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Data Sheet

August 13, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3712: 50/100 mA Laser Diode Controller, LDC-3700 Series

Key Features - Dual ranges 50 mA / 100 mA - Constant current and constant optical power modes - Analog modulation capability - Laser protection: slow start, shorting, adjustable limits - GPIB remote control on 3700-series controllers Technical Specifications Model: LDC-3712 Manufacturer: ILX Lightwave (Newport / MKS) Instrument Type: Laser diode controller Family: LDC-3700 Laser Current Ranges: 0 to 50 mA; 0 to 100 mA Related LDC 3714 Ranges: 50/100 mA with integrated 32 W TEC Laser Compliance Voltage Class: 10 V family Setpoint Accuracy Class: plus/minus 0.



MODEL

**ILX Lightwave
LDC-3712**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC-3712

LISTING

<https://aumictechlabs.com/products/ldc-3712-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDC-3712 is a precision laser diode controller delivering selectable 50 mA and 100 mA current output for low to medium power laser diode applications. It combines a high-stability, low-noise current source with a 32 W integrated temperature controller, offering both constant current and constant power operating modes. The instrument provides 0.05% set point accuracy, sub-microradian stability to 20 ppm, and comprehensive laser diode protection including slow-start turn-on, output shorting relays, and independent adjustable current limits.

Temperature control spans -100°C to 199.9°C with $\pm 0.004^{\circ}\text{C}$ stability. Technical Specifications
Laser Current Source Current Ranges: 50 mA and 100 mA selectable Set Point Accuracy: 0.05%
Resolution: 1 μA (50 mA range), $<2 \mu\text{A}$ (100 mA range) Noise and Ripple: $<1.5 \mu\text{A}$ both ranges
Stability: 20 ppm Operating Modes: Constant Current (CC) and Constant Power (CP) Modulation:
Up to 1 MHz analog modulation (high bandwidth CC); up to 15 kHz low bandwidth CC mode Laser
Forward Voltage: 4-wire measurement Compliance Voltage: Adjustable limit Current Limit:
Independent, adjustable during operation Temperature Controller Integrated Power: 32 W
Temperature Range: -100°C to 199.9°C Stability: $\pm 0.004^{\circ}\text{C}$ Set Point Resolution: 0.01°C
Measurement Accuracy: 0.05°C (with calibrated sensor) Sensor Types: Thermistor, IC, RTD
(includes calibrated 10 k Ω thermistor TS-510) Operating Modes: Constant Temperature (CT),
Constant Sensor (CS), Constant TE Current (CTE) TEC Forward Voltage: Supported for power
consumption monitoring Safety: Automatic laser current shutdown and fault indication on open
temperature sensor or TE circuit General Interface: GPIB/IEEE-488; USB available on select LDC-
3700C models Display: 5-digit green LED for laser and TEC parameters Power: 100–120 VAC
($\pm 10\%$), 220–240 VAC ($\pm 10\%$), 50–60 Hz Key Features Dual-range current source with
independent adjustable limits Intermittent contact protection and output shorting relays TEC
forward voltage measurement for total module power monitoring Multi-sensor support with
automatic calibration Typical Applications Low to medium power laser diode systems requiring
precise current and temperature stabilization, including laboratory test setups and OEM integrated
modules. Compatibility & Integration GPIB/IEEE-488 remote control standard; USB interface
available on LDC-3700C series variants. Operates on standard 100–240 VAC single-phase power.

Features & description

From manufacturer datasheet

Features

- Dual ranges 50 mA / 100 mA
- Constant current and constant optical power modes
- Analog modulation capability
- Laser protection: slow start, shorting, adjustable limits
- GPIB remote control on 3700-series controllers

LDC3712 Characteristics / Specifications

PARAMETER	VALUE
Model	LDC-3712
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode controller
Family	LDC-3700
Laser Current Ranges	0 to 50 mA; 0 to 100 mA
Related LDC 3714 Ranges	50/100 mA with integrated 32 W TEC
Laser Compliance Voltage Class	10 V family
Setpoint Accuracy Class	plus/minus 0.05 percent FS family
Operating Modes	constant current; constant optical power; high bandwidth
Analog Modulation	yes
Photodiode Feedback	yes
Forward Voltage Measurement	4 wire class
Adjustable Voltage Limit	yes
Adjustable Current Limit	yes
Laser Protection Slow Start	yes
Laser Protection Shorting Relay	yes
Temperature Controller	integrated TEC architecture on 3700 controllers
TEC Power Class	32 W on 37×4B siblings
Temperature Stability Class	plus/minus 0.004 C short term family
Temperature Sensors	thermistor IC RTD
Remote Interface	GPIB
Display Class	digital LED
Related Mid Current	LDC-3722 200/500 mA
Related High Current	LDC-3742 2/4 A; LDC-3752 6 A
Alias	LDC-3712; LDC3712; ILX LDC-3712

PARAMETER	VALUE
AC Mains Class	120/240 V variants
Bandwidth	Analog Modulation: yes

LDC3712 Specifications

PARAMETER	VALUE
Applications	Low-power laser diode drive and temperature lock; constant-power control with monitor photodiode; modulated LIV; automated test via GPIB.
Key Features	- Dual ranges 50 mA / 100 mA
Technical Specifications	Model: LDC-3712

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-3712
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode controller
Family	LDC-3700
Laser Current Ranges	0 to 50 mA; 0 to 100 mA
Related LDC 3714 Ranges	50/100 mA with integrated 32 W TEC
Laser Compliance Voltage Class	10 V family
Setpoint Accuracy Class	plus/minus 0.05 percent FS family
Operating Modes	constant current; constant optical power; high bandwidth
Analog Modulation	yes
Photodiode Feedback	yes
Forward Voltage Measurement	4 wire class
Adjustable Voltage Limit	yes
Adjustable Current Limit	yes
Laser Protection Slow Start	yes
Laser Protection Shorting Relay	yes
Temperature Controller	integrated TEC architecture on 3700 controllers
TEC Power Class	32 W on 37x4B siblings
Temperature Stability Class	plus/minus 0.004 C short term family
Temperature Sensors	thermistor IC RTD
Remote Interface	GPIO
Display Class	digital LED
Related Mid Current	LDC-3722 200/500 mA
Related High Current	LDC-3742 2/4 A; LDC-3752 6 A
Alias	LDC-3712; LDC3712; ILX LDC-3712
AC Mains Class	120/240 V variants

Notes

Current-range identity from ILX LDC-3700 series manuals/datasheet family tables. Confirm whether the specific unit is current-only versus TEC-integrated (3712 vs 3714) before quoting TEC ampacity.

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.