGURATION

- Multiple Input Wavelength Bands within 740 nm – 2150 nm
- Ultra-Low Noise Floor
- Extended Frequency Range up to 40 GHz
- Excess RIN Measurement
- Extended Input Power Range
- Remote Operation
- Range Options and Upgrades

#### www.oewaves.com

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## **RIDE THE WAVE OF INNOVATION**

465 N. Halstead Street, Suite 140 Pasadena, CA 91107

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		<b>OE4001</b>
Measurement Advanced Status Additional About Intensity Noise test software ready.	OE4001 Laser Relative Intensity Noise Measurement System	
Frequency Center (Hz) Span (Hz) 20G 40G RBW (Hz) Auto RBW? 3M	0.0 LUT Wavelength -10.0 1550 nm -20.0 - -30.0 - -40.0 - -50.0 -	
VBW (Hz) Auto VBW? 10M Averages Progress 1 0 User Parameter settings	-600 - -700 - -600 - CF - 900 - 	
Measurement Type Measurement RIN START Number of Files Baseline Files Measuring	1200 - - 1300 - - 1400 - - 1500 - - 1600 -	
Record Data Comment	-1700 - -1800 - -1900 - -2000 - -2000 - 0 26 46 66 86 106 126 146 166 186 206 226 246 266 286 306 326 346 366 38 Frequency (Hz)	ig and
Prot Baseline Data Clear Plot View Graph Print Plot  EXIT ABORT	Messared Data     Frequency (Hz)     121     121     121       Filterd (Smoothed) Data     Imm (dite/ritz)     121     121     49.34716     -247.5       Baseline File 1     Imm (dite/ritz)     121     121     103.866     31.9       Baseline File 2     Imm (dite/ritz)     Imm (dite/ritz)     103.866     31.9       Baseline File 2     Imm (dite/ritz)     Imm (dite/ritz)     Imm (dite/ritz)	

SPECIFICATIONS	1530 – 1565 nm		
RIN System Floors <sup>1</sup>	-156 ± 2 dB/Hz -161 ± 2 dB/Hz -166 ± 2 dB/Hz	Total RIN Option; Ultra-low total RIN Option; Excess RIN	
Optical Input Power Range	+0 to +10 dBm	SM-FC/APC	
Offset Frequency Range	100MHz – 18GHz, 27GHz or 40GHz	1Hz – 100MHz available in OE4000	
Measurement Types	Total RIN	Conventional measurement	
	Excess RIN (Option)	Excluding shot and thermal noises	
Data Storage and I/O	HDD/USB Port		
Operating Temperature Range	15°C to 35°C		
Power	110/120 or 220/240 V <sub>ac</sub> ; 50/60Hz		
Size	3U x 19: Rack Mount	Larger for 40GHz option	
OPTIONS			
Low and Extended Input Power Range <sup>1</sup>	Up to 15 dB range no less than -10 dBm AND no higher than +10 dBm		
Wavelength Ranges Available <sup>2</sup>	740 – 935 / 965 – 1065 / 1000 – 1100 / 1260 – 1360 / 1360 – 1460 / 1460 – 1530 / 1530 – 1565 / 1565 – 1625 / 1647 – 1655 / 1950 – 2150 (nm) (Consult factory for multi-wavelength range options and custom wavelength ranges)		
Phase / Frequency Noise	Consult Factory (ask us about OE4000)		

Note: These specifications are subject to change without notice due to OEwaves ongoing development cycle. Patents Pending.

Note: Unless otherwise noted, noise floor is optimum at maximum specified input power range.

<sup>1</sup>Noise floor is higher with Low Power option. Consult OEwaves Sales for custom RIN floor and low

power option performance. Consult OEwaves Sales for special cases of input power < -10 dBm.

<sup>2</sup>Noise Floor for systems with E, S and L telecom bands are 2 dB (typ.) higher than C-band specifications (3 dB with O-band configurations, 5 dB for 1647 – 1655 nm band); 7-11 dB higher for Visible region, 5-6 dB for 740nm-1.1µm, and 3-4 dB for 2 µm Input Wavelength Bands. Consult OEwaves Sales for other details.

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