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Data Sheet

August 13, 2026

ILX LIGHTWAVE

ILX Lightwave CSM-39400M: 4 A Laser Diode Current Source Module

ILX Lightwave Power Supply Modules. Resolution: 100 μ A, Accuracy: $\pm 0.1\%$ of Full Scale, Voltage: 5 V.



MODEL	CALIBRATION
ILX Lightwave CSM-39400M	Available on request
CONDITION	STATUS
Used	In stock
RFQ / SKU	LISTING
CSM-39400M	https://aumictechlabs.com/products/csm-39400m-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave CSM-39400M is a precision current source module engineered for integration into the LDC-3900 Modular Laser Diode Controller mainframe. It delivers stable, accurate current output essential for reliable laser diode operation in MOPA and tunable laser applications. The module operates in constant current and constant power modes, incorporates analog modulation capability, and features integrated laser diode protection circuits. Fully isolated from other modules, it eliminates ground loop issues while providing remote control via GPIB/IEEE-488.2 interface. Technical Specifications Output Current Range: 0 to 4 A (0 to 4000 mA) Setpoint Resolution: 100 μ A Setpoint Accuracy: $\pm 0.1\%$ of Full Scale Drive Current Limit Settings: 0–4000 mA with 16 mA resolution and ± 40 mA accuracy Compliance Voltage: 5 V Stability & Temperature Performance Temperature Coefficient: < 100 ppm/ $^{\circ}$ C Short-Term Stability (1 hour): < 20 ppm Long-Term Stability (24 hours): < 40 ppm Output Stability: 0.02% Photodiode Feedback Type:

Transimpedance Reverse Bias: 0–5 V, adjustable via back panel Current Range: 0–20 mA Input Isolation: Electrically isolated from ground and other modules Analog Modulation Input Impedance: 10 k Ω Signal: 400 mV/A modulation Key Features Dual operational modes: Constant Current (CC) and Constant Power (CP) Integrated laser diode protection circuits Analog modulation input for external signal control GPIB/IEEE-488.2 remote programming capability Rear-loading module bay with locking screws; slides into LDC-3900 mainframe Electrical isolation prevents inter-module ground loops Typical Applications Master Oscillator Power Amplifier (MOPA) systems Tunable laser control and stabilization High-precision laser diode bias and drive circuits Compatibility & Integration Designed exclusively for the ILX Lightwave LDC-3900 Modular Laser Diode Controller. Operates across 10 °C to 40 °C; designed for indoor use at altitudes up to 3000 m (9843 ft). Calibration recommended every 12 months.

CSM39400M Characteristics / Specifications

PARAMETER	VALUE
Model	CSM-39400M
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	Laser diode current source module
Host Mainframe	LDC-3900 (4 rear bays)
Alias	CSM 39400M; CSM 39400; 39400M
Output Current Range	0 to 4000 mA
Setpoint Resolution	100 uA
Setpoint Accuracy	plus/minus 0.1 percent of full scale
Compliance Voltage	5 V
Output Power	20 W (4 A at 5 V)
Temperature Coefficient	less than 100 ppm perCShort Term Stability 1 h: less than 20 ppm (half scale, 25 C)
Long Term Stability 24 h	less than 40 ppm (half scale, 25 C)
Noise High Bandwidth	less than 20 uA rms
Noise Low Bandwidth	less than 20 uA rms
Noise With LNF 3	less than 5 uA rms
Operational Transients	less than 5 mA
Line Spike Transients	less than 10 mA / less than 20 mA
Current Limit Range	0 to 4000 mA
Current Limit Resolution	16 mA
Current Limit Accuracy	plus/minus 40 mA
Photodiode Type	transimpedance
Photodiode Reverse Bias	0 to 5 V adjustable
Photodiode Current Range	0 to 20 mA (0 to 20000 uA)
Photodiode Setpoint Accuracy	plus/minus 0.1 percent of FS
Photodiode Output Stability	plus/minus 0.02 percent

PARAMETER	VALUE
Photodiode Display Resolution	1 uA
Photodiode Display Accuracy	plus/minus 0.05 percent of FS
PD Responsivity Range	0.00 to 600.00 uA per mW
PD Responsivity Resolution	0.01 uA per mW
Optical Power Range	0.00 to 5000.0 mW
Optical Power Resolution	0.1 mW
Modulation Input	0 to 10 V, 10 k ohm
Modulation Transfer Function	400 mA perVModulation BW High: DC to 50 kHz (3 dB)
Modulation BW Low	DC to 2 kHz
Modulation BW Low CW Filter	DC to 30 Hz (LNF 320)
Display Current Resolution	0.1 mA
Display Current Accuracy	plus/minus 0.1 percent of FS at 25 C
Forward Voltage Range	0.000 to 5.000 V
Forward Voltage Resolution	1 mV
Forward Voltage Accuracy	plus/minus 5 mV (calibration load at rear connector)
Current Source Connector	9 pinDsub
Photodiode Connector	coaxial BNC
Modulation Connector	coaxial BNC (instrument amplifier input)
Isolation	isolated from other modules and earth ground
Slot Occupancy	two LDC 3900 bays
Operating Temperature	0 C to 40 C
Storage Temperature	-40 C to 70 C
Humidity	less than 80 percent RH noncondensing
Maximum Altitude	3000 m
Warm up	1 hour for specified valuesMVariant: fan drive and LED on indicator for SDL 5760 MOPA amplifier section
Bandwidth	less than 20 uA rms

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 80 percent RH noncondensing
Maximum Altitude	3000 m
Warm up	1 hour for specified valuesMVariant: fan drive and LED on indicator for SDL 5760 MOPA amplifier section Notes Specs from ILX CSM-39400 User Guide (70011503, August 2011) after 1 hour warm-up. CSM-39400M shares the 39400 source table; confirm MOPA fan/LED wiring on theMfaceplate. Host LDC-3900 power, GPIB, and SAVE/RECALL behavior are in the mainframe manual. Do not mix with LDC-3736 benchtop 4 A / 18 V controller.

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 CSM-39400 user guide. The 4 A card occupies two LDC-3900 slots.

Applications

High-current CW laser diode drive in an LDC-3900 mainframe

Constant-optical-power control via monitor photodiode

Analog-modulated LIV and production test through the LDC-3900 GPIB bus

SDL-5760 MOPA amplifier section drive (39400M)

Key Features

Closed-case calibration stored on the module (survives mainframe reconfiguration)

Photodiode transimpedance feedback with adjustable 0 to 5 V reverse bias

Analog modulation input 0 to 10 V at 400 mA perVOptional LNF-320 low-noise CW filter path to less than 5 uA rms

Floating output isolated from other LDC-3900 bays

Do not confuse with CSM-39100 (1 A) or two-bay CSM-39800 (8 A)

Technical Specifications

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Notes

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