"SPM-214" Series LASER DIODE OEM SYSTEM INSTRUCTIONS

GENERAL OPERATION

Installation: Do not mount the system in a thermal insulating material, such as foam plastic. For best heat dissipation use a metal mounting fixture. If the system is to be run at a the maximum 9VDC input (actual maximum will depend on the particular system you have purchased) the use of a heatsink for the laser head is recommended for operating temperatures above 25°C.

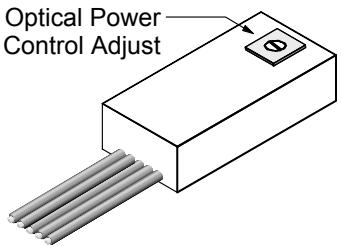
Heat generation can also be a problem on systems that have an output power of 5mW or greater or, that have 70mA or more of current drawn by the laser. *If either of these conditions exist for your system then a heat sink for the laser head is recommended to prevent damage to the laser diode*.

An input voltage of 4 to 5VDC will allow the highest ambient operating temperature.

For operation, connect the red wire to the positive voltage and connect the black wire to the negative or ground of your power source.

Operation: The system operates in constant optical output power mode only. This means that if there is a change in temperature, or any other dynamic that changes the output of the laser, the power supply will automatically adjust current output to compensate.

There is a potentiometer on the power supply that allows the user to adjust the output power from 0 up to the maximum power rating of the system.



The system is focus adjustable. A spanner wrench is provided for making this adjustment. Care should be taken when focusing or cleaning the optics to prevent damage. Cleaning methods should follow those customary for glass optics.

<u>Caution</u>: Do not adjust the focus with the system at full power or operate the laser with the lens removed.

Reflections onto the internal photocell from the lens are a vital part of the feedback loop. This photocell is very sensitive to these reflections. Any adjustment of the lens outside the normal focusing range (beam divergence to beam convergence) will change the amount of reflections, thereby changing feedback characteristics. Therefore, *adjusting the focus with the system at full power will destroy the laser diode. Also, reducing the amount of reflections (i.e. removing the lens) will result in destruction of the laser diode due to excessive drive current.*

<u>Warranty Notes:</u>

Sealed Locking Ring: The laser diode is held in place with a locking ring. This locking ring is factory sealed. It is necessary to remove the lens in order to gain access to this ring. So, accidental breaking of this seal is unlikely.
Breaking the seal on this locking ring voids the warranty.

Connecting Wires: The laser head and power supply are connected by the maximum recommended length of cable.
Cutting these wires voids the warranty.

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