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Data Sheet
August 13, 2026

ILX LIGHTWAVE

ILX Lightwave LDC-3916374 Laser Module

Key Features - 1 A LD current with integrated 9 W TEC - Laser modes Ilbw, Ihbw, P, Ipd - TEC modes T, R, I with gain 1–127 - Photodiode zero or 5 V reverse bias - Four-wire forward voltage measurement - All-channel simultaneous setup when all modules match Technical Specifications Model: LDC-3916374 (3916374) Manufacturer: ILX Lightwave (Newport / MKS) Instrument Type: Laser diode current source with 9 W TEC module Alias: LDC3916374; 3916374 Compatible mainframes: LDC-3908, LDC-3916, LDC-3926 Laser current range: 0 to 1000 mA Laser setpoint resolution: 20 uA Laser setpoint accuracy: ±0.

MODEL **ILX Lightwave LDC3916374**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **LDC3916374**	LISTING **https://aumictechlabs.com/products/ldc3916374-2/**

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

This unit

The ILX Lightwave LDC-3916374 is a laser diode controller that provides precise current and temperature control for laser diodes. It features a low-noise current source, a stable temperature controller, and comprehensive laser protection features to ensure safe and reliable operation. This controller is suitable for a wide range of applications, including laser diode characterization, laser diode burn-in, and laser-based instrumentation.

Features & description

From manufacturer datasheet

Features

• 1 A LD current with integrated 9 W TEC • Laser modes Ilbw, Ihbw, P, Ipd • TEC modes T, R, I with gain 1–127 • Photodiode zero or 5 V reverse bias • Four-wire forward voltage measurement • All-channel simultaneous setup when all modules match

LDC3916374 Characteristics / Specifications

PARAMETER	VALUE
Model	LDC-3916374 (3916374)
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode current source with 9 W TEC module
Alias	LDC3916374; 3916374
Compatible mainframes	LDC-3908, LDC-3916, LDC-3926
Laser current range	0 to 1000 mA
Laser setpoint resolution	20 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 5 mA / less than 10 mA (1 kV)
Laser current limit range	0 to 1000 mA
Laser current limit resolution	0.4 mA
Laser current limit accuracy	±1.4 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	100 mA perVHigh BW small signal: DC to 1.0 MHz
High BW large signal	DC to 1.0 MHz
Low BW modulation	DC to 30 kHz
Display laser current	0 to 1000.0 mA; resolution 0.01 mA; accuracy ±0.05% FS at 25 C
Display PD	0 to 5000 uA; resolution 0.1 uA; accuracy ±2 uA at 25 C
PD responsivity range	0.00 to 1000.00 uA/mW; resolution 0.01 uA/mW
Optical power range	0.00 to 500.00 mW; resolution 100 uW
Forward voltage range	0.000 to 7.5 V; resolution 10 mV (1 mV GPIB); accuracy ±7 mV (±2 mV GPIB)
TEC temperature range	−99 C to +150 C (software limits)
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; 10 uA / 100 uA; 25 to 450000 ohm typical; Steinhart-Hart 3 constants
TEC display temperature	−99.9 C to +199.9 C; accuracy ±0.5 C
Thermistor 10 uA range	0.01 to 450.00 kohm; accuracy ±0.05 kohm
Thermistor 100 uA range	0.001 to 45.000 kohm; accuracy ±0.005 kohm
TEC current display	−1.500 to +1.500 A; accuracy ±0.04 A; resolution 0.01 A

PARAMETER	VALUE
TEC voltage display	−9.999 to +9.999 V; resolution 100 mV (1 mV GPIB); accuracy ±70 mV (±20 mV GPIB)
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

Specifications

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Laser operational transients	less than 3 mA
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Laser current limit accuracy	±1.4 mA
Laser voltage limit range	0 to 7.5 V
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PD type	differential 10 ohm; zero or 5 V reverse bias
PD current range	0 to 5000 uA
PD stability	±0.01%
PD setpoint accuracy	±0.1% of FS

PARAMETER	VALUE
Modulation input	0 to 10 V, 50 ohm
Transfer function	100 mA perVHigh BW small signal: DC to 1.0 MHz
High BW large signal	DC to 1.0 MHz
Low BW modulation	DC to 30 kHz
Display laser current	0 to 1000.0 mA; resolution 0.01 mA; accuracy ±0.05% FS at 25 C
Display PD	0 to 5000 uA; resolution 0.1 uA; accuracy ±2 uA at 25 C
PD responsivity range	0.00 to 1000.00 uA/mW; resolution 0.01 uA/mW
Optical power range	0.00 to 500.00 mW; resolution 100 uW
Forward voltage range	0.000 to 7.5 V; resolution 10 mV (1 mV GPIB); accuracy ±7 mV (±2 mV GPIB)
TEC temperature range	−99 C to +150 C (software limits)

TEC setpoint −20 to 20 C: 0.1 C resolution; ±0.2 C accuracy (typical 10 kohm, 100 uA)

Specifications

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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)
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TEC display temperature	−99.9 C to +199.9 C; accuracy ±0.5 C
Thermistor 10 uA range	0.01 to 450.00 kohm; accuracy ±0.05 kohm
Thermistor 100 uA range	0.001 to 45.000 kohm; accuracy ±0.005 kohm
TEC current display	−1.500 to +1.500 A; accuracy ±0.04 A; resolution 0.01 A
TEC voltage display	−9.999 to +9.999 V; resolution 100 mV (1 mV GPIB); accuracy ±70 mV (±20 mV GPIB)
Firmware class	v2.03 or greater

PARAMETER	VALUE
Spec condition	1 hour warm-up

Notes
Specs from ILX Lightwave LDC-3916370 Series User Manual, 1 A / 9 W column (3916374). Do not confuse with 3916372 (500 mA) or 3916376 (1.5 A, 4.75 V compliance). 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

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