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Data Sheet
August 13, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3752: 2/4 A Laser Diode Controller

The ILX Lightwave LDC-3752 is a precision laser diode controller capable of delivering 2A or 4A of current. It features high stability and low noise, ideal for demanding laser diode applications. It offers comprehensive laser diode protection and user-friendly operation.

MODEL ILX Lightwave LDC-3752	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU LDC-3752	LISTING https://aumictechlabs.com/products/ldc-3752-2/

NIST-traceable cal · SAM registered · 30-day returns · NAICS 423690 · 811210 · 541380

This unit

The ILX Lightwave LDC-3752 is a precision laser diode controller integrating a high-stability current source with a 32 W temperature controller for simultaneous management of laser diode current and temperature. Dual output ranges of 2 A or 4 A accommodate various laser diode types, while three control modes - constant current, constant optical power, and high bandwidth - support both DC operation and external analog modulation. The instrument delivers short-term current stability better than 20 ppm, temperature stability within ±0.01°C, and comprehensive laser diode protection. An LCD front panel with keypad provides manual operation; GPIB (IEEE-488) enables remote control. Technical Specifications Laser Current Source Output current ranges: 2 A / 4 A Current control modes: Constant current (CC), constant optical power (CP), high bandwidth mode Current accuracy: ±0.1% of set value Current ripple: <0.1% of full scale (10 Hz to

1 MHz) Short-term stability: <20 ppm Compliance voltage: 10 V External modulation: Differential analog input supported Temperature Controller Integrated TEC power: 32 W TEC output current: 4 A TEC output voltage: 8 V Temperature control range: −100°C to 199°C Temperature stability: <±0.01°C Temperature resolution: 0.01°C Temperature accuracy: ±0.05°C (calibrated sensor) / ±0.1°C (temperature-controlled devices) Control modes: Constant temperature, constant sensor, constant TE current Supported sensors: Thermistor, IC, RTD TEC measurement: Temperature, current, resistance, voltage Electrical & Physical Power requirement: 100–240 VAC, 50/60 Hz Power consumption: ~100 W Weight: 34 lbs Key Features Dual current ranges for multi-diode compatibility Photodiode-based optical power feedback loop Differential modulation input for improved laser protection Wide temperature range with 0.01°C resolution Multiple sensor types accepted (thermistor, IC, RTD) GPIB remote interface for automated test sequences Typical Applications Wavelength-stabilized laser systems requiring tight thermal control High-frequency modulation experiments with external RF signal injection Multi-laser test benches with varying current and temperature demands Compatibility & Integration The LDC-3752 accepts analog modulation via differential input and supports thermistor, IC, and RTD temperature sensors. GPIB connectivity integrates with automated test platforms and data acquisition systems.

Features & description

From manufacturer datasheet

Features

• 6 A laser current controller class • LDC-3700 family protection and mode architecture • Constant current / constant power family modes • GPIB remote control • Distinguish from LDC-3744 (2/4 A + 32 W TEC) and LDC-3736 (higher compliance/TEC)

LDC3752 Characteristics / Specifications

PARAMETER	VALUE
Model	LDC-3752
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode controller
Family	LDC-3700
Laser Current Range	0 to 6 A
Related LDC 3742 Ranges	2 A / 4 A
Related LDC 3722 Ranges	200 mA / 500 mA
Related LDC 3712 Ranges	50 mA / 100 mA
Operating Modes Class	constant current; constant optical power; high bandwidth
Laser Protection Class	slow start; shorting; adjustable current and voltage limits
Forward Voltage Measurement Class	4 wire
Analog Modulation Class	supported on 3700 family
Remote Interface	GPIB
Display Class	digital LED
Compliance Voltage	confirm on unit (family members commonly 10 V; do not assume 18 V LDC-3736)
TEC Integration	confirm on unit (3752 listed as laser controller in family tables)
Photodiode Feedback Class	constant power mode family
Alias	LDC-3752; LDC3752; ILX LDC-3752
Related Higher TEC Platform	LDC-3736 18 V / 128 W TEC class
Mount Compatibility	ILX laser mounts
AC Mains Class	120/240 V variants
Warmup Class	allow stabilization before accuracy-critical current work
Bandwidth	Laser Protection Class: slow start; shorting; adjustable current and voltage limits

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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Model	LDC-3752
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Mount Compatibility	ILX laser mounts
AC Mains Class	120/240 V variants
Warmup Class	allow stabilization before accuracy-critical current work

Notes
6 A identity from ILX LDC-3700 family specification tables. Fine current resolution/noise numbers should be taken from the LDC-3752 manual pages for the revision in hand; do not invent microamp figures.

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

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