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Test & measurement · bought, sold, repaired, calibrated

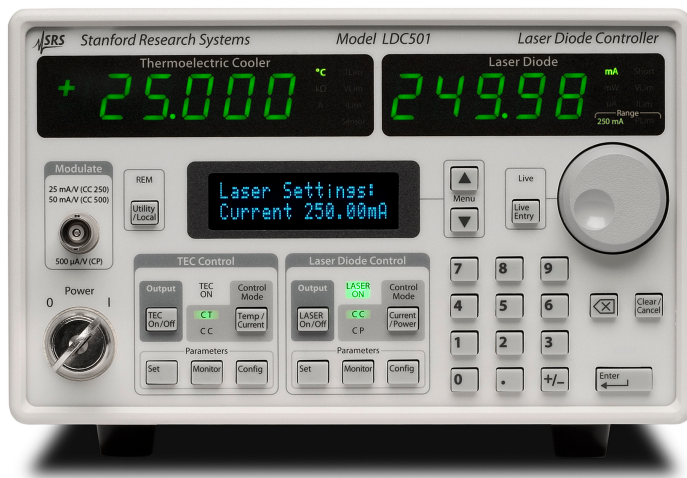
Data Sheet

August 12, 2026

STANFORD RESEARCH SYSTEMS

Stanford Research LDC501 – Laser Diode Controller

Stanford Research Systems Motion Controllers. Resolution: 10 μ A, Accuracy: $\pm 0.01\%$ of full scale, Resolution: 0.001 $^{\circ}$ C.



MODEL

Stanford Research Systems LDC501

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC501

LISTING

<https://aumictechlabs.com/products/lcd501-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Stanford Research Systems LDC501 Laser Diode Controller delivers precision current and temperature control for demanding laser diode applications. It combines a low-noise current source with a high-precision temperature controller, offering bumpless switching between constant current and constant optical power modes. Built-in protection features including adjustable current limits, compliance voltage control, and fast shutdown safeguard laser diodes during operation. Technical Specifications Laser Diode Current Source Output range: 0 to 500 mA Setpoint resolution: 10 μ A Accuracy: $\pm 0.01\%$ of full scale Output impedance: $>1 \text{ M}\Omega$ (DC) Thermal stability: $<10 \text{ ppm}/^{\circ}\text{C}$ Short-term stability (1 hr): $<5 \text{ ppm}$ full scale Long-term stability (24 hr): $<15 \text{ ppm}$ full scale Current noise: 1.5 μ A rms to 4.5 μ A rms depending on bandwidth selection Analog modulation: 0–10 V input, 500 kHz bandwidth (1 MHz in CC mode) Digital modulation: TTL compatible, 2 MHz bandwidth Photodiode bias: 0 to 5 V, programmable Temperature Controller TEC power output: 36 W Temperature resolution: 0.001 $^{\circ}$ C Accuracy: 0.01 $^{\circ}$ C (with calibrated

sensor) Stability: 0.0005 °C/°C with respect to room temperature Supported sensors: Thermistor, RTD, IC sensors Auto-tuning: PID loop optimization includedKey Features Constant current (CC) and constant optical power (CP) modes with bumpless switching Constant temperature (CT) and constant current (CC) modes for TEC control Slow start turn-on and fast clamping shutdown Adjustable current limits and compliance voltage Over-temperature shutdown protection TTL trigger inputInterfaces & Integration GPIB (IEEE-488), RS-232, and Ethernet remote control Nine non-volatile configuration save/recall slots 19" rack-mount, 2U form factor 100–240 V AC, 50/60 Hz; supports 100V, 120V, 220V, 240V nominal operation Weight: 8.5 lbs (3.9 kg)

Features & description

From manufacturer datasheet

Technical Specifications

Output range: 0 to 500 mA Setpoint resolution: 10 μ A Accuracy: $\pm 0.01\%$ of full scale Output impedance: $>1\text{ M}\Omega$ (DC) Thermal stability: $<10\text{ ppm}/^\circ\text{C}$ Short-term stability (1 hr): $<5\text{ ppm}$ full scale Long-term stability (24 hr): $<15\text{ ppm}$ full scale Current noise: 1.5 μ A rms to 4.5 μ A rms depending on bandwidth selection Analog modulation: 0–10 V input, 500 kHz bandwidth (1 MHz in CC mode) Digital modulation: TTL compatible, 2 MHz bandwidth Photodiode bias: 0 to 5 V, programmable Temperature Controller TEC power output: 36 W Temperature resolution: 0.001 $^\circ\text{C}$ Accuracy: 0.01 $^\circ\text{C}$ (with calibrated sensor) Stability: 0.0005 $^\circ\text{C}/^\circ\text{C}$ with respect to room temperature Supported sensors: Thermistor, RTD, IC sensors Auto-tuning: PID loop optimization included

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Interfaces & Integration

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Stanford Research Systems LDC501 — Repair & Calibration Service

Aumictech offers NIST-traceable calibration and repair for the Stanford Research Systems LDC501. All calibrations are performed to NIST-traceable standards and ship with a certificate. Turnaround is typically 1–3 business days after receipt. Standard Cal Pass/fail cert + NIST sticker Cal with Data Full NIST cert with measured values Request Calibration → Request Repair Quote →

Stanford Research Systems LDC501 price

This Stanford Research Systems LDC501 is listed at . Calibration is available separately from . Contact us for volume pricing or if you need multiple units.

Stanford Research Systems LDC501 calibration cost

NIST-traceable calibration for the Stanford Research Systems LDC501 is (standard — pass/fail certificate and calibration sticker) or (full measured data at every test point, reference standards documented, traceability chain included). Turnaround is 1 to 3 business days after receipt. See full calibration details →

Unit notes

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Technical Specifications

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Key Features Constant current (CC) and constant optical power (CP) modes with bumpless switching Constant temperature (CT) and constant current (CC) modes for TEC control Slow start turn-on and fast clamping shutdown Adjustable cur

LDC501 Specifications

PARAMETER	VALUE
Voltage / Current Range	0-5 V (photodiode bias), 0-500 mA, 100-240 VAC

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.

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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

Aumictech

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<https://aumictechlabs.com>

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.