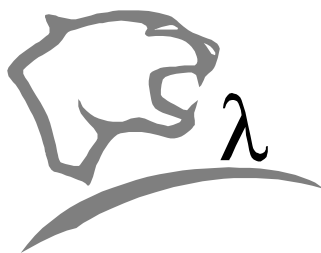


*Especially designed for  
external cavity diode lasers*

**mlc** systems

Modular  
Laser Driver Electronics



**Quality and  
Flexibility**

# Available Plug-In Modules for MLD1000

## Laser Controller



The Sacher Lasertechnik current source concept offers superior security features. There are no more capacitors needed which easily destroy diode lasers and limits the injection current modulation frequency. Will you risk your expensive Diode Laser by non state of the art technologies? (<http://data.sacher-laser.com/techdocs/noise01.pdf>)

**Adjustment:** Laser Current: 0 ...  $\pm$  200 mA  
TEC Current: 0 ...  $\pm$  2 A  
Temperature: 10 ... 30°C

**Connectors:** Laser Current: 9 Pin Sub-D Connector  
Temperature: 9 Pin Sub-D Connector

**Input:** Laser Current Modulation: BNC, 1 V = 40 mA

**Connectors:** Laser Monitor Current: BNC, 0 ...  $\pm$  5 V

## Piezo Amplifier & Current Coupling



Sacher Lasertechnik developed a pure analog design for its piezo amplifier plug-in. This concept is superior to the conventional 'switched mode design' piezo amplifiers due to its extremely low noise/signal ratio of 1E-5. Do you want to get your experiment influenced by non-state of the art technologies?

c/f [http://www.sacher-laser.com/mld\\_plug\\_pa.php](http://www.sacher-laser.com/mld_plug_pa.php)  
and <http://data.sacher-laser.com/techdocs/noise02.pdf>

**Adjustment:** Piezo Voltage: 0 ... 100 V

**Connectors:** Piezo Voltage: -20 ... 120 V

**Input:** Piezo Control: BNC, 0 ... 10 V

## Ramp Generator



The ramp generator offers an easy for pure frequency modulation without applying any additional equipment. There is a computer controlled version available.

c/f [http://www.sacher-laser.com/mld\\_plug\\_RG.php](http://www.sacher-laser.com/mld_plug_RG.php)

c/f [http://www.sacher-laser.com/mld\\_plug\\_CI.php](http://www.sacher-laser.com/mld_plug_CI.php)

**Adjustment:** Modulation Frequency: 1 Hz, 100 Hz, 1kHz  
Modulation Amplitude: 0 ...  $\pm$  60 V

**Output:** Sync: BNC, TTL-Signal

## Active Stabilization



The active stabilization plug-in for our modular laser driver system MLD 1000 provides a locking of our laser systems on a atomic reference. In order to use the active stabilization, a part of the laser beam has to be sent thru an atomic reference cell. The intensity of the transferred beam has to be detected by a photodiode which is connected to stabilization. By this way, the emission wavelength of the laser system will be stabilized to the atomic reference.

c/f [http://www.sacher-laser.com/mld\\_plug\\_AS.php](http://www.sacher-laser.com/mld_plug_AS.php)

<http://data.sacher-laser.com/techdocs/lockbox.pdf>

MacAdam et al., Am. J. Phys., Vol. 60, No. 12, p. 1098, 1992

# Modular Laser Driver system

## MLD 1000



## Features

### Modular Design

The MLD 1000 can be configured exactly according to the requirements of the experiment. Various plug-in modules give an unknown flexibility.

### Reasonably Priced

There is no need for any additional expensive features. Should your experiment require further driver functions, you need only to insert an additional plug-in module into our MLD 1000 system.

### In-House Manufacturing

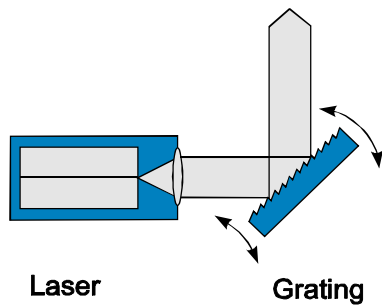
Plug-in modules for new features can be developed by customer request at reasonable prices. Contact us with your requirements.

## Main Frame

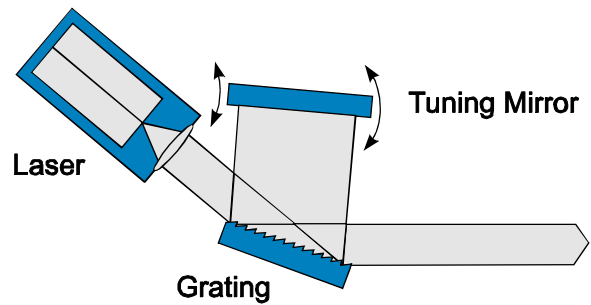
Technical Data: <http://www.sacher-laser.com/mld.php>

Power Supply:	60W, 230V/115V, 50 ... 60Hz
Display for Laser Parameters:	Laser Current, Monitor Current, Limit Current
Display for TEC Parameters:	Current Temp., Set Temp., TEC Current
Display for Piezo Voltage	
Standard Version:	4 Slots for Plug-in Modules
Extended Version:	6 Slots for Plug-in Modules

## Littrow - Configuration



## Littman/Metcalf - Configuration



## Application Example

### [External Cavity Diode Laser](#)

The principle applications of our modular laser driver system MLD 1000 are diode lasers with an external cavity. Typical laser configurations are Littrow- and Littman/Metcalf-cavity. We offer special plug-in modules for most measurement applications which are needed for state of the art measurements in spectroscopy such as trace gas analysis as well as for metrology. Please check our web-page for details.

## About Sacher Lasertechnik

### [Company Profile](#)

Sacher Lasertechnik is leading manufacturer of tunable external cavity diode lasers (ECDLs) with more than 10 years of experience. The product range includes anti-reflection coated diode lasers, ECDLs in Littrow and in Littman/Metcalf configuration as well as driver electronics for the LD and sophisticated measuring electronics. Please contact us with your measurement requirements. We would be proud to support you with our competence.

### [Please contact us or our local representative](#)

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