Clear Optical Signals Nonplanner Ring Oscillator Laser for Coherent Optical Communications

Our Product Introduction

Basic Information

- Place of Origin: CHINA
- Brand Name: JINSP
- Certification: CE ISO9001
- Model Number: LN1000 LN1200
- Minimum Order Quantity: 1
- Price: Negotiable
- Packaging Details: 1PC/BOX
- Delivery Time: 90-120 Working days
- Payment Terms: T/T
- Supply Ability: 20PCS / 90-120Working days

Product Specification

- Wave Length: 1064nm 532nm
- Power Stability: <1.5%
- Beam Quality: M2<1.2 M2<1.3
- Beam Divergence: 0.2±0.05(mrad)
- Output Beam Shape: Circular
- Highlight: **Coherent Optical Communications Ring Oscillator Laser**, **Nonplanar Ring Oscillator Laser**, **Optical Signals Nonplanner Ring Oscillator Laser**

Product Description

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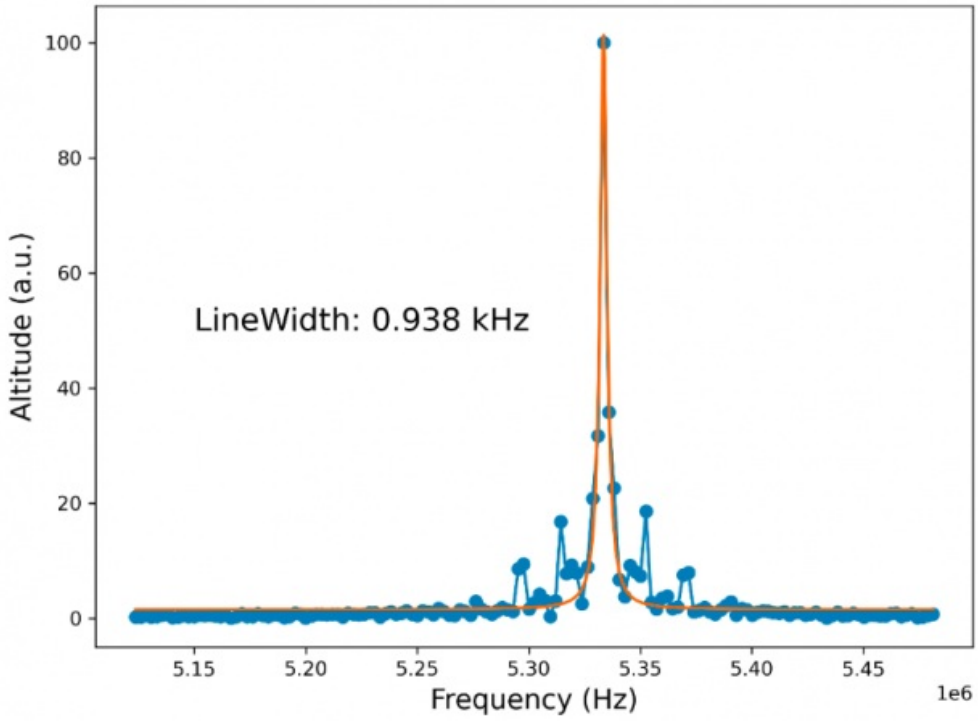
The LN series of narrow linewidth lasers is renowned for its exceptional characteristics, including high spectral purity, a long coherence length, and minimal phase noise. These lasers are meticulously engineered to deliver a stable and precise light output, making them indispensable for a wide range of sophisticated applications.

In the realm of gravitational wave detection, these lasers play a crucial role by providing a stable and coherent light source that is essential for the sensitive instruments used to detect the minute distortions in spacetime caused by passing gravitational waves. Their high spectral purity ensures that the measurements are free from unwanted noise, thereby enhancing the accuracy of the detection process.

For cold atom physics, the LN series lasers offer an ideal light source for manipulating and studying atoms at extremely low temperatures. The long coherence length and low phase noise of these lasers enable researchers to maintain precise control over the atomic states, facilitating groundbreaking experiments in quantum mechanics and precision measurements.
Coherent optical communications also benefit greatly from the use of these narrow linewidth lasers. The high spectral purity ensures that the optical signals remain clear and distinct over long distances, reducing the error rate and increasing the overall efficiency of data transmission. This is particularly important in modern telecommunications, where the demand for high-speed and reliable data transfer is ever-growing.

Optical precision measurements, such as those required in metrology and materials science, rely heavily on the consistent and accurate output of narrow linewidth lasers. The minimal phase noise and long coherence length of the LN series allow for extremely precise measurements of physical quantities, enabling advancements in fields such as nanotechnology and semiconductor manufacturing.

Lastly, in the field of microwave photonic signal processing, these lasers are instrumental in generating stable microwave.



Product Selection Table & Parameters:

Product code	LN1000	LN1200
Wavelength(nm)	1064	532 (Including iodine stabilizing system)
Average Power (W)	2	0.01 (Maximum to 0.05, Customization required)
Power Stability (measured by Standard Deviation)	0.1%	1%
Beam Divergence (mrad)	1.2 @ 3mm Beam Waist	2.3 @ 3mm Beam Waist
Beam Quality	M2 < 1.2	M2 < 1.3
Linewidth (kHz)	1	3
Polarization	Linear	

Power supply voltage (V)	220	
Warm-up Time (min)	~ 5	~ 10
Storage Temperature (°C)	-10 °C ~ 50°C	

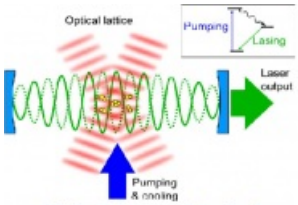
Advantages of Narrow Linewidth Light Sources:

The measurement accuracy of high-speed ultra-precision laser interferometers is constrained by the stability of the probing laser's wavelength and the coherence coefficient of the interferometer itself.

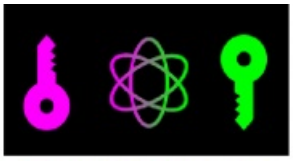
When it comes to high-power output, 1064nm narrow linewidth light sources are employed to deliver a powerful output, which in turn enhances the coherence coefficient of the interferometer. This enhancement plays a crucial role in improving the overall measurement accuracy.

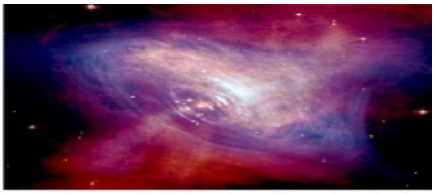
Furthermore, the high wavelength stability of these light sources significantly contributes to the precision of measurements. By leveraging ultra-narrow linewidth solid-state lasers, the measurement accuracy of laser rangefinders can be taken to new heights. This advancement enables the achievement of measurement precision that surpasses even the atomic scale, all within a range of 300mm.

This remarkable capability is made possible by the stability and coherence provided by these cutting-edge laser technologies, ensuring that even the most demanding measurement tasks can be performed with unparalleled accuracy and reliability.



Light Source of Optical Frequency Standard


Coherent Light Source for Quantum Communication and Quantum Computers


Light Source for Space-based Gravitational Wave Detection (Michelson Interferometer)

Applications:

●Scientific Research Field (Scientific Research Institutes and Universities)
*High-precision Laser Rangefinder (Michelson Interferometer)
*Laser Frequency Standard Light Source (532 System) (Lead Time: 6 Months, Currently in Prototype Stage)
*Precision Spectral Measurement

●Core Components for Other Instruments (Manufacturers of Laser Instruments)
*Ultra-narrow Linewidth Laser Seed Source

●Industrial Manufacturing Fields
*Light Source for High-precision
*Laser Rangefinder in Integrated
*Circuits (532 System)

FAQ:

Q1: This is the first time I use it, is it easy to operate?
A1:We will send you a manual and guide video in English, it can teach you how to operate the spectrometer. Also, our technicians will offer professional technical operation meetings.

Q2: Can you offer an operation training?
A2: Your technicians can come to our factory for training. Jinsp engineers can go to your place for local support (installation, training, debugging, maintenance).

Q3: How to receive the best price in the shortest time?
A3: When you send us an inquiry, please kindly offer details with wavelength, detector, effective pixels, focal length, and so on. We will send you a quotation with details soon to your email.

Q4:If the spectrometer has a problem in my place, what could I do?
A4: The spectrometer has a one-year warranty. If it breaks down, our technician will figure out what the problem may be, according to the client's feedback. We can repair for free within one year warranty.

Q5: What about quality assurance?
A5:We have a quality inspection team. All goods will go through quality inspection before shipment. We can send you pictures for inspection.

8618620854039 phoebeyu@jinsptech.com spectralanalyser.com
21st Floor, Building D, Tsinghua Tongfang Science and Technology Plaza, Haidian District, Beijing China