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Data Sheet

August 13, 2026

ILX LIGHTWAVE

ILX Lightwave LDX-3620B Laser Diode Driver, Ultra Low Noise, 500 mA

Key Features - Lower noise than original LDX-3620 (do not apply 3620B sub-100 nA figures to the non-B 3620) - Dual AC/DC-coupled modulation inputs (fine and coarse) - Adjustable current limit, floating output, shorting relays, slow turn-on, transient protection - Front-panel battery charge indication in 25% steps - Lowest noise with CHARGE switch disabled - Compatible with ILX TO-can, butterfly, and DIL mounts via CC-305S/CC-306S cables

Technical Specifications Model: LDX-3620B Manufacturer: ILX Lightwave (Newport / MKS)

Instrument Type: Ultra-low-noise battery laser diode current source Alias: LDX3620B Current ranges: 200 mA and 500 mA Laser current rating: 0.



MODEL

**ILX Lightwave
LDX-3620B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDX-3620B

LISTING

<https://aumictechlabs.com/products/ldx-3620b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDX-3620B is a battery-powered, ultra-low noise laser diode current source engineered for applications demanding narrow linewidth or stable wavelength laser operation. Delivering precision current output with exceptional noise performance and long-term stability, it excels in sensitive laser diode control applications. Extensive protection circuits safeguard against electrical transients, overcurrent conditions, and intermittent contact failures. Technical

Specifications Current Output & Accuracy Dual range: 200 mA / 500 mA maximum Output current accuracy: $\pm 0.05\%$ Set point resolution: 10 μA / 100 μA Monitor current range: 20–2000 μA Noise Performance RMS noise (battery mode): <100 nA Laser diode output noise/ripple (low bandwidth): <70 nA Laser diode output noise/ripple (high bandwidth): <600 nA Current noise density: 815 pA/ $\sqrt{\text{Hz}}$ Wideband current noise: 850 nA rms Stability 1-hour stability: <10 ppm 24-hour stability: <50 ppm FS Temperature coefficient: <20 ppm/ $^{\circ}\text{C}$ Operating Modes Constant current (low bandwidth): DC operation, optimized for laser protection and lowest noise Constant current (high bandwidth): Supports up to 1 MHz modulation for wavelength tuning Constant optical power: Measures laser diode photocurrent for stable optical output Modulation External modulation bandwidth (high): DC to 1 MHz External modulation bandwidth (low): DC to 10 kHz Input 1 transfer function: 2 mA/V (10 V range) Input 2 transfer function: 5 mA/V (10 V range) AC or DC coupled inputs (fine and coarse) Compliance Voltage: <5 V Key Features Adjustable current and voltage limits Slow-start routine prevents photodiode damage Normally closed shorting relay and semiconductor switch Floating output configuration Power line surge and EFT transient protection Error indicators for open circuit and power limit conditions Internal lead-acid battery: up to 16 hours operation Battery charge time: 15 hours Built-in charger with front panel indicator Low battery cutoff circuit Typical Applications Narrow linewidth spectroscopy, wavelength-stabilized laser systems, optical frequency metrology, and precision laser power control requiring sub-nanosecond current noise and long-term output stability. Compatibility & Integration Two external modulation inputs (fine and coarse) support analog control. No computer interfaces or remote I/O. Floating output enables flexible system integration.

Features & description

From manufacturer datasheet

Features

- Lower noise than original LDX-3620 (do not apply 3620B sub-100 nA figures to the non-B 3620) • Dual AC/DC-coupled modulation inputs (fine and coarse) • Adjustable current limit, floating output, shorting relays, slow turn-on, transient protection • Front-panel battery charge indication in 25% steps
- Lowest noise with CHARGE switch disabled • Compatible with ILX TO-can, butterfly, and DIL mounts via CC-305S/CC-306S cables

LDX3620B Characteristics / Specifications

PARAMETER	VALUE
Model	LDX-3620B
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Ultra-low-noise battery laser diode current source
Alias	LDX3620B
Current ranges	200 mA and 500 mA
Laser current rating	0.5 A
Laser compliance voltage	5 V
Temperature coefficient	less than 20 ppm FS perCNoise ripple low bandwidth: less than 70 nA
Noise ripple high bandwidth	less than 600 nA
Headline noise	less than 100 nA rms (battery mode)
Current stability 1 hour	less than 10 ppm
Current stability 24 hour	less than 50 ppm FS
External modulation high BW	DC to 1 MHz
External modulation low BW	DC to 10 kHz
Monitor photodiode current	20 to 2000 uA
Operating modes	constant current; constant power via photodiode feedback
Photodiode common mode max	+6 V relative to current return
Battery run time	up to 16 hours on full charge
Charger AC	100 to 240 VAC +10%, 50 to 60 Hz (supplied DC supply)
DC supply	50 W desktop; 5 V, +15 V, and -15 V to the instrument
Computer interfaces	none
Weight	11.11 kg
Output connector	9-pin D-sub (source pins 8 and 9; return pins 4 and 5)
Photodiode pins	pin 7 (+) and pin 6 (-); optional rear BNC in parallel
Interlock	pins 1 and 2 of OUTPUT connector

PARAMETER	VALUE
Chassis ground	banana jack
Battery replacements	402529 2.2 A-hr; 402530 12 A-hr
Related predecessor	LDX-3620 (higher noise: less than 850 nA / 2 uA rms battery 5 Hz to 10 MHz)
Bandwidth	less than 70 nA

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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Notes

Specs from Newport LDX-3620B product page and LDX-3620B user manual (70043701). The original LDX-3620 file (ilx-ldx-3620.txt) is a different instrument. For lowest noise, operate from battery with CHARGE off. Photodiode reverse bias must be supplied by the user and must not exceed +6 V common mode.

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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NIST-traceable calibration · SAM registered ·
30-day returns
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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.