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Data Sheet
August 13, 2026

STANFORD RESEARCH SYSTEMS

Stanford Research NL100 Nitrogen Laser

Stanford Research Systems NL100 Nitrogen Laser The SRS NL100 isapulsed nitrogen laser at 337.1 nm for fluorescence, MALDI-TOF, and other pulsed-UV experiments. It delivers 170 uJ pulses of less than 3.5 ns FWHM (45 kW peak, about 3 mW average at 20 Hz). Internal or external triggering runs to 20 Hz. A replaceable sealed cartridge holds the HV storage capacitors, switch, and laser tube; optics are factory-aligned on the plasma tube so no mirror alignment is required. The mechanical package is compatible with the Spectra-Physics VSL-337i OEM laser (part 337999-04). The SRS NL100 isapulsed nitrogen laser at 337.1 nm for fluorescence, MALDI-TOF, and other pulsed-UV experiments. It delivers 170 uJ pulses of less than 3.5 ns FWHM (45 kW peak, about 3 mW average at 20 Hz). Internal or external triggering runs to 20 Hz. A replaceable sealed cartridge holds the HV storage capacitors, switch, and laser tube; optics are factory-aligned on the plasma tube so no mirror alignment is required. The mechanical package is compatible with the Spectra-Physics VSL-337i OEM laser (part 337999-04). Laser-induced fluorescence; MALDI-TOF ionization source; pulsed UV photochemistry; OEM replacement for VSL-337i footprints; command-charge timing in instrument systems.

MODEL **Stanford Research Systems NL100**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **NL100**	LISTING **https://aumictechlabs.com/products/nl100-2/**

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Stanford Research Systems NL100 is a compact, pulsed nitrogen laser emitting at 337.1 nm for UV photochemistry, fluorescence spectroscopy, and MALDI-TOF mass spectrometry. This sealed, cartridge-based design eliminates mirror alignment while delivering 170 µJ pulses at up to 20 Hz with <3.5 ns pulse width and 45 kW peak power. Factory-aligned optics, TTL triggering, and integrated interlock control enable rapid experimental deployment with minimal setup overhead.Technical Specifications Wavelength: 337.1 nm, spectral bandwidth 0.1 nm Pulse characteristics: <3.5 ns FWHM, 170 µJ energy, 45 kW peak power Repetition rate: 1–20 Hz (internal), 0–20 Hz (external TTL) Average power: 3 mW at 20 Hz maximum Beam profile: 3 mm × 7 mm, divergence 5 mrad × 8 mrad (full angle) Energy stability: 3% std. dev. (pulse-to-pulse at 10 Hz) Supply voltage: +24 VDC, 1.5 A average (20 Hz), 3 A peak Power consumption: 36 W at 20 Hz Dimensions: 9.5 cm × 9.5 cm × 27.9 cm (W × H × D); 3.4 kg Compliance: Class 3B, 21 CFR 1040.10Key Features Replaceable sealed laser cartridge with integrated capacitor storage, switching element, and tube No mirror alignment required; optics permanently factory-mounted on plasma tube TTL-level external trigger input (opto-isolated) with optional sync output pulse Internal trigger generator with 1–20 Hz adjustment Built-in interlock switch and key switch for safety control Command Charge operating mode availableTypical Applications Fluorescence-based analytical techniques MALDI-TOF mass spectrometry ionization Photochemistry and photobiology research UV spectroscopy and time-resolved studiesCompatibility & Integration The NL100 is fully compatible with Spectra-Physics model VSL-337i OEM Nitrogen Laser (part #337999-04). Low-voltage +24 VDC supply requirement and TTL control interfaces simplify integration into OEM systems and custom benchtop setups.

Features & description

From manufacturer datasheet

Features

• 337.1 nm N2 laser with 0.1 nm spectral bandwidth • 170 uJ pulse energy; 45 kW peak; 3 mW average at 20 Hz • Internal 1 to 20 Hz or external 0 to 20 Hz TTL (opto-isolated) • Replaceable cartridge warranted to at least 70 % energy for 20 million pulses or one year • Class 3B UV; 21 CFR 1040.10 and IEC 60825 compliance stated by SRS • +24 VDC OEM-style power (average 1.5 A at 20 Hz, 3 A peak)

NL100 Characteristics / Specifications

PARAMETER	VALUE
Model	NL100
Manufacturer	Stanford Research Systems
Instrument Type	Pulsed Nitrogen Laser
Alias	NL100; SRS NL100
Laser Wavelength	337.1 nm
Spectral Bandwidth	0.1 nm
Pulse Width FWHM	less than 3.5 ns
Pulse Energy	170 uJ (catalog; manual also states 170 uJ at 10 Hz)
Energy Stability	3 % standard deviation (pulse to pulse at 10 Hz)
Peak Power	45 kW
Average Power Catalog	3 mW at 20 Hz
Average Power Manual	3.4 mW
Beam Size	3 mm x 7 mm
Beam Divergence	5 mrad x 8 mrad (full angle)
External Trigger Rate	0 to 20 Hz
Internal Trigger Rate	1 to 20 Hz adjustable
External Trigger Input	TTL, opto-isolated
Trigger Modes	internal, external, or command charge
Power Requirements	+24 VDC +/-1 V; 1.5 A average at 20 Hz; 3 A peak
Power Consumption	36 W at 20 Hz operation
Required External Supply	24 VDC, 50 W class, 3 A peak (not built-in AC mains supply)
Operating Temperature	less than 35 C
Key Switch	on/off
Interlock Switch	built-in; Pin 5 +Interlock must be terminated for operation
Laser Class	Class 3B (invisible 337.1 nm)

PARAMETER	VALUE
Safety Standards	IEC 60825 and US 21 CFR 1040.10 (SRS certification statement)
Cartridge Energy Retention	at least 70 % of energy for twenty million pulses or one year, whichever occurs first
Cartridge Contents	HV storage capacitors, switching element, and laser tube
Mirror Alignment	not required; optics mounted on plasma tube at factory
VSL Compatibility	mechanical retrofit compatible with Spectra-Physics VSL-337i OEM 337999-04
Dimensions	3.75 in x 3.75 in x 11 in WHL (9.5 cm x 9.5 cm x 27.9 cm)
Weight	7.5 lbs (3.4 kg)
Power Connectors	Hypertronics receptacle and DB-9 (interlock/power options per manual) Notes Specs from SRS NL100 product page, NL100 catalog, and NL100 user manual. Average-power figures differ slightly between catalog (3 mW at 20 Hz) and manual (3.4 mW); use the faceplate/manual for the shipped unit. Requiresauser-supplied +24 VDC supply.
Bandwidth	170 uJ pulse energy; 45 kW peak; 3 mW average at 20 Hz - Internal 1 to 20 Hz or external 0 to 20 Hz TTL (opto-isolated) - Replaceable cartridge warranted to at least 70 % energy for 20 million pulses or one year - Class 3B UV; 21 CFR 1040.10 and IEC

General Specifications & Supplementary Characteristics

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Operating temperature	less than 35 C
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Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

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Instrument Type	Pulsed Nitrogen Laser
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Internal Trigger Rate	1 to 20 Hz adjustable
External Trigger Input	TTL, opto-isolated
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Power Requirements	+24 VDC +/-1 V; 1.5 A average at 20 Hz; 3 A peak
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Notes
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Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: **sales@aumictech.com** · +1 (484) 841-9341

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