ADR-1500AM OPERATION MANUAL

1. Introduction

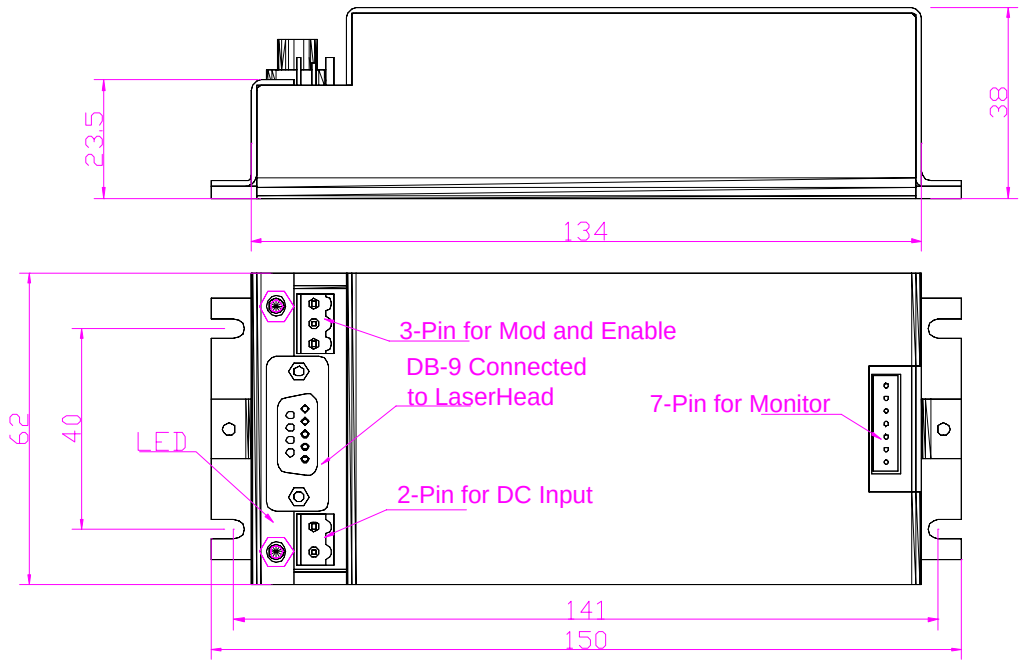
ADR-1500AM is designed for DPSS laser head and Laser Diode for OEM customer with analog monitor and remote control functions.

2. Specifications

Items	Parameters
LD driver current	50~1200mA
LD drive current limit	1200mA
Max. LD drive voltage	3.0V
Dimension	150(L)mm×62 (W)mm×38 (H)mm
Operating temperature	0°C~40°C
Power supply	+12V，3A

3. Configuration of the ADR-1500AM

ADR-1500AM can be used to drive DPSS laser or semiconductor laser module. All the parameters of the driver had been pre-set to match the individual laser head by factory, usually; the parameters are different one by one. It is safe for the customer to use the driver without any changes and make sure the laser head and driver match with each other (have the same SN number).



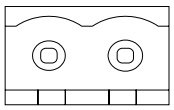
3-1. LED for power on: Show the driver's working status. LED will on when the power supply was correctly connected.

3-2. DB-9 connector: Output of the driver, connected to the laser head

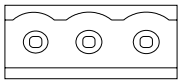
3-3. 2-pin connector: +12V DC power supply input.

3-4. 3-pin connector: Modulation input and Laser Enable

4. Pins configuration of 2-pin Connector:

PIN 1	V+ (+12V)	
PIN 2	GND	

5. Pin configuration of 3-pin Connector:

PIN 1	Mod+	
PIN 2	GND	
PIN3	Enable +	

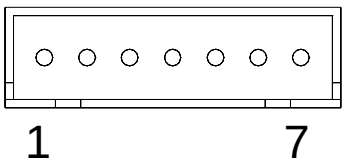
Pin descriptions:

PIN3	Shutdown the Laser diode output current	Connect a zero volt signal to Pin3 (Enalbe+), to **ENABLE** the output current to the laser diode. Floating or connect to a +3V or greater voltage to Pin3 to **DISABLE** the output current to the laser diode.
Pin 1	Set point Voltage Input or Modulation Input	Connect a Voltage source between Pin1(Mod+) and Pin2 (GND) to control the laser output power. Range is **0-2.5V** full scale. Input impedance is 10k

WARNING: don't exceed the Pin1# voltage limit 2.5V otherwise laser will be permanently damaged.

6. Pins configuration of 7-Pins Connector:

PIN 1	Imon	Monitor the operating current of LD
PIN 2	I lim	Monitor the operating limit current of LD
PIN 3	Pmon	Monitor the Output power of laser
PIN 4	Tcurrent	Monitor the temperature state of laser
PIN5	Tset	Monitor the temperature setting of laser
PIN6	I TEC	Monitor the operating current of TE-Cooler
PIN7	GND	GND for Monitor



A. Imon: Test the voltage (VImon) of the pin Imon, the operating current of LD as Iop, Iop=0.9xVImon

B. Ilim: Test the voltage (VIlim) of the pin Ilim, the operating current of LD as Ilim, Ilim=0.9xVIlim

C. Tset: Setting the operating temperature of laser

Vset=10x Rth / (10+Rth)

Table of resistance vs temperature and Vset of NTC thermistor

Resistance of NTC thermistor(kOhm)	Temperature(Degree)	Vset (V)
14.75	15	5.96
14.17	16	5.86
13.62	17	5.77
13.09	18	5.67
12.53	19	5.56
12.11	20	5.48
11.65	21	5.38
11.21	22	5.29
10.79	23	5.19

10.39	24	5.10
10	25	5.00
9.63	26	4.91
9.28	27	4.81
8.94	28	4.72
8.61	29	4.63
8.3	30	4.54

D. ITEC: Test the voltage (VITEC) of the pin ITEC, the operating current of TE-COOLER as ITEC,

ITEC=3 x VTEC

7. Cautions

All the parameters of the driver had been pre-set to match the laser head, **do not use the ADR-1500AM with any laser head which are not matched with the driver.**

8. Operation

（1） Inspect the Input Voltage of laser driver and make sure it meet requirement.

（2） Connect the ADR-1500AM with the laser head. It is recommended to connect the laser head with the driver all the time to avoid the ESD (Electro-Static Discharge).

（3） Please pay attention to the heat dispersion of the driver, it is recommended to install the driver on a big heat sink.

If you have any questions or suggestions, please don’t hesitate to contact us.