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Data Sheet

August 13, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3724: 200/500 mA Laser Diode Controller, LDC-3700 Series

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
LDC-3724**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC-3724

LISTING

<https://aumictechlabs.com/products/ldc-3724-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDC-3724 is a precision laser diode controller delivering dual-range current control at 200 mA and 500 mA with integrated thermoelectric cooler management. Part of the LDC-3700 Series, this instrument provides constant current, high bandwidth, and constant optical

power operation modes for research and industrial laser applications. The controller combines laser diode current regulation, temperature stabilization, and comprehensive protection in a single platform.

Technical Specifications

Laser Current Source Output current range: 0–500 mA Current setpoint resolution: $< 2 \mu\text{A}$ Current setpoint accuracy: $\pm 0.05\%$ Current stability: $< 40 \text{ ppm}/^\circ\text{C}$ (24 hour) Compliance voltage: 10 V maximum Current limit range: 0–505 mA (500 mA range) Voltage measurement accuracy: $\pm 2.5\%$ Analog modulation: DC to 1 MHz Modulation input: Differential BNC connector

Temperature Controller TEC output: -4 A to $+4 \text{ A}$ Maximum TEC power: 32 W Temperature stability: $\pm 0.004^\circ\text{C}$ Temperature setpoint resolution: 0.1°C TEC current limit: 0–4 A

Sensor compatibility: Thermistor, IC, RTD **Control modes:** R Mode, ITE Mode **Laser Diode Protection** Slow start current ramp Adjustable current and voltage limits Intermittent contact protection Output shorting relays Power surge and brown-out protection Photodiode Monitoring Monitor photodiode current range: 5–5000 μA PD setpoint accuracy: $\pm 0.05\%$

Interfaces Remote: IEEE 488 GPIB LD connector: 9-pin D-sub, female TEC connector: 15-pin D-sub, female Chassis ground: BNC connector Display: 5-digit green LED

Key Features Dual current ranges accommodate diverse laser diode specifications. Four-wire laser forward voltage measurement eliminates lead resistance errors. Constant optical power mode closes the control loop on external photodiode input for stable optical output. High bandwidth mode optimizes frequency response for external modulation above DC. Comprehensive protection architecture prevents damage from intermittent contact, power surges, and thermal events.

Typical Applications Fiber-coupled laser systems, semiconductor laser characterization, optical communication sources, precision pump sources for amplifiers, and laboratory laser research demanding simultaneous current and temperature regulation.

Compatibility & Integration IEEE 488 GPIB remote programming enables integration into automated test systems. Differential modulation input accommodates isolated ground architectures. Multi-sensor temperature input flexibility supports thermistor-based, IC-based, and RTD temperature feedback.

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
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

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

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