For current pricing, please see our website.

PRO8 High-Density Laser Controllers (Page 1 of 2)

Introduction

The MLC8000 Series laser diode controllers have been field proven in demanding applications for many years. They are designed to control up to eight lasers from a single module. When fully populated, a PRO8000 chassis can simultaneously power up to 64 laser diodes.

Designed to support high-density laser diode test and burn-in, this series provides eight different maximum drive current ranges. The PRO8000 chassis can support up to a total of 16 A of laser diode drive current (i.e., the sum of the output drive currents from all the installed cards) and therefore can easily support the demands of driving 64 lasers at 200 mA each.

200 mA

100 mA

50 mA

25 mA

Features

- Drives Eight Lasers from a Single Module and 64 Lasers from a Single MLC Chassis
- 5 mA, 10 mA, 25 mA, 50 mA, 100 mA, and 200 mA Ranges
- Ultra-Stable Current Control with 12-Bit Resolution
- Extensive Laser Diode Protection Features
- Easily Configured Self-Identifying Modules

Intuitive User-Friendly Controls

Each module provides eight independent outputs, all operating within the same set parameters (current range, current limit, and constant current or constant power operating mode). The laser drive current for each output, however, can be individually set. The various modules of the MLC8000 series can be used interchangeably, along with other PRO8 modules, in any of the three chassis to implement a large variety of systems.

After installing a new module into a PRO8 chassis, the front-panel control screen is used to configure the plug in. The softkeys or the rotary knob can be used to scroll through the slot locations to access the settings for the individual modules. The operational parameters are easily accessed using mnemonic symbols and simple prompts. All settings are retained in memory and automatically recalled upon powering on the mainframe.

The polarity of the laser diodes, either anode or cathode ground, is factory fixed. The eight outputs are switched on together, but the current control or power control is independent for each channel.

Laser Diode Protection

The MLC8000 Series of modules incorporate proven laser protection features to safeguard sensitive laser diodes. These features include a hardware current limit, a soft-start circuit, and an interrupt sensing circuit that shuts down the laser upon detecting a break in the electrical connection to the laser diode. Additionally, extensive precautions have been taken to protect the laser diodes during AC power fluctuation or outages.

The current limit is accessed only via a front-panel trim-pot to prevent the risk of accidental adjustment. All eight output channel current limits are identical for an individual card. After activating the laser power, a soft-start function slowly increases the laser current, preventing overshoots.

Even in the case of an AC power fluctuation, the laser current remains transient free. Voltage peaks on the AC line are effectively suppressed by electronic filters, shielding of the transformer, and careful grounding of the modules and chassis.

The MLC8000 Series meets the international requirements regarding laser protection (e.g., CDRH US21 CFR 1040.10). Furthermore, the modules' operation is protected by the PRO8 systems' key-operated power switch, its interlock, and a delay of the output current, in addition to many other features.

System Applications

The MLC8000 Series is an ideal choice for burn-in applications due to its high-density (64 lasers per PRO8000 chassis) drive capability coupled with the user-friendly advanced control features.

For technical support and advice about specific system configurations, please contact our Technical Support Team.

Easy User Interface

Each plug-in is automatically identified upon plugging in the module. A brightly lit 4 x 20 characters fluorescent display allows the user to select any of the installed modules. When selected, the control parameters can be changed quickly.

Laser Diode Grounding

The MLC8000 controllers are divided into two groups: one for grounded laser cathodes and one for grounded anodes. Each supports both PD polarities. Under all conditions, the laser diode is driven with respect to ground, ensuring maximum protection for the laser diode.

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Burn-In Station

The MLC8000 Series modules are designed to simultaneously supply drive current to eight laser diodes. Therefore, up to 64 laser diodes can be operated by a single PRO8000 chassis.

An automated test station for hundreds of laser diodes can be set up by connecting many PRO8000 systems via the IEEE-488 interface. High-level software macros speed the process of developing automated burn-in and final test routines.

MLC8000 Series-High Density Laser Diode Controllers Specifications

(All data valid at 23 ± 5 °C and 45 ±15% relative humidity)

ITEM # (8 CHANNELS PER MODULE)	MLC8025-8 SERIES	MLC8050-8 SERIES	MLC8100-8 SERIES	MLC8200-8 SERIES
Current Control				
Current Range (2 Switchable Ranges)	0 - 5 mA / 0 - 25 mA	0 - 10 mA / 0 - 50 mA	0 - 25 mA / 0 - 100 mA	0 - 50 mA / 0 - 200 mA
Laser Diode Polarity	Fixed, Either Anode Ground (AG) or Cathode Ground (CG)			
Compliance Voltage	>4 V			
Setting Accuracy	±15 µA / ±75 µA	±30 µA / ±150 µA	±75 µA / ±300 µA	±150 µA / ±600 µA
Resolution	1.2 µA / 6 µA	2.5 µA / 12 µA	6 µA / 25 µA	12 µA / 50 µA
Noise Without Ripple (10 Hz to 10 MHz), Typical	<0.5 µA / <0.5 µA		<0.5 µA / <1 µA	<0.5 µA / <1.5 µA
Ripple (50/60 Hz, rms), Typical	<0.5 µA / <0.5 µA		<0.5 µA / <1 µA	
Transients (Other, Typical)	<25 µA	<50 µA	<100 µA	<200 µA
Drift (60 min, 0 to 10 Hz), Typical	<0.3 µA / <1 µA	<0.5 µA / <1.5 µA	<1 µA / <3 µA	<1.5 µA / <5 µA
Temperature Coefficient	<50 ppm / °C			
Power Control				
Control Range of Photocurrent	5 µA to 2 mA			
Accuracy	±6 µA			
Resolution Photocurrent	0.5 µA			
Reverse Bias Voltage	0 V / 5 V (Wireable)			
Current Limit				
Setting Range (20-Turn Pot)	0 to 5 mA / 0 to 25 mA	0 to 10 mA / 0 to 50 mA	0 to 25 mA / 0 to 100 mA	0 to 50 mA / 0 to 200 mA
Resolution	1.2 µA / 6 µA	2.5 µA / 12 µA	6 µA / 25 µA	12 µA / 50 µA
Accuracy	±50 µA / ±125 µA	±100 µA / ±250 µA	±0.25 mA / ±0.5 mA	±0.5 mA / ±1 mA
General Data				
Connector	44-Pin HD D-Sub (F) (For Laser Diode, Photodiode and General Interlocks)			
Card Width	1 Slot			
Weight	<500 g (<1.1 lbs)			
Operating Temperature	0 to 40 °C			
Storage Temperature	-40 to 70 °C			

PRO8 High-Density Laser Controllers

ITEM #	$	£	€	RMB	DESCRIPTION
MLC8025-8AG	$ 1,198.80	£ 863.14	€ 1.042,96	¥ 9,554.44	PRO8 Multi-Channel LD Controller, ± 5 mA and ±25 mA, AG
MLC8025-8CG	$ 1,198.80	£ 863.14	€ 1.042,96	¥ 9,554.44	PRO8 Multi-Channel LD Controller, ±5 mA and ±25 mA, CG
MLC8050-8AG	$ 1,198.80	£ 863.14	€ 1.042,96	¥ 9,554.44	PRO8 Multi-Channel LD Controller, ±10 mA and ±50 mA, AG
MLC8050-8CG	$ 1,198.80	£ 863.14	€ 1.042,96	¥ 9,554.44	PRO8 Multi-Channel LD Controller, ±10 mA and ±50 mA, CG
MLC8100-8AG	$ 1,198.80	£ 863.14	€ 1.042,96	¥ 9,554.44	PRO8 Multi-Channel LD Controller, ±25 mA and ±100 mA, AG
MLC8100-8CG	$ 1,198.80	£ 863.14	€ 1.042,96	¥ 9,554.44	PRO8 Multi-Channel LD Controller, ±25 mA and ±100 mA, CG
MLC8200-8AG	$ 1,233.00	£ 887.76	€ 1.072,71	¥ 9,827.01	PRO8 Multi-Channel LD Controller, ±50 mA and ±200 mA, AG
MLC8200-8CG	$ 1,233.00	£ 887.76	€ 1.072,71	¥ 9,827.01	PRO8 Multi-Channel LD Controller, ±50 mA and ±200 mA, CG