

Laser Source Module

LSM-010





Power over fiber (PoF) is the delivery of power via laser light through a fiber optic cable, where the delivered light is converted to electricity by a PV cell on the receiving end, also known as photovoltaic power converter (PPC). Targeting the utility, electric vehicle, renewable, rail traction, and other industries, MHGP's innovative PoF solution provides three major benefits: **(1) noise immunity, (2) voltage isolation, and (3) spark free operation.**

MHGP's LSM series laser systems provide customers with a simple, turn-key solution to get started with PoF. The systems include a laser source module (LSM) with a fiber patch cord to be connected to MHGP's photovoltaic power converters (PPC). The laser source generates the laser power which is transmitted through the fiber patch cord to the PPC. MHGP's patent pending PPC converts the laser power back to electricity.

MHGP's LSM is very easy to operate. By turning a knob on the front panel, thus modifying the internal pot setting, the user adjusts the output laser power to the desired application, or testing requirement. The LSM also incorporates a robust laser driver circuit, which protects the laser source from inappropriate operating behaviors.

A 2 meter fiber patch cord is included, providing the LSM system great portability. Replacing the included 2 meter patch cord with a longer one will greatly extend the testing and operating range of the system.

For more information, please contact MHGP customer service at: info@mhgopower.com.



Key Features:

- 976nm laser source
- Up to 10W laser power out
- Adjustable power levels
- FC standard connector
- 2 meter, 105um, 0.22 NA fiber patch cord included
- Standalone system; easy operation

Applications:

- High voltage current measurement for utility
- Powering remote electronics and sensors
- Noise free and isolated power source for high power IGBTs/MOSFETs driver circuitry
- Factories requiring spark-free delivery of electrical power
- Test equipment requiring 100% EMI immunity

Laser Power Settings

The pot settings to generate specific laser power output levels are illustrated in the table below. Actual pot settings may vary per LSM system, and exact settings will be included with the LSM system. The maximum laser power output at pot setting is 10W. Driving the laser power over 10W will cause the laser source system to shut down, and will require turning the pot setting to 0, and then restarting the system.

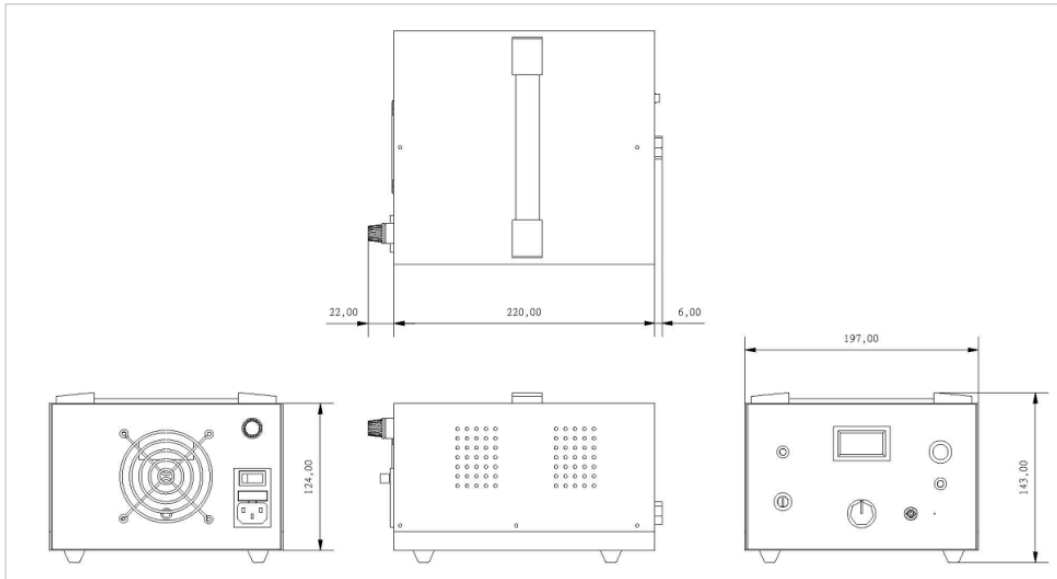
Laser Output (mW)	Pot Setting
1	0.30
2	0.50
4	0.96
8	1.93
10	2.48

Fiber Patch Cord

The 2 meter fiber patch cord included in MHGP’s LSM system is 105um core and 0.22 NA. Other fiber patch cords may be used. If using an alternative patch cord, our recommendations are: (1) core size $\geq 105\mu\text{m}$, (2) NA of 0.22, and length of 5m or greater, for best results. Since different patch cords and fiber lengths, will have different insertion losses and fiber attenuation, it is recommended that the laser power output settings be recalibrated, when using a fiber other than the factory supplied path cord.

Mechanical Dimensions

Laser Source Module (LSM)



Net Weight: 2.2kg

Fiber Patch Cord

