

# Nitrogen Laser

NL100 — 337 nm nitrogen laser

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## NL100 Nitrogen Laser

- **337 nm wavelength**
- **170  $\mu$ J pulse energy**
- **Internal or external triggering to 20 Hz**
- **Replaceable laser cartridge**
- **No mirror alignment necessary**
- **TTL level sync output pulse (opt.)**
- **Fully compatible with VSL-337i OEM**

• **NL100 ... \$4950 (U.S. list)**

The NL100 Nitrogen Laser is ideal for fluorescence measurements, MALDI-TOF mass spectrometers, and other pulsed UV radiation experiments. It provides 3.5 ns pulses at 337 nm (UV), with repetition rates up to 20 Hz. The pulse energy is 170  $\mu$ J, which results in a peak power of 45 kW and an average power of 3 mW.

The NL100 can be triggered internally or externally at rates up to 20 Hz. It can also provide a sync output pulse (optional) derived from the laser pulse for experiments or systems where sub-nanosecond accuracy is critical. The user also has the option of running the laser system in command charge mode.

The NL100 uses a replaceable, sealed laser cartridge which includes the high voltage storage capacitors, switching element, and laser tube. The cartridge is warranted to maintain at least 70 % of its energy for twenty million pulses or one year, whichever occurs first.

No mirror alignment is ever necessary in the NL100, as the laser optics are mounted on the plasma tube and aligned at the factory. The NL100 also includes all safety features necessary to comply with the U.S. laser safety standards contained in 21 CFR 1040.10.

The NL100 is fully compatible with the Spectra-Physics model VSL-337i OEM Nitrogen Laser (part #337999-04). The mechanical design of the NL100 includes all of the mounting and alignment features of the VSL-337i, making the NL100 a straightforward retrofit in many pre-existing systems.

## Beam Characteristics

Wavelength	337.1 nm
Spectral bandwidth	0.1 nm
Pulse width (FWHM)	<3.5 ns
Pulse energy	170 $\mu$ J
Energy stability (pulse to pulse)	3% std. dev. (at 10Hz)
Peak power	45 kW
Average power	3 mW (at 20Hz)
Beam size	3 $\times$ 7 mm
Beam divergence (full angle)	5 $\times$ 8 mrad

## Triggering

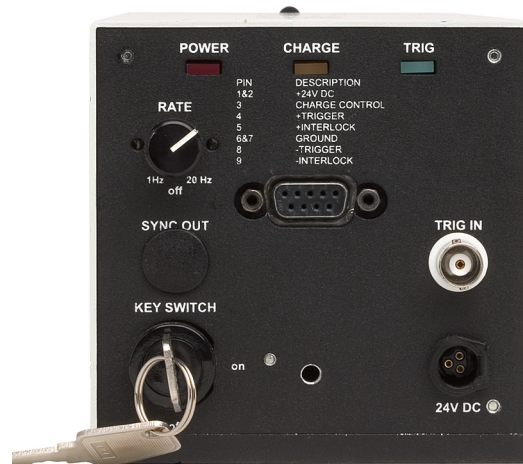
Repetition rate	0 to 20 Hz (external trigger) 1 to 20 Hz (internal trigger)
External trigger input	TTL (opto-isolated)
Int. trigger generator	1 to 20 Hz (adjustable)
Sync output pulse	TTL level (opt.)

## General

Power requirements	+24 VDC, 1.5 A (average) at 20 Hz., 3 A (peak)
Power consumption	36 W (20Hz operation)
Key switch	On/off
Interlock switch	Built-in
Dimensions	3.75" $\times$ 3.75" $\times$ 11" (WHD) (9.5 cm $\times$ 9.5 cm $\times$ 27.9 cm)
Weight	7.5 lbs., 3.4 kg
Warranty	Cartridge is warranted to maintain at least 70% of its energy for twenty million pulses or one year, whichever occurs first.



NL100 front panel



NL100 rear panel

## Ordering Information

NL100	Nitrogen laser	\$4950
O100SP	Optional sync-out pulse	\$250