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Data Sheet

August 13, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3736 4 Amp Laser Diode Controller

Applications Quantum cascade laser drive and temperature lock High-compliance CW laser diode characterization (LIV) Constant-current or constant-optical-power control with monitor photodiode R&D and production automated test via GPIB or USB Key Features Triple laser current ranges so the user can sit near full scale for lower noise 18 V compliance for high-voltage QCL and similar loads (not the 10 V LDC-3700C class) 128 W TEC with digital PID and autotune (8 A / 16 V class) Typical temperature stability within plus/minus 0.



MODEL

**ILX Lightwave
LDC-3736**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC-3736

LISTING

<https://aumictechlabs.com/products/lcd-3736-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDC-3736 is a 4 A laser diode controller combining a high-stability, low-noise current source with a high-power thermoelectric temperature controller. Engineered for precision laser control in research, production, and specialized applications including Quantum Cascade Lasers, the instrument delivers independent management of laser current and temperature with multiple protection layers against transients, over-current conditions, and electrostatic discharge. Technical Specifications Laser Current Source Maximum output current: 4 A across three selectable ranges (1 A, 2 A, 4 A) Compliance voltage: 18 V Current resolution: 0.1 mA (display), 80

μA (remote, 4 A range) Current accuracy: $\pm 0.15\%$ of setpoint $\pm 1\text{ mA}$ or $\pm 0.1\%$ FS 1-hour stability: $< 20\text{ ppm FS}$; 24-hour stability: $< 40\text{ ppm FS}$ Output noise/ripple (low bandwidth): $< 30\text{ }\mu\text{A}$ or $< 50\text{ }\mu\text{A (rms)}$ Output noise/ripple (high bandwidth): $< 30\text{ }\mu\text{A}$ or $< 60\text{ }\mu\text{A (rms)}$ Analog modulation bandwidth: Up to 250 kHz ; supports up to 1 MHz modulation in high-bandwidth mode Temperature coefficient: $< 50\text{ ppm/}^\circ\text{C}$ Laser forward voltage measurement via 4-wire configuration Thermoelectric Temperature Controller TE current range: $-8.00\text{ to }+8.00\text{ A}$ TE voltage range: $-16.00\text{ to }+16.00\text{ V}$ Output power: 128 W Temperature stability: Typically $\pm 0.003^\circ\text{C}$ 1-hour current stability: $\pm 0.002^\circ\text{C}$; 24-hour stability: $\pm 0.003^\circ\text{C}$ TEC ripple/noise: $< 2.5\text{ mA (rms)}$ Compatible sensors: Thermistor, IC, RTD Photodiode Monitoring Photodiode current range: $0\text{ to }10\text{ mA}$ Current resolution: $1\text{ }\mu\text{A}$; accuracy: $\pm 4\text{ }\mu\text{A}$ Responsivity range: $0.00\text{--}1000.00\text{ }\mu\text{A/mW}$ Optical Power Measurement Range: $0.00\text{--}20000.0\text{ mW}$; resolution: 0.1 mW Key Features Three operating modes: constant current (low and high bandwidth) and constant optical power via rear-facet or external photodiode feedback Slow-start routine protecting against over-current and turn-on transients Adjustable current and voltage limits with clamping under modulated conditions Intermittent contact and electrostatic discharge protection Output shorting relays (mechanical and MOSFET) for power-up safety Typical Applications Research and development, production environments, Quantum Cascade Laser systems, and wavelength/power tuning applications requiring modulation. Compatibility & Integration Supports thermistor, IC, and RTD temperature sensors. Accepts rear-facet or external photodiode feedback for constant optical power control.

LDC3736 Characteristics / Specifications

PARAMETER	VALUE
Model	LDC-3736
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode current source with integrated TEC controller
Family	LDC 37X6 (LDC 3726 / LDC 3736 / LDC 37620)
Alias	LDC3736; LDC 3736
Laser Current Ranges	0 to 1 A; 0 to 2 A; 0 to 4 A
Laser Current Resolution	20 μ A / 40 μ A / 80 μ A (1 A / 2 A / 4 A)
Laser Current Accuracy	plus/minus 0.15 percent of setpoint plus 1 mA
Laser Compliance Voltage	18 V
Current Stability 1 h	less than 20 ppm FS
Current Stability 24 h	less than 40 ppm FS
Short Term Stability	less than 20 ppm
Noise Ripple Selection Guide	less than 10 μ A / 15 μ A / 50 μ A (1 A / 2 A / 4 A)
Noise Ripple Product Page	less than 30 μ A low bandwidth; less than 30 μ A high bandwidth
Temperature Coefficient Current	less than 50 ppm per $^{\circ}$ C TEC Output Power: 128 W
TEC Current Range	-8.00 A to +8.00 A
TEC Voltage Range	-16.00 V to +16.00 V
TEC Ripple Noise RMS	less than 2.5 mA
Temperature Stability 1 h	plus/minus 0.002 $^{\circ}$ C (TN 5910C-1)
Temperature Stability 24 h	plus/minus 0.003 $^{\circ}$ C (TN 5910C-1)
Temperature Control Range	-100 $^{\circ}$ C to 200 $^{\circ}$ C (sensor dependent)
TEC Sensors	thermistor; IC; RTD
TEC Control Loop	digital PID with autotune
TEC Measurements	temperature, current, resistance, voltage
Photodiode Current Range	0 to 10 mA

PARAMETER	VALUE
Analog Modulation	yes
Remote Interfaces	GPiB and USB
AC Input	100 to 120 VAC / 220 to 240 VAC selector; 50 to 60 Hz
Power Consumption	500 W class
Operating Temperature	10 C to 40 C
Operating Humidity	less than 85 percent RH, noncondensing
Weight	10.34 kg
Related LDC 37	100 / 200 / 500 mA; 10 V; 32 W TEC
Related LDC 376	10 A / 20 A; 4 V; 128 W TEC
Bandwidth	Temperature Coefficient Current: less than 50 ppm perC TEC Output Power: 128 W
Humidity	less than 85 percent RH, noncondensing

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	10 C to 40 C
Operating Temperature	10 C to 40 C
Humidity	less than 85 percent RH, noncondensing
Operating Humidity	less than 85 percent RH, noncondensing
Weight	10.34 kg
Related LDC 37	100 / 200 / 500 mA; 10 V; 32 W TEC
Related LDC 376	10 A / 20 A; 4 V; 128 W TEC Notes Rows from the MKS/Newport LDC-3736 product specification table and the ILX 2019 instrument selection guide LDC-3736 column. Noise is listed both ways because the product page quotes less than 30 uA while the family table quotes 10/15/50 uA by range; confirm against the LDC-3736 brochure for the installed unit. Pair with ILX mounts and CC-305S/CC-505S class cables.

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-3736
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode current source with integrated TEC controller
Family	LDC 37X6 (LDC 3726 / LDC 3736 / LDC 37620)
Alias	LDC3736; LDC 3736
Laser Current Ranges	0 to 1 A; 0 to 2 A; 0 to 4 A
Laser Current Resolution	20 uA / 40 uA / 80 uA (1 A / 2 A / 4 A)
Laser Current Accuracy	plus/minus 0.15 percent of setpoint plus 1 mA
Laser Compliance Voltage	18 V
Current Stability 1 h	less than 20 ppm FS
Current Stability 24 h	less than 40 ppm FS
Short Term Stability	less than 20 ppm
Noise Ripple Selection Guide	less than 10 uA / 15 uA / 50 uA (1 A / 2 A / 4 A)
Noise Ripple Product Page	less than 30 uA low bandwidth; less than 30 uA high bandwidth
Temperature Coefficient Current	less than 50 ppm perCTEC Output Power: 128 W
TEC Current Range	-8.00 A to +8.00 A
TEC Voltage Range	-16.00 V to +16.00 V
TEC Ripple Noise RMS	less than 2.5 mA
Temperature Stability 1 h	plus/minus 0.002 C (TN 5910C-1)
Temperature Stability 24 h	plus/minus 0.003 C (TN 5910C-1)
Temperature Control Range	-100 C to 200 C (sensor dependent)
TEC Sensors	thermistor; IC; RTD
TEC Control Loop	digital PID with autotune
TEC Measurements	temperature, current, resistance, voltage
Photodiode Current Range	0 to 10 mA
Analog Modulation	yes

PARAMETER	VALUE
Remote Interfaces	GPIB and USB
AC Input	100 to 120 VAC / 220 to 240 VAC selector; 50 to 60 Hz
Power Consumption	500 W class
Operating Temperature	10 C to 40 C
Operating Humidity	less than 85 percent RH, noncondensing
Weight	10.34 kg
Related LDC 3726	100 / 200 / 500 mA; 10 V; 32 W TEC
Related LDC 37620	10 A / 20 A; 4 V; 128 W TEC

Notes

Rows from the MKS/Newport LDC-3736 product specification table and the ILX 2019 instrument selection guide LDC-3736 column. Noise is listed both ways because the product page quotes less than 30 uA while the family table quotes 10/15/50 uA by range; confirm against the LDC-3736 brochure for the installed unit. Pair with ILX mounts and CC-305S/CC-505S class cables.

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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<https://aumictechlabs.com>

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Generated August 13, 2026

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