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Data Sheet

August 1, 2026

ILX LIGHTWAVE

ILX Lightwave LDC3724 Laser Diode Controller

Modulation Bandwidth: DC to 1 MHz (high BW); DC to 15 kHz (low BW) Remote Interface: GPIB; USB and GPIB on LDC-3724C Allow warm-up before stability-critical measurements. Set hardware current limit before enabling the laser. Use proper TEC sensor calibration constants. ConfirmBvsCrevision for USB availability. Pair with ILX laser mounts as required. Omit sales wording from identification; LDC3724 without hyphen is the same model family. Remote Interface: GPIB; USB and GPIB on LDC-3724C Allow warm-up before stability-critical measurements. Set hardware current limit before enabling the laser. Use proper TEC sensor calibration constants. ConfirmBvsCrevision for USB availability. Pair with ILX laser mounts as required. Omit sales wording from identification; LDC3724 without hyphen is the same model family.



MODEL

**ILX Lightwave
LDC3724**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC3724

LISTING

<https://aumictechlabs.com/products/ldc3724-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDC3724 Laser Diode Controller integrates a precision low-noise current source and temperature controller in a single instrument for demanding laser diode applications. It delivers stable, reliable operation with dual output current ranges, adjustable compliance voltage to 10 V, and current setpoint accuracy of $\pm 0.05\%$ of full scale. The controller supports constant current and constant optical power modes, with analog modulation capability up to 1 MHz. Its

temperature controller maintains stability to $\pm 0.005^{\circ}\text{C}$ across supported sensor types, with $\pm 10\text{ V}$ / $\pm 4\text{ A}$ TEC output capability. Remote operation via GPIB/IEEE-488 and USB interfaces enables integration into automated test systems.

Technical Specifications

Laser Diode Current Source
Output current ranges: 200 mA / 500 mA Compliance voltage: Adjustable, maximum 10 V Current setpoint resolution: $< 2\text{ }\mu\text{A}$ Current setpoint accuracy: $\pm 0.05\%$ of full scale Current noise: $< 1\text{ mA RMS}$ Drive current limits: 1–202 mA (1 mA resolution, 200 mA range); 1–505 mA (2.5 mA resolution, 500 mA range) Analog modulation: 0–10 V input, up to 1 MHz bandwidth; 20 mA/V and 50 mA/V transfer functions Operating modes: Constant current (low bandwidth to 15 kHz, high bandwidth to 1 MHz); constant optical power via photodiode feedback Four-wire laser forward voltage measurement Temperature Controller TEC output: 16 W, $\pm 10.00\text{ V}$, $\pm 4.00\text{ A}$ Temperature control range: -5°C to $+45^{\circ}\text{C}$ Temperature setpoint resolution: 0.01°C Temperature control stability: $\pm 0.005^{\circ}\text{C}$ Temperature measurement accuracy: 0.05°C (calibrated sensor) Supported sensors: Thermistor (10 k Ω), IC (AD590LH, LM335AH), RTD Control modes: Constant temperature, constant sensor, constant TE current Electrical & Interfaces Power input: 100–240 VAC, 50/60 Hz Remote control: GPIB/IEEE-488, USB Key Features Sub-microvolt current resolution for precision laser tuning Dual modulation bandwidth modes for flexibility across DC and RF applications Integrated photodiode feedback for optical power stabilization Multiple temperature sensor compatibility for diverse packaging requirements

Typical Applications CW and pulsed laser diode characterization; wavelength stabilization; optical communication module testing; spectroscopic instrumentation.

Compatibility & Integration GPIB and USB connectivity supports both standalone operation and integration into automated test environments. Support for standard sensor types enables use across diverse laser module designs.

Features & description

From manufacturer datasheet

Features

- Dual laser current ranges: 200 mA and 500 mA
- Compliance voltage to 10 V
- Integrated 32 W TEC controller (± 4 A, ± 8 V class)
- Temperature stability typically within ± 0.004 C (short-term family figure); 24 h stability less than 0.01 C class
- Constant current and constant optical power modes
- Analog modulation to about 1 MHz (high bandwidth)
- Photodiode feedback with adjustable reverse bias
- Four-wire forward voltage measurement and adjustable voltage limit
- Laser protection: slow start, shorting relay, adjustable current/voltage limits, line transient suppression
- GPIB; USB on C-series
- Compatible with thermistor, IC, and RTD temperature sensors

LDC3724 Characteristics / Specifications

PARAMETER	VALUE
Model	LDC-3724 / LDC-3724B / LDC-3724C
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode current source with integrated TEC controller
Laser Current Ranges	0 to 200 mA; 0 to 500 mA
Laser Current Resolution	4 uA / 10 uA (range dependent; C-series tables)
Laser Current Accuracy	+/-0.05% of FS
Laser Compliance Voltage	0 to 10 V
Noise/Ripple (low BW)	about 2 uA class; high BW about 4 uA class
TEC Output Power	32 W
TEC Current	-4.00 to +4.00 A
TEC Voltage	-8.0 to +8.0 V
Temperature Control Range (display class)	about -100 C to 199 C (sensor dependent)
Photodiode Current Range	5 to 5000 uA
Modulation Bandwidth	DC to 1 MHz (high BW); DC to 15 kHz (low BW)
Remote Interface	GPIB; USB and GPIB on LDC-3724C
Display	5-digit LED class
AC Options	120 V or 240 V variants Family Context
Dual laser current ranges	200 mA and 500 mA
Laser protection	slow start, shorting relay, adjustable current/voltage limits, line transient suppression
Bandwidth	DC to 1 MHz (high BW); DC to 15 kHz (low BW)

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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Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode current source with integrated TEC controller
Laser Current Ranges	0 to 200 mA; 0 to 500 mA
Laser Current Resolution	4 uA / 10 uA (range dependent; C-series tables)
Laser Current Accuracy	+/-0.05% of FS
Laser Compliance Voltage	0 to 10 V
Noise/Ripple (low BW)	about 2 uA class; high BW about 4 uA class
Short-Term Stability: less than 20 ppm class	
Specifications	
PARAMETER	VALUE
TEC Output Power	32 W
TEC Current	-4.00 to +4.00 A
TEC Voltage	-8.0 to +8.0 V
Temperature Control Range (display class)	about -100 C to 199 C (sensor dependent)
Photodiode Current Range	5 to 5000 uA
Modulation Bandwidth	DC to 1 MHz (high BW); DC to 15 kHz (low BW)
Remote Interface	GPIB; USB and GPIB on LDC-3724C
Display	5-digit LED class
AC Options	120 V or 240 V variants
Family Context	
LDC-3714: 50/100 mA with 32 W TEC	
LDC-3724: 200/500 mA with 32 W TEC	
LDC-3744: 2/4 A with 32 W TEC	
Standard Operating Conditions	
Allow warm-up before stability-critical measurements. Set hardware current limit before enabling the laser.	
Use proper TEC sensor calibration constants.	

Operational Notes

ConfirmBvsCrevision for USB availability. Pair with ILX laser mounts as required. Omit sales wording from identification; LDC3724 without hyphen is the same model family.

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.