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Data Sheet

August 14, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3742B Laser Diode Controller

The ILX Lightwave LDC-3742B is a precision laser diode controller designed for demanding laser diode characterization and control applications. It offers low-noise, high-stability current and temperature control, ensuring accurate and repeatable laser operation. Ideal for laboratory and research environments where precise laser control is critical.



MODEL

**ILX Lightwave
LDC3742B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC3742B

LISTING

<https://aumictechlabs.com/products/ldc3742b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDC-3742B is a laser diode controller that provides precise control of both laser diode current and temperature. Its low-noise design and high stability make it suitable for demanding applications such as laser diode characterization, spectroscopy, and optical metrology. The instrument features a user-friendly interface and comprehensive protection features to ensure safe and reliable operation.

LDC3742B Characteristics / Specifications

PARAMETER	VALUE
Laser Current Ranges	0 to 2000 mA and 0 to 4000 mA
Current Source Dual Range	2 A / 4 A
Instrument Family	LDC-3700B series
Revision	B
Remote Interface	GPIB IEEE-488
Operating Modes	constant current, high bandwidth, constant optical power
Laser Protection Slow Start	yes
Laser Protection Shorting Relay	yes
Laser Protection Adjustable Current Limit	yes
Laser Protection Adjustable Compliance	yes
Photodiode Feedback	yes
Temperature Stability Class On TEC Models	plus or minus 0.004 C class in 3700B literature
TEC Power Class On 3744B Sibling	32 W integrated
Sensor Types On TEC Models	thermistor, IC, RTD
Four Wire Laser Capability Class	highlighted on 3700B literature
Form Factor	benchtop laser diode controller
Intended Current Class	medium to high power lasers to 4 A
Manufacturer	ILX Lightwave / Newport
Isolation	independent laser and TE supplies on series
Modulation	analog modulation supported
Display	microprocessor front panel
Stability Class	high stability low noise B-series design

LDC3742B Specifications

PARAMETER	VALUE
Applications	High-current laser diode drive to 4 A on B-series hardware, production laser test, and GPIB automated characterization.
Key Features	Dual range 2 A / 4 A B-series current source
Technical Specifications	Laser Current Ranges: 0 to 2000 mA and 0 to 4000 mA

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	
Specifications	
PARAMETER	VALUE
Laser Current Ranges	0 to 2000 mA and 0 to 4000 mA
Current Source Dual Range	2 A / 4 A
Instrument Family	LDC-3700B series
Revision	B
Remote Interface	GPiB IEEE-488
Operating Modes	constant current, high bandwidth, constant optical power
Laser Protection Slow Start	yes
Laser Protection Shorting Relay	yes
Laser Protection Adjustable Current Limit	yes
Laser Protection Adjustable Compliance	yes
Photodiode Feedback	yes
Temperature Stability Class On TEC Models	plus or minus 0.004 C class in 3700B literature
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Notes	
2/4 A ranges from LDC-3700B series tables for LDC-3742B. The 3744B adds the integrated 32 W TEC; confirm whether the specific 3742B unit includes TEC hardware on its faceplate/options.	

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