

## Instruction of Laser Modulation

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### **Analog Modulation**

This section of the instructions is applied only to the laser modulator. The output of the modulator leads to two wires; the red wire is “+” and the black wire is “-”. With the wires of the analog signal, consisting input frequency is 0-20KHz, amplitude (0-5VDC)

1. Connect the laser head to the power supply unit with matching serial numbers. (Do not make connection if serial numbers do not match, otherwise the laser head may get damaged, and can not operate normally.)
2. Without the analog signal input, no laser light gives out.
3. Connect the positive of the analog with the red wire, negative with the black wire; input analog signal, the laser enters analog operating condition.
4. When the input analog signal is 0VDC, the output power of the laser is 0mW minimum.
5. When the input analog signal is 5VDC, the output power is at its maximum.
6. When the input analog signals are between 0-5VDC, for example, 1V, 2V, 3V, 4V etc. the output power will change accordingly
7. **Before turning off the laser, please ensure that the analog signal is off.**

### **TTL Modulation**

This section of the instructions is applied only to the TTL modulation. The output of the modulator leads to two wires; the red wire is “+” and the black wire is “-”. With the wires of the TTL signal, consisting input frequency is 0-20KHz.

1. Connect the laser head to the power supply unit with matching serial numbers. (Do not make connection if serial numbers do not match, otherwise the laser head may get damaged, and can not operate normally.)
2. Without the TTL signal input, the laser operates normally. When the black and red wires connect, the laser will not operate.
3. Connect the positive of the TTL signal with the red wire, TTL negative with black wire; input TTL signal, the laser enters TTL operating condition.
4. **Before turning off the laser, please ensure that the TTL signal is off.**