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Data Sheet

August 13, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3916371 Laser Module

Key Features - Same 500 mA laser column as 3916372 with finer TEC resolution - TEC modes T, R, I, and DAC (3916371 only) - Thermistor sense current fixed at 100 uA - Analog modulation 50 mA/V to 1.2 MHz small-signal high BW - Do not confuse with 3916372 (standard TEC range -99 C to +150 C) Technical Specifications Model: LDC-3916371 (3916371) Manufacturer: ILX Lightwave (Newport / MKS) Instrument Type: High-resolution 500 mA laser current source with 9 W TEC Alias: LDC3916371; 3916371 Compatible mainframes: LDC-3908, LDC-3916, LDC-3926 Laser current range: 0 to 500 mA Laser setpoint resolution: 10 uA Laser setpoint accuracy: ± 0 .



MODEL

**ILX Lightwave
LDC3916371**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

LDC3916371

LISTING

<https://aumictechlabs.com/products/ldc3916371-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave LDC-3916371 is a laser diode controller that provides precise current and temperature control for a variety of laser diode applications. This instrument is well-suited for research, development, and production environments where stable and reliable laser operation is critical. Key features include low noise current source, high-resolution temperature control, and comprehensive laser diode protection features.

Features & description

From manufacturer datasheet

Features

- Same 500 mA laser column as 3916372 with finer TEC resolution
- TEC modes T, R, I, and DAC (3916371 only)
- Thermistor sense current fixed at 100 μ A
- Analog modulation 50 mA/V to 1.2 MHz small-signal high BW
- Do not confuse with 3916372 (standard TEC range -99 C to +150 C)

LDC3916371 Characteristics / Specifications

PARAMETER	VALUE
Model	LDC-3916371 (3916371)
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	High-resolution 500 mA laser current source with 9 W TEC
Alias	LDC3916371; 3916371
Compatible mainframes	LDC-3908, LDC-3916, LDC-3926
Laser current range	0 to 500 mA
Laser setpoint resolution	10 uA
Laser setpoint accuracy	±0.1% of full scale
Laser compliance	6 V (adjustable voltage limit)
Laser temperature coefficient	50 ppm perCor less
Laser short term stability	20 ppm or less (1 h, half scale)
Laser long term stability	50 ppm or less (24 h, half scale)
Laser noise high BW	less than 10 uA rms
Laser noise low BW	less than 5.0 uA rms
Laser operational transients	less than 3 mA
Laser EFT surge	less than 4 mA / less than 8 mA (1 kV)
Laser current limit range	0 to 500 mA
Laser current limit resolution	0.2 mA
Laser current limit accuracy	±0.7 mA
Laser voltage limit range	0 to 7.5 V
Laser voltage limit resolution	0.1 V
Laser voltage limit accuracy	±0.2 V
PD type	differential 10 ohm; zero or 5 V reverse bias
PD current range	0 to 5000 uA
PD stability	±0.01%

PARAMETER	VALUE
PD setpoint accuracy	±0.1% of FS
Modulation input	0 to 10 V, 50 ohm
Transfer function	50 mA perVHigh BW small signal: DC to 1.2 MHz
High BW large signal	DC to 1.0 MHz
Low BW modulation	DC to 30 kHz
Display laser current	0 to 500.00 mA; 0.01 mA; ±0.05% FS at 25 C
Display PD	0 to 5000 uA; 0.1 uA; ±2 uA at 25 C
PD responsivity	0.00 to 1000.00 uA/mW; 0.01 uA/mW
Optical power range	0.00 to 500.00 mW; 100 uW
Forward voltage	0.000 to 7.5 V; 10 mV (1 mV GPIB); ±7 mV (±2 mV GPIB)
TEC temperature range	-5 C to +50 C (software limits)
TEC setpoint minus 20 to 20 C	0.01 C resolution; ±0.2 C accuracy
TEC setpoint 20 to 50 C	0.2 C resolution; ±0.2 C accuracy
TEC short term stability	less than ±0.007 C (1 h, LDM-4412 at 25 C)
TEC long term stability	less than ±0.01 C (24 h, same conditions)
TEC output type	bipolar current source
TEC compliance	greater than 7 V DC
TEC short circuit current	1.5 A
TEC max power	9 W
TEC current noise	less than 1 mA rms (1 A, 10 Hz to 10 MHz)
TEC current limit	0 to 1.5 A; set accuracy ±0.05 A
TEC control	smart integrator hybrid PI; gain 1 to 127
TEC sensor	2-wire NTC thermistor; 100 uA only
Useable thermistor range	3500 to 45000 ohm typical
User calibration	Steinhart-Hart 3 constants
TEC display temperature	-99.9 C to +199.9 C; ±0.5 C
Thermistor 100 uA range	3.5 to 45 kohm; accuracy ±0.05 kohm

PARAMETER	VALUE
TEC current display	-1.500 to +1.500 A; ± 0.04 A; 0.01 A
TEC voltage display	-9.999 to +9.999 V; 100 mV (1 mV GPIB); ± 70 mV (± 20 mV GPIB)
DAC mode	16-bit, 0 to 65535 counts (3916371 only)
DAC LSB class	about 62.5 μ V at the DAC output
Firmware class	v2.03 or greater
Spec condition	1 hour warm-up

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 match the LDC-3916372 (0 to 500 mA, 6 V compliance). The TEC side is narrowed to -5 C to +50 C software range with 0.01 C thermistor setpoint resolution from -20 C to 20 C, 100 uA-only thermistor sense (not selectable), 3.5 to 45 kohm typical thermistor range, andaDAC-count control mode (0 to 65535 counts).

Applications
500 mA laser plus 9 W TEC where fine temperature resolution near room temperature matters; DAC-mode setpoint for the smallest temperature steps; GPIB multi-channel butterfly/DIL test in 3916/3926 mainframes.

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Technical Specifications

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Laser current limit accuracy	±0.7 mA

PARAMETER	VALUE
Laser voltage limit range	0 to 7.5 V
Laser voltage limit resolution	0.1 V
Laser voltage limit accuracy	± 0.2 V
PD type	differential 10 ohm; zero or 5 V reverse bias
PD current range	0 to 5000 uA
PD stability	$\pm 0.01\%$
PD setpoint accuracy	$\pm 0.1\%$ of FS
Modulation input	0 to 10 V, 50 ohm
Transfer function	50 mA perVHigh BW small signal: DC to 1.2 MHz
High BW large signal	DC to 1.0 MHz
Low BW modulation	DC to 30 kHz
Display laser current	0 to 500.00 mA; 0.01 mA; $\pm 0.05\%$ FS at 25 C
Display PD	0 to 5000 uA; 0.1 uA; ± 2 uA at 25 C
PD responsivity	0.00 to 1000.00 uA/mW; 0.01 uA/mW
Optical power range	0.00 to 500.00 mW; 100 uW
Forward voltage	0.000 to 7.5 V; 10 mV (1 mV GPIB); ± 7 mV (± 2 mV GPIB)
TEC temperature range	-5 C to +50 C (software limits)
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Notes

Specs from ILX Lightwave LDC-3916370 Series User Manual. Laser column is shared with 3916372; TEC column is the 3916371 high-resolution side. Thermistor current is not adjustable. Install with mainframe power off.

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.