

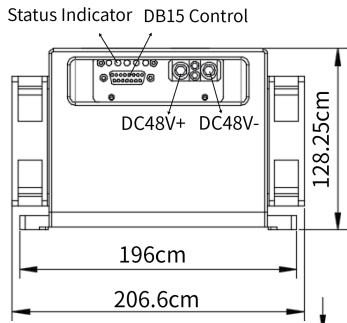
**F6 RF CO<sub>2</sub> Lasers Laser Parameters**

Model	F6	F6i
<b>Parameters</b>		
Wavelength	10.6±0.1 μm	9.3±0.1 μm
Average Power	60W	60W
Output Power Range	1~60W	1~60W
Beam Quality (M <sup>2</sup> )	<1.2	
Modulation Frequency	1KHz ~100KHz	
Power Stability	≤±7%	
Laser Spot Size (1/ e2)	2.0±0.3mm	
Beam Divergence (Full)	<7.0mrad	
Beam Ellipticity	<1.2	
Polarization	Linearly polarized, Vertical to the base	

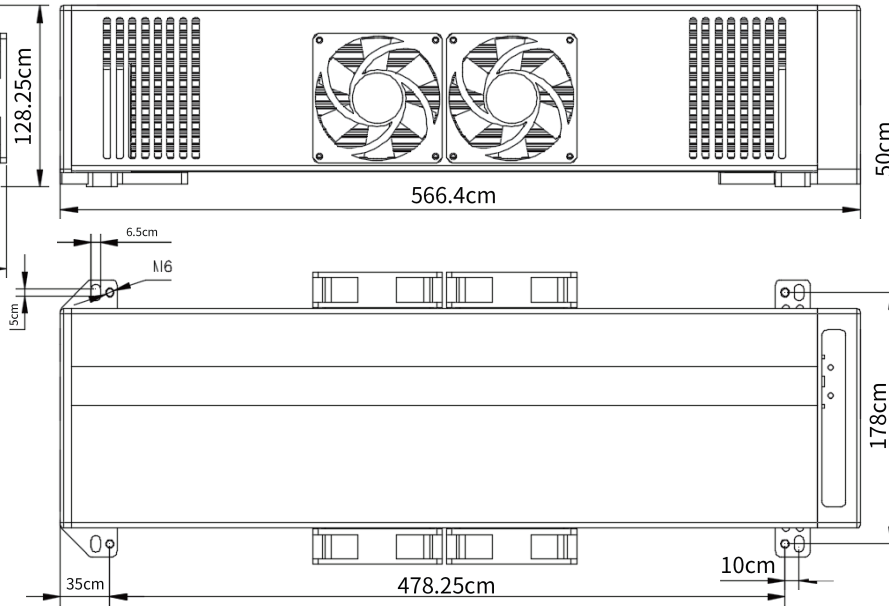
<b>Input&amp;Cooling Requirements</b>	
Working Voltage	48VDC
Max. Working Current	30A
<b>Working Requirement</b>	
Cabinet Temperature	10~40°C (50~104°F)
Cabinet Humidity	≤95%

## F6 mechanical specifications

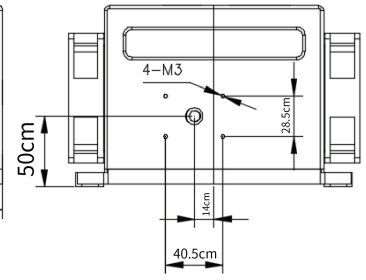
F6 back view



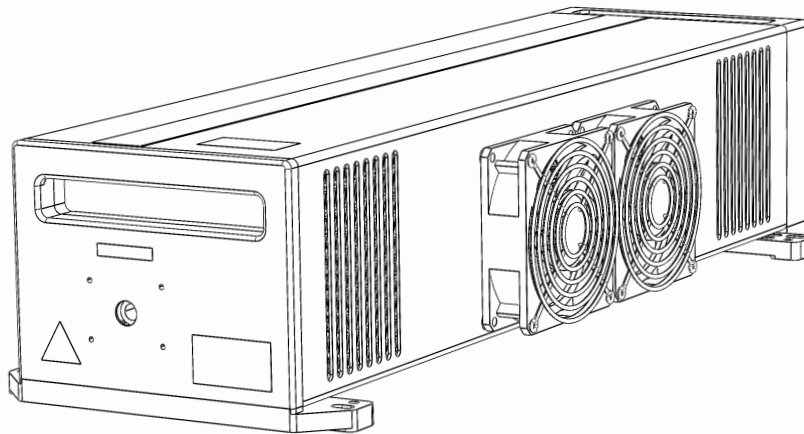
F6 side view



F6 front view

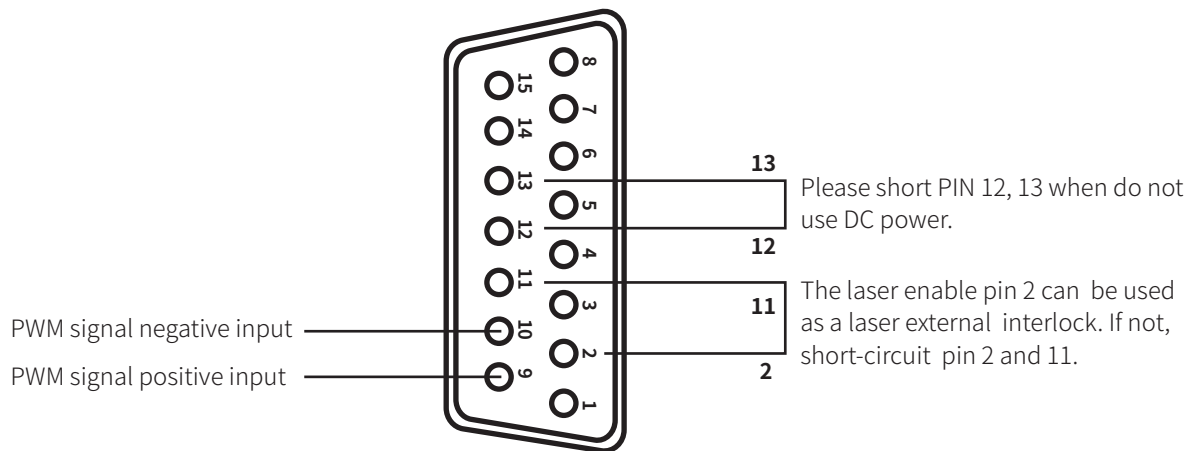


F6 top view



DRAWN BY	MR LIN	F6 Laser Head	WEIGHT	16.45kg	DATE	Apr. 21 <sup>st</sup> 2023
CHECKED BY	MR ZHANG	<b>zamia</b>	SCALE	1:1		
APPROVED BY	MR ZHANG		FORMAT	A1		

## DB15 Connector

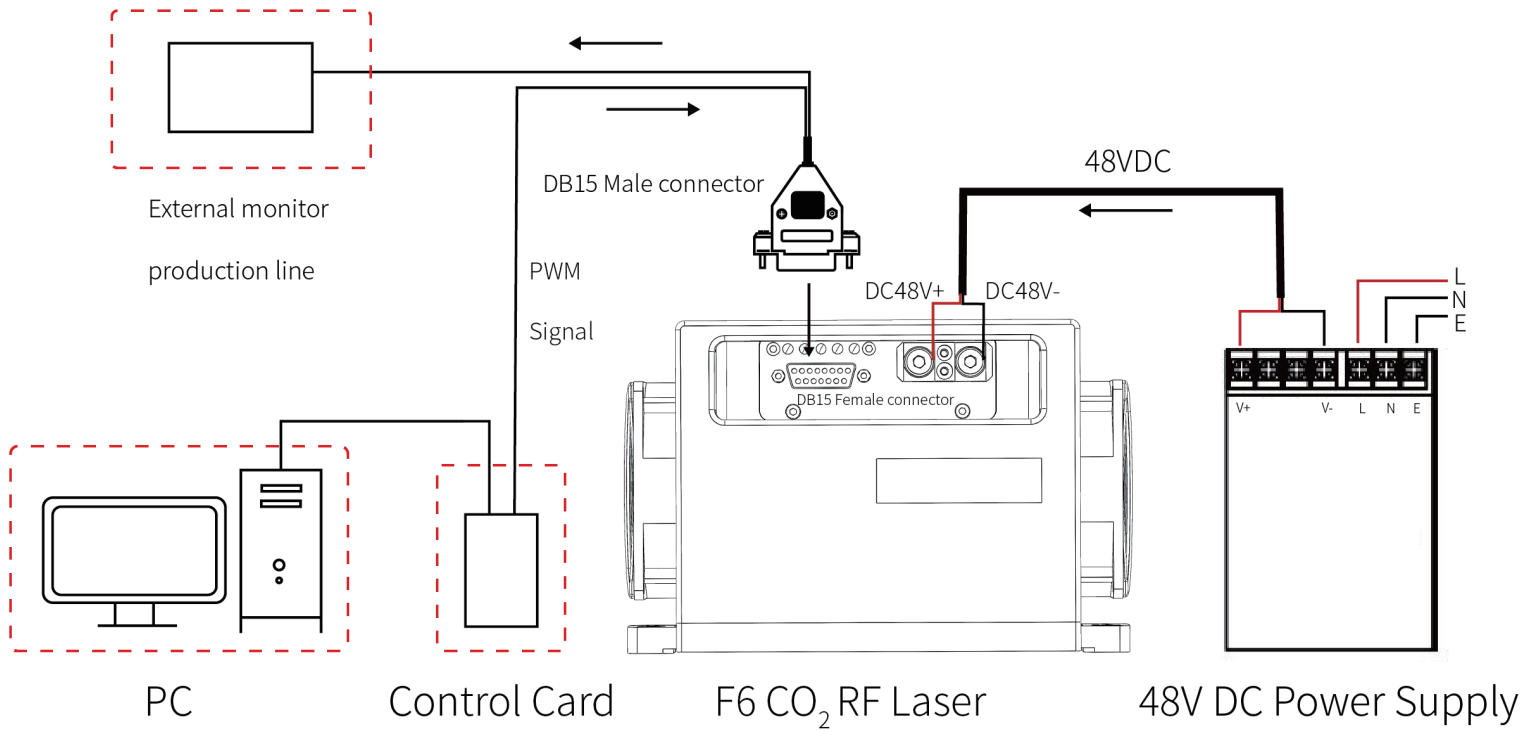


PIN NO.	Function	Description
1	Open input	Logic high (5~24V Level), used with 13-pin COM
2	Enable laser	Enable the laser at high logic (5~24V level). Laser receives the PWM signal after 20s preparation time, and works with pin 13
3	Internal lockout	ON/OFF, internally connected to pin 13
4	Laser activation	ON/OFF, internally connected to pin 13
5	Fault detected	ON/OFF, internally connected to pin 13
6	Laser preparation	ON/OFF, internally connected to pin 13
7	Optical shutter open	ON/OFF, internally connected to pin 13
8	Output common	Output common ON/OFF, current limit 0.5A and self-recovery
9	PWM (+)	5V TTL logic, Logic high
10	PWM (-)	
11	5V power (+)	Output 500mA load capacity
12	5V power return	
13	Input common, as negative terminal	
14	/	
15	/	

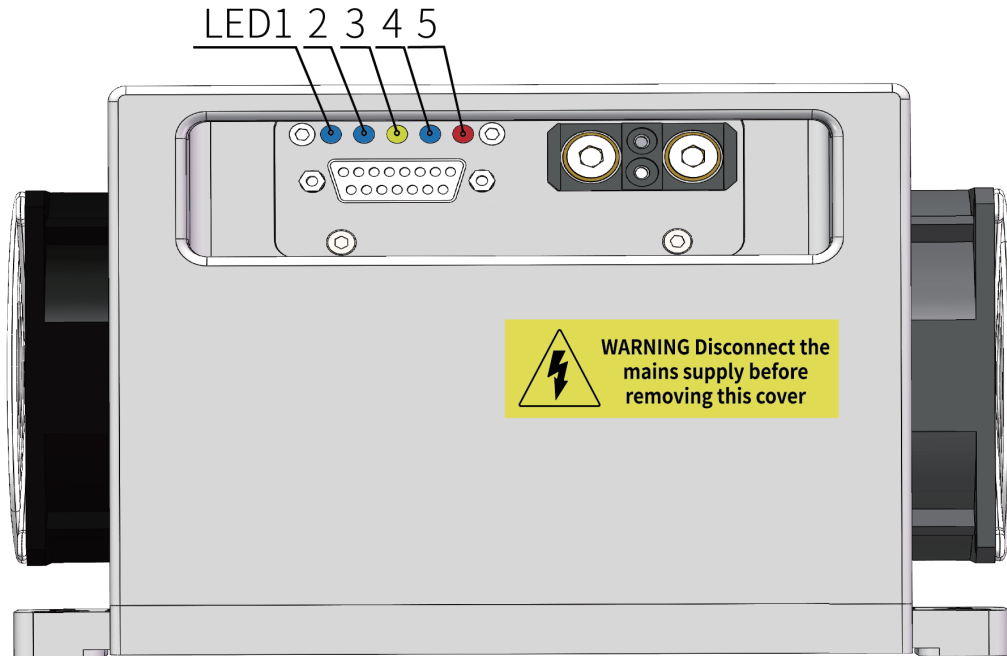
### Remark:

- 1) Short-circuit pin 12 and 13 when not running with an external power supply.
- 2) The laser enable pin 2 can be used as a laser external interlock. If not, short-circuit pin 2 and 11.
- 3) PWM signal is connected to pin 9 and 10. pin 9 is signal positive, pin 10 is signal negative, and the TTL logic voltage is 5V.

### F6 CO<sub>2</sub> RF Laser Wiring Diagram



### LED Indicators instruction



LED Indicators		
NO.	Color	Function
LED1	Blue	Always OFF
LED2	Blue	OFF: No fault Flashing 1 time, OFF 1s: The power supply voltage is less than 46V. Flashing 2 times, OFF 1s: The power supply voltage is more than 50V. Flashing 3 times, OFF 1s: The temperature of the RF amplifier is more than 80°C  Flashing 4 times, OFF 1s: The RF V+ feedback faulty Flashing 5 times, OFF 1s: The RF V- feedback faulty Flashing Quickly: Power Overload Alarm
LED3	Yellow	Always ON: The laser is ready. Flashing: The laser self-check or faulty, check with LED2.
LED4	Blue	Always ON: Connected to the external enable signal OFF: Not connected to the external enable signal
LED5	Red	Always ON: The laser is firing. OFF: The laser stops firing.