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Data Sheet

August 1, 2026

ILX LIGHTWAVE

ILX Lightwave LDX-3525: Precision Current Source, 200/500 mA, LDX-3500B Series

The ILX Lightwave LDX-3525 is a precision current source designed for driving laser diodes. It is part of the LDX-3500B series and offers selectable current ranges of 200 mA and 500 mA. This current source provides a stable and accurate output, ensuring optimal performance and longevity of the laser diode.



MODEL

**ILX Lightwave
LDX-3525**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDX-3525

LISTING

<https://aumictechlabs.com/products/ldx-3525-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDX-3525 is a microprocessor-controlled precision current source designed for laser diode control across the LDX-3500B series. It delivers stable, accurate current output in two selectable ranges - 200 mA and 500 mA - with exceptional setpoint resolution and accuracy. The instrument operates in three modes: Constant Current (CC) CW for low-bandwidth applications, high-bandwidth CC for modulation up to 500 kHz, and Constant Optical Power (APC) for closed-loop control. Integrated photodiode current measurement (0–5000 μ A range, 1 μ A resolution) enables direct optical feedback. Multiple laser diode protection circuits - including independent hardware current limits, slow-start turn-on, output shorting relay with semiconductor switch, and adjustable voltage limits - ensure safe, reliable operation in research, development,

and production environments. Technical Specifications Output Current 200 mA or 500 mA selectable ranges Setpoint resolution: 50–100 μ A (200 mA) / 125–150 μ A (500 mA) Setpoint accuracy: $\pm 0.1\%$ of full scale (± 0.2 mA / ± 0.5 mA) Output current accuracy at 25°C: ± 0.2 mA (200 mA) / ± 0.5 mA (500 mA) Temperature coefficient: < 50 ppm/°C Short-term stability (1 hour): < 20 ppm at half-scale Long-term stability (24 hours): < 50 ppm at half-scale Noise and ripple: < 2 μ A rms (CW) / < 4 μ A rms (modulation, 100 kHz bandwidth) Compliance & Power Maximum compliance voltage: 7 V Input power: 95–125 VAC or 210–250 VAC, 50–60 Hz Photodiode Measurement Current range: 0–5000 μ A (0–5.000 mA) Resolution: 1 μ A Modulation & Control Analog modulation input: Up to 500 kHz (differential input) Analog output for remote monitoring Calibration: Closed-case via front panel or USB 2.0; data stored in non-volatile memory Key Features Microprocessor control with three operating modes (CC-CW, CC-HBW, APC) Independent hardware current limits with adjustable thresholds Slow-start turn-on and output shorting relay (normally closed) plus semiconductor switch Power line surge and EFT transient protection Intermittent contact protection Typical Applications Laser diode testing and characterization High-speed modulation experiments Optical power stabilization Production-line laser driver validation Compatibility & Integration USB 2.0 interface for control and calibration management; differential modulation input enables flexible ground configurations for multi-channel test setups.

Features & description

From manufacturer datasheet

Features

- Dual current ranges: 200 mA and 500 mA
- Compliance voltage 7.0 V
- Constant current and constant power modes
- Photodiode feedback with adjustable reverse bias 0 to 5 V
- Photodiode current range 0 to 5000 μ A
- Analog modulation input; analog monitor output
- Fine/coarse setpoint control (B-series documentation)
- Laser diode protection circuits (interlock, current limit)
- USB 2.0 on LDX-3525B; LabVIEW drivers available

LDX3525 Characteristics / Specifications

PARAMETER	VALUE
Model	LDX-3525 (LDX-3500B series; LDX-3525B successor with USB)
Manufacturer	ILX Lightwave (Newport)
Instrument Type	Precision laser diode current source / driver
Output Current Ranges	200 mA and 500 mA
Setpoint Resolution	100 uA (200 mA range); 150 uA (500 mA range) – 12-bit class
Setpoint Accuracy	+/-0.1% of full scale (about +/-0.2 mA / +/-0.5 mA)
Compliance Voltage	7.0 V
Current Limit Range	0 to 202.0 mA / 0 to 505.0 mA
Current Limit Resolution	1 mA / 2 mA
Current Limit Accuracy	+/-1% of FS Photodiode Feedback
Type	Differential
Reverse Bias	0 to 5 V, adjustable
Photodiode Current Range	0 to 5000 uA
Output Stability (PD mode)	+/-0.01% class
PD Setpoint Accuracy	+/-0.1% of FS (about +/-5 uA)
Power Modulation Bandwidth	about 1 kHz (series documentation) Modulation / Noise (B-series published examples)
Laser output noise/ripple (low bandwidth)	about 2 uA class
Modulation transfer	about 50 mA/V
External modulation bandwidth	DC to about 150 kHz (B-series) Remote Control
Dual current ranges	200 mA and 500 mA
Bandwidth	about 1 kHz (series documentation)

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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Modulation transfer	about 50 mA/V

PARAMETER	VALUE
External modulation bandwidth	DC to about 150 kHz (B-series)
Remote Control	
LDX-3525B: USB 2.0; LabVIEW instrument drivers	
Front-panel local control on all variants	
Operational Notes	
Set current limit before enabling output. Verify laser anode/cathode and photodiode wiring against ILX cable pinouts (e.g., CC-305S / CC-505S). Use interlock and shorting arrangements recommended for the laser package. For USB automation, prefer LDX-3525B firmware/drivers. Observe ESD precautions when connecting laser diodes.	

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<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.