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Data Sheet

August 14, 2026

ILX LIGHTWAVE

ILX Lightwave CSM-39420: 4-CH Laser Diode Current Source Module

The ILX Lightwave CSM-39420 is a 4-channel laser diode current source module designed for precision control and modulation of laser diodes. It offers independent current control for each channel, ensuring accurate and stable operation of multiple laser diodes simultaneously. This module is ideal for applications requiring multi-channel laser control, such as optical component testing, laser diode characterization, and advanced research setups.



MODEL

**ILX Lightwave
CSM-39420**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

CSM-39420

LISTING

<https://aumictechlabs.com/products/csm-39420-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The ILX Lightwave CSM-39420 is a 4-channel laser diode current source module engineered for precision independent control of multiple laser diodes. Each channel delivers isolated current output capable of driving individual laser diodes with stable, accurate operation. This module installs into the LDC-3900 Modular Laser Diode Controller mainframe and supports external modulation and photodiode feedback control for advanced optical systems. Technical Specifications Module Type: 4-Channel Laser Diode Current Source Channels: 4 independent current source channels with isolated outputs Modulation Input: 400 mV/A signal with 10 kΩ input impedance Photodiode Bias: Adjustable 0–5 V reverse bias via back panel control or BNC

connector Photodiode Input: Dedicated pins 6 and 7 for photodiode signal acquisition Laser Output Configuration: Both output terminals isolated from chassis ground; either terminal may be user-grounded Key Features Independent current control across all four channels ensures simultaneous multi-diode operation without crosstalk Photodiode feedback mode enables closed-loop power stabilization Modulation input accepts standard external control signals Configurable photodiode reverse bias accommodates diverse photodetector requirements Rear-panel bay installation integrates into existing LDC-3900 systems Typical Applications Optical component testing and validation Laser diode characterization and performance mapping Multi-channel laser research and development setups MOPA (Master Oscillator Power Amplifier) laser systems when paired with complementary modules Compatibility & Integration Designed exclusively for the ILX Lightwave LDC-3900 Modular Laser Diode Controller mainframe. Operates alongside other CSM and TCM modules - such as the CSM-39020 and TCM-39032 - to build application-specific configurations. This product is discontinued and no longer actively manufactured or supported.

CSM39420 Characteristics / Specifications

PARAMETER	VALUE
Drive Current Range	0 to 200 mA
Setpoint Resolution	10 uA
Setpoint Accuracy	plus or minus 0.05% of FS
Compliance Voltage	6 V
Temperature Coefficient	100 ppm/C
Short Term Stability 1 hour	25 ppm
Long Term Stability 24 hours	50 ppm
Noise Unfiltered	less than 2.5 uA rms
Noise With 320 Filter	less than 1 uA rms
Operational Transients	less than 1 mA
Drive Current Limit Range	0 to 200 mA
Drive Current Limit Accuracy	plus or minus 2 mA
Photodiode Current Range	20 to 2000 uA
Photodiode Output Stability	plus or minus 2 uA
Photodiode Setpoint Accuracy	plus or minus 2 uA
Temperature Control Range	minus 99.9 C to 99.9 C
Thermistor Setpoint Resolution Minus 20 To 20 C	0.1 C
Thermistor Setpoint Accuracy Minus 20 To 20 C	plus or minus 0.2 C
Short Term Temperature Stability 1 hour	less than plus or minus 0.05 C
Long Term Temperature Stability 24 hours	less than plus or minus 0.1 C
TEC Compliance Voltage	greater than 4 V DC
TEC Short Circuit Current	2 A
TEC Maximum Output Power	8 W
TEC Current Noise	less than 1 mA rms

PARAMETER	VALUE
Laser Connector	9-pin D-sub
TEC Connector	15-pin D-sub
Maximum output power	8 W

CSM39420 Specifications

PARAMETER	VALUE
Isolated from other modules and earth ground	Photodiode feedback measurement path
Smart integrator hybrid PI TEC control	LDC-3900 Save/Recall compatible modularity
Technical Specifications	Drive Current Range: 0 to 200 mA

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	
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Drive Current Limit Accuracy	plus or minus 2 mA
Photodiode Current Range	20 to 2000 uA
Photodiode Output Stability	plus or minus 2 uA
Photodiode Setpoint Accuracy	plus or minus 2 uA
Temperature Control Range	minus 99.9 C to 99.9 C
Thermistor Setpoint Resolution Minus 20 To 20 C: 0.1 C	
Thermistor Setpoint Accuracy Minus 20 To 20 C: plus or minus 0.2 C	
Specifications	
PARAMETER	VALUE
Short Term Temperature Stability 1 hour	less than plus or minus 0.05 C
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TEC Compliance Voltage	greater than 4 V DC
TEC Short Circuit Current	2 A
TEC Maximum Output Power	8 W
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PARAMETER	VALUE
Laser Connector	9-pin D-sub
TEC Connector	15-pin D-sub

Notes
Specs from ILX Lightwave LDC-3900 datasheet Combination Modules column for 39420. Slug follows user CSM-39420 request; OEM ordering name is LCM-39420. File ilx-lcm-39420 may also exist separately.

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.