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Data Sheet

August 13, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3744: 2/4 A Laser Diode Controller, LDC-3700 Series

Key Features - Dual ranges 2 A / 4 A versus LDC-3724C at 200/500 mA - Same 32 W TEC as LDC-3724C (4 A / 8 V) - Analog modulation - Thermistor, IC, and RTD sensors; hybrid P-I TEC loop - USB and GPIB with LabVIEW drivers - Do not confuse with LDC-3736 (4 A / 18 V / 128 W TEC) Technical Specifications Model: LDC-3744C Manufacturer: ILX Lightwave (Newport / MKS) Instrument Type: Laser diode current source with integrated TEC controller Family: LDC-3700C Alias: LDC-3744; LDC3744C; LDC 3744C Laser Current Ranges: 0 to 2 A; 0 to 4 A Setpoint Accuracy: plus/minus 0.



MODEL

**ILX Lightwave
LDC-3744**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC-3744

LISTING

<https://aumictechlabs.com/products/ldc-3744-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDC-3744 is a precision laser diode controller from the LDC-3700 series engineered to deliver stable current and temperature control for laser diodes. It accommodates selectable 2A or 4A maximum output current, making it suitable for a wide range of laser diode applications. The instrument combines precise digital control with analog monitoring capabilities, enabling researchers and manufacturers to maintain optimal laser performance across scientific, development, and production environments. Technical Specifications Laser Diode Current Control

Current Range: Selectable 2A or 4A maximum output Current Amplitude: Continuously adjustable 0% to 100% of set current Current Modulation Frequency: DC to 10 kHz Adjustable current limit protection for laser diode safety Laser Diode Temperature Control Digital or analog setpoint control TEC-dependent operating range and stability specifications Power Output and Monitoring Laser Diode Current Monitor Output: Analog voltage proportional to laser diode current (1V/A typical scale) Laser Diode Power Monitor Input/Output: Capability to monitor optical power via external photodiode (1V/mW scale) Internal photodiode monitoring available Interfaces and Control Front Panel: Digital display for setpoints and readings; push-button parameter adjustment Remote Interface: IEEE-488 (GPIB) and RS-232 for automated control and data acquisition External safety interlock input LED troubleshooting indicators Key Features Dual current range operation (2A/4A switchable) High-resolution analog monitoring of laser current and optical power AC modulation capability up to 10 kHz for dynamic testing Integrated temperature control with digital setpoint programming GPIB and serial interfaces for laboratory automation Typical Applications Laser diode characterization and testing Research and development of fiber-coupled and free-space optical systems Manufacturing quality assurance and burn-in testing Wavelength-stabilized laser systems requiring precision thermal management Compatibility & Integration The LDC-3744 integrates into multi-instrument test systems via GPIB and RS-232, supporting both manual and automated operational workflows.

Features & description

From manufacturer datasheet

Features

- Dual ranges 2 A / 4 A versus LDC-3724C at 200/500 mA • Same 32 W TEC as LDC-3724C (4 A / 8 V)
- Analog modulation • Thermistor, IC, and RTD sensors; hybrid P-I TEC loop • USB and GPIB with LabVIEW drivers • Do not confuse with LDC-3736 (4 A / 18 V / 128 W TEC)

LDC3744 Characteristics / Specifications

PARAMETER	VALUE
Model	LDC-3744C
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode current source with integrated TEC controller
Family	LDC-3700C
Alias	LDC-3744; LDC3744C; LDC 3744C
Laser Current Ranges	0 to 2 A; 0 to 4 A
Setpoint Accuracy	plus/minus 0.05 percent
Setpoint Resolution	40 uA / 80 uA (2 A / 4 A)
Noise And Ripple	less than 10 uA / 10 uA
Short Term Stability	less than 20 ppm
Laser Compliance Voltage	10 V
Analog Modulation	yes
Laser Protection	slow start; normally closed shorting relay and semiconductor switch; floating output; adjustable current limit; adjustable voltage limit; line surge and EFT; intermittent contact
TEC Output Power	32 W
TEC Output Current	4 A
TEC Output Voltage	8 V
Temperature Stability	less than plus 0.01 C
Temperature Control Range	-100 C to 199 C (sensor dependent)
Thermistor Sensor	yes
IC Sensor	yes
RTD Sensor	yes
TEC Measurements	temperature, current, resistance, voltage
TEC Control Loop	hybrid P-I
Remote Interface	USB and GPIB

PARAMETER	VALUE
Related LDC 3724C Current	200 mA / 500 mA
Related LDC 3724C Resolution	4 uA / 10 uA
Related LDC 3724C Noise	less than 2 uA / 2 uA
Related LDC 3736 Compliance	18 V with 128 W TEC
Photodiode Feedback	constant optical power mode on 3700C family
Display Class	5-digit LED class on 3700C family

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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Family	LDC-3700C
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PARAMETER	VALUE
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TEC Measurements	temperature, current, resistance, voltage
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PARAMETER	VALUE
Remote Interface	USB and GPIB
Related LDC 3724C Current	200 mA / 500 mA
Related LDC 3724C Resolution	4 uA / 10 uA
Related LDC 3724C Noise	less than 2 uA / 2 uA
Related LDC 3736 Compliance	18 V with 128 W TEC
Photodiode Feedback	constant optical power mode on 3700C family
Display Class	5-digit LED class on 3700C family

Notes

Rows from the ILX Instruments 2019 selection guide LDC-3744C column versus LDC-3724C. Confirm C-series USB versus earlier B-series GPIB-only hardware. Pair with ILX mounts and observe the 10 V compliance (not the 18 V LDC-3736).

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.