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Data Sheet

August 14, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3714C: 50/100 mA Laser Diode Controller, LDC-3700 Series

The ILX Lightwave LDC-3714C is a precision laser diode controller from the LDC-3700 Series. It offers stable current and temperature control for laser diodes, featuring a 50/100 mA current output. Ideal for research and development, as well as production testing of laser diodes, ensuring accurate and reliable performance.



MODEL

**ILX Lightwave
LDC-3714C**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC-3714C

LISTING

<https://aumictechlabs.com/products/ldc-3714c-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The ILX Lightwave LDC-3714C is a precision laser diode controller delivering dual current output ranges of 50 mA and 100 mA for low to medium power laser diode applications. It integrates a low-noise current source with a 32W thermoelectric cooler (TEC) controller, enabling independent regulation of laser drive current and operating temperature. The instrument supports three operating modes Constant Current (Low Bandwidth to 15 kHz), Constant Current (High Bandwidth to 1 MHz), and Constant Optical Power - accommodating both DC operation and dynamic modulation. Set point accuracy of $\pm 0.05\%$ FS with 1 μ A resolution (50 mA range) ensures stable wavelength control critical for research, development, and production testing. Technical Specifications Laser Current Source Current output ranges: 50 mA / 100 mA Set point accuracy:

±0.05% FS Setpoint resolution: 1 μ A (50 mA range) / < 2 μ A (100 mA range) Short-term stability (1 hour): < 20 ppm FS Long-term stability (24 hours): < 40 ppm FS Current noise and ripple: < 1.5 μ A Output stability: 0.02% Temperature coefficient: 8 V DC Sensor compatibility: Thermistor, IC, and RTD Photodiode Feedback Type: Differential Photodiode reverse bias: 0–5 V adjustable Photodiode current range: 5–5000 μ A Key Features Four-wire laser forward voltage measurement Photodiode-based constant optical power feedback mode Differential modulation input supporting independent grounds Slow start, adjustable current limit, and intermittent contact protection Output shorting relays for laser protection TEC bipolar constant current source with forward voltage monitoring Typical Applications Precision wavelength locking, optical power stabilization, and dynamic laser tuning in laboratory and manufacturing environments where temperature and current stability directly impact performance. Compatibility & Integration USB and GPIB/IEEE-488 remote interfaces enable integration into automated test systems. Supports ILX model TS-510 calibrated 10 k Ω thermistors.

LDC3714C Characteristics / Specifications

PARAMETER	VALUE
Laser Output Current Ranges	0 to 50 mA and 0 to 100 mA
Laser Compliance Voltage	0 to 10 V adjustable
Laser Current Accuracy Setpoint	plus or minus 0.05% of FS
Output Current Display Resolution Low Range	0.001 mA
Output Current Display Resolution High Range	0.01 mA class family tables
Output Current Accuracy Display	plus or minus 0.05% FS
Short Term Stability 1 hour	less than 20 ppm
Long Term Stability 24 hours	less than 40 ppm
Modulation High Bandwidth	DC to 1 MHz
Modulation Low Bandwidth	DC to 15 kHz
Modulation Transfer Function Ranges	5 mA/V and 10 mA/V
Modulation Input	0 to 10 V, 1 kOhm
Forward Voltage Range	0.000 to 10.000 V
Forward Voltage Resolution	1 mV
Photodiode Current Range	0 to 5000 uA
Photodiode Current Resolution	1 uA
Photodiode Current Accuracy	plus or minus 2 uA
PD Responsivity Range	0.00 to 1000.00 uA/mW
Optical Power Display Range	0.00 to 100.00 mW
Optical Power Resolution	0.01 mW
TE Current Range	-4.00 to +4.00 A
TE Voltage	greater than 8 V DC compliance class
TE Output Power	32 W
TE Current Noise Ripple	less than 1 mA rms

PARAMETER	VALUE
Temperature Control Range	-100.0 C to +199.9 C
Temperature Short Term Stability 1 hour	less than 0.004 C
Temperature Long Term Stability 24 hours	less than 0.01 C
Trigger Output Type	TTL
Trigger Pulse Width	13 us
Trigger Delay	12 ms
Display Type	5-digit green LED (LASER and TEC)
Computer Interfaces	GPIB and USB
Power Requirements	100-115 VAC or 220-240 VAC, 48-66 Hz
Weight	approx. 22.5 lbs (10.2 kg)
Operating Temperature	0 C to +40 C
Storage Temperature	-40 C to +70 C
Humidity	less than 90% RH non-condensing
Laser Safety Features	key switch, interlock, and output delay (CDRH US21 1040.10)
Bandwidth	DC to 1 MHz

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	40 C to +70 C
Operating temperature	0 C to +40 C
Operating Temperature	0 C to +40 C
Humidity	less than 90% RH non-condensing
Laser Safety Features	key switch, interlock, and output delay (CDRH US21 1040.10) Notes Values are from the ILX LDC-37×4C user manual specification tables for LDC-3714C. Older non-C LDC-3714 units may differ; this file targets the LDC-3714C OEM model.

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
Laser Output Current Ranges	0 to 50 mA and 0 to 100 mA
Laser Compliance Voltage	0 to 10 V adjustable
Laser Current Accuracy Setpoint	plus or minus 0.05% of FS
Output Current Display Resolution Low Range	0.001 mA
Output Current Display Resolution High Range	0.01 mA class family tables
Output Current Accuracy Display	plus or minus 0.05% FS
Short Term Stability 1 hour	less than 20 ppm
Long Term Stability 24 hours	less than 40 ppm
Modulation High Bandwidth	DC to 1 MHz
Modulation Low Bandwidth	DC to 15 kHz
Modulation Transfer Function Ranges	5 mA/V and 10 mA/V
Modulation Input	0 to 10 V, 1 kOhm
Forward Voltage Range	0.000 to 10.000 V
Forward Voltage Resolution	1 mV
Photodiode Current Range	0 to 5000 uA
Photodiode Current Resolution	1 uA
Photodiode Current Accuracy	plus or minus 2 uA
PD Responsivity Range	0.00 to 1000.00 uA/mW
Optical Power Display Range	0.00 to 100.00 mW
Optical Power Resolution	0.01 mW
TE Current Range	-4.00 to +4.00 A
TE Voltage	greater than 8 V DC compliance class
TE Output Power	32 W
TE Current Noise Ripple	less than 1 mA rms
Temperature Control Range	-100.0 C to +199.9 C

PARAMETER	VALUE
Temperature Short Term Stability 1 hour	less than 0.004 C
Temperature Long Term Stability 24 hours	less than 0.01 C
Trigger Output Type	TTL
Trigger Pulse Width	13 us
Trigger Delay	12 ms
Display Type	5-digit green LED (LASER and TEC)
Computer Interfaces	GPIB and USB
Power Requirements	100-115 VAC or 220-240 VAC, 48-66 Hz
Weight	approx. 22.5 lbs (10.2 kg)
Operating Temperature	0 C to +40 C
Storage Temperature	-40 C to +70 C
Humidity	less than 90% RH non-condensing
Laser Safety Features	key switch, interlock, and output delay (CDRH US21 1040.10)

Notes

Values are from the ILX LDC-37x4C user manual specification tables for LDC-3714C. Older non-C LDC-3714 units may differ; this file targets the LDC-3714C OEM model.

Laser Safety

Laser Safety Features: key switch, interlock, and output delay (CDRH US21 1040.10) Notes Values are from the ILX LDC-37×4C user manual specification tables for LDC-3714C. Older non-C LDC-3714 units may differ; this file targets the LDC-3714C OEM model.

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 ·
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Generated August 14, 2026

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