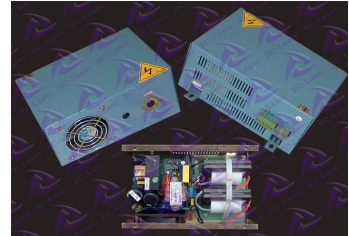




## CO<sub>2</sub> Laser Power Supply service manual

### CO<sub>2</sub> Laser Power Supply Parameter (EC-P40)

1. **Input voltage:** AC 220V ± 10%
2. **Max Output voltage / electricity:** DC 26KV / DC 20mA
3. **Respond Speed:** ≤ 1mS
4. **Laser Connect Control:** DC(5 ± 2V) / Output Laser
5. **Work Environment:** Temperature (-10~40) °C Humidity: ≤ 85%
6. **Laser Power Regulate:** (1) Potentiometer regulate Laser power supply output electricity.  
(2) PWM (TTL level) control.
7. **Power supply:** Self can closed loop control, Examination laser tube actual work electricity.
8. **Laser on/off:** Hand switch control or laser couple interface control.
9. **Size:** 210mm×160mm×95mm



### CO<sub>2</sub> Laser Power Supply Parameter (EC-P60)

1. **Input voltage:** AC 220V ± 10%
2. **Max Output voltage / electricity:** DC 30KV / DC 24mA
3. **Respond Speed:** ≤ 1mS
4. **Laser Connect Control:** DC(5 ± 2V) / Output Laser
5. **Work Environment:** Temperature (-10~40) °C Humidity: ≤ 85%
6. **Laser Power Regulate:** (1) Potentiometer regulate Laser power supply output electricity.  
(2) PWM (TTL level) control.
7. **Power supply:** Self can closed loop control, Examination laser tube actual work electricity.
8. **Laser on/off:** Hand switch control or laser couple interface control.
9. **Size:** 210mm×160mm×95mm



### CO<sub>2</sub> Laser Power Supply Parameter (EC-P80)

1. **Input voltage:** AC 220V ± 10%
2. **Max Output voltage / electricity:** DC 35KV / DC 30mA
3. **Respond Speed:** ≤ 1mS
4. **Laser Connect Control:** DC(5 ± 2V) / Output Laser
5. **Work Environment:** Temperature (-10~40) °C Humidity: ≤ 85%
6. **Laser Power Regulate:** (1) Potentiometer regulate Laser power supply output electricity.  
(2) PWM (TTL level) control.
7. **Power supply:** Self can closed loop control, Examination laser tube actual work electricity.
8. **Laser on/off:** Hand switch control or laser couple interface control.
9. **Size:** 270mm×210mm×100mm



## Direction for use

### 1. Laser tube connect:

The high voltage of the power supply must connect CO2 laser tube anode (complete reflect port).

Electricity circuit of the power supply connect CO2 laser tube cathode (laser output port).

*Warning:* prohibit empty load used; High voltage output port and cathode prohibit on route

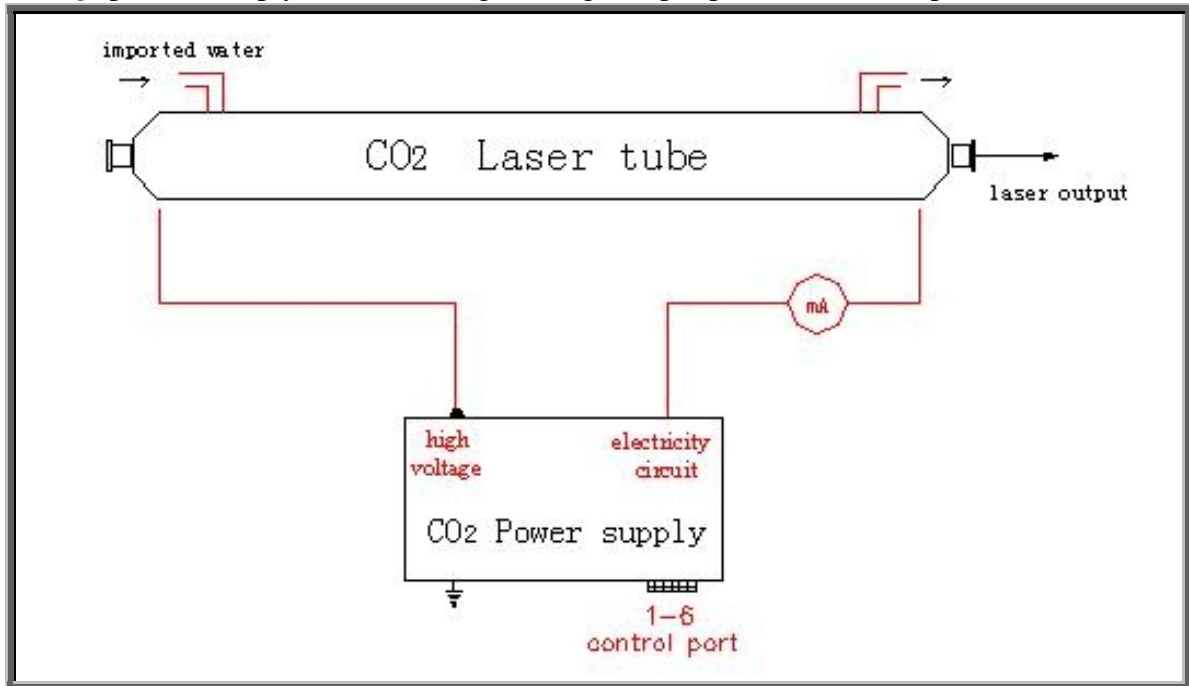


Photo 1 (laser tube and power supply connect)

**2. Control signal connect:**

- ① control positive;
- ② control minus;
- ③ protect interface
- ④ signal terra;
- ⑤ power regulate input port;
- ⑥ positive 5V

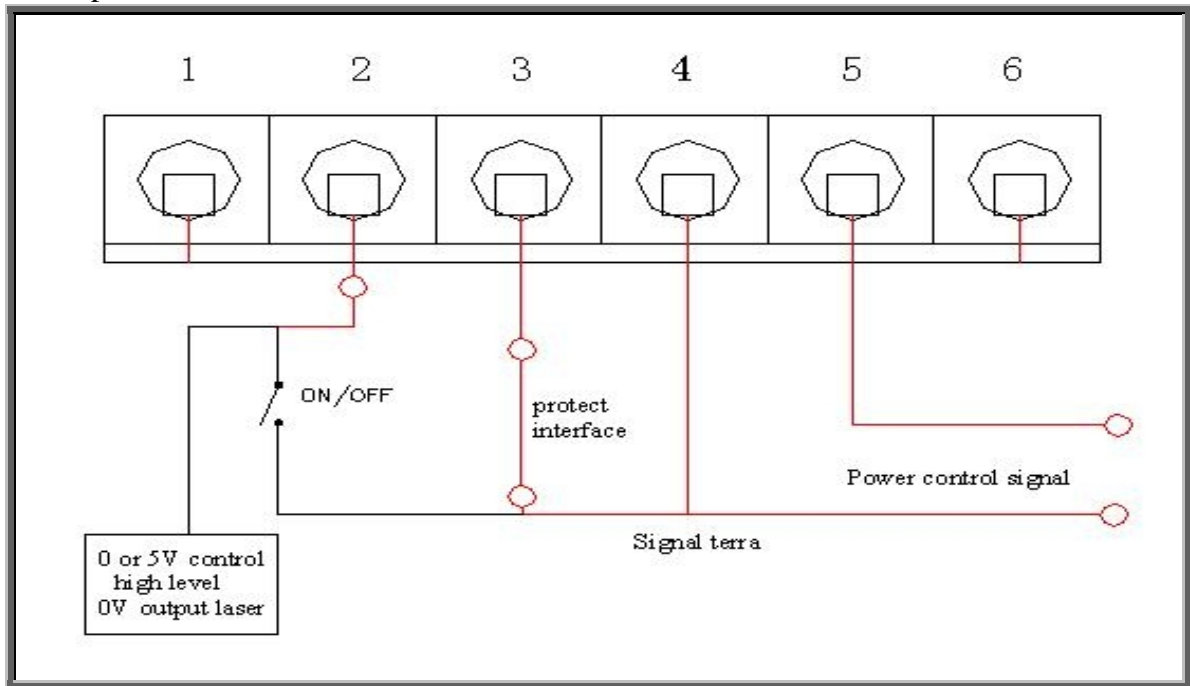


Photo 2 (control low level output laser)

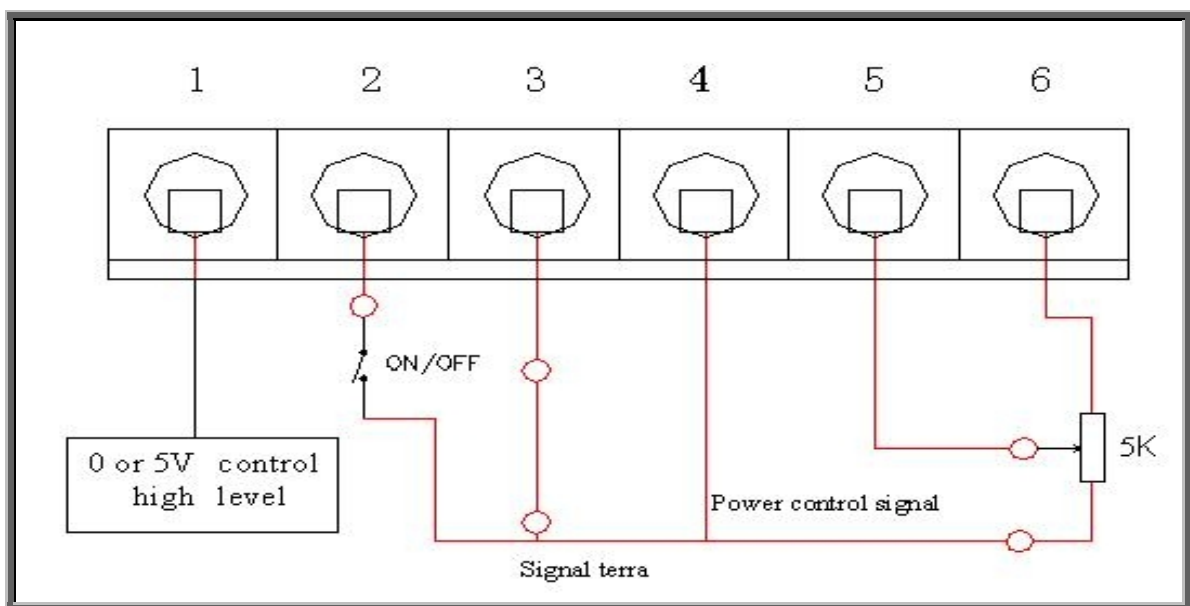


Photo 3 (control high level output laser)

### 3. Control signal input

The DAC signal for computer and TTL signal input power supply (Photo2 or Photo3)

### 4. Request power control signal: 0-5V analog signals

### 5. The power supply connect:

AC220V/50Hz. connect 1 and 4.electrical outlet of backside of the pwoer supply.

2 and 3 are 220V output. (Photo 4)

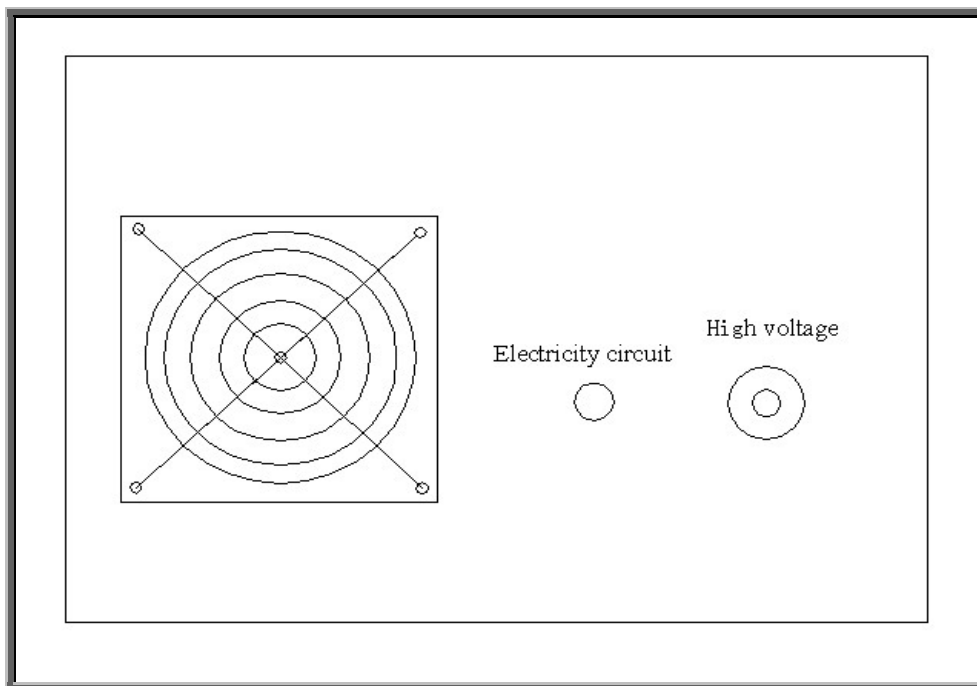
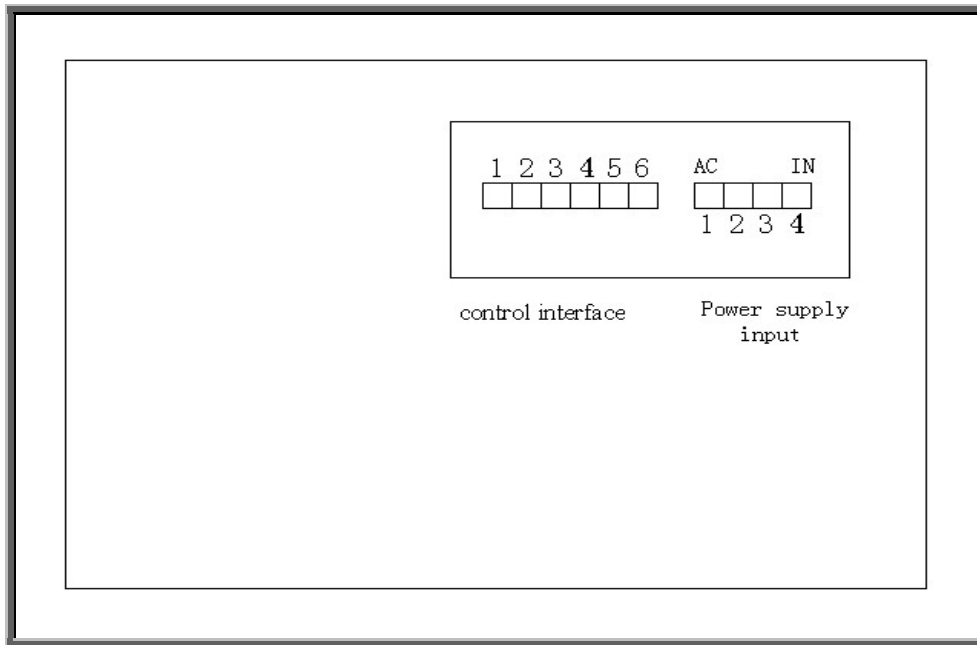


Photo 4

## 6. Computer control signal request:

when control high level output laser the high level  $>2V$ ; when control low level output laser the high level  $>4V$ , and low level  $<3V$ .

## 7. Fault protect:

current protect, (photo2 and photo3's thirdly).  
empty load protect  
electricity excess protect

## Dispose malfunction

Work electricity  $<10mA$ , the power supply noise, then laser tube touch off abnormality.

Causation have:

- (1) voltage low
- (2) laser tube touch off voltage high
- (3) laser bad
- (4) the power supply laser tube touch off voltage low
- (5) water cycle malfunction

## processing method

- (1) use booster
- (2) open the power supply can glimpse at two potentiometer (photo 5). Anticlockwise circumgyrate potentiometer (W 302) 1-5 circle
- (3) replacing laser tube
- (4) the same method with (2)
- (5) check-up water cycle

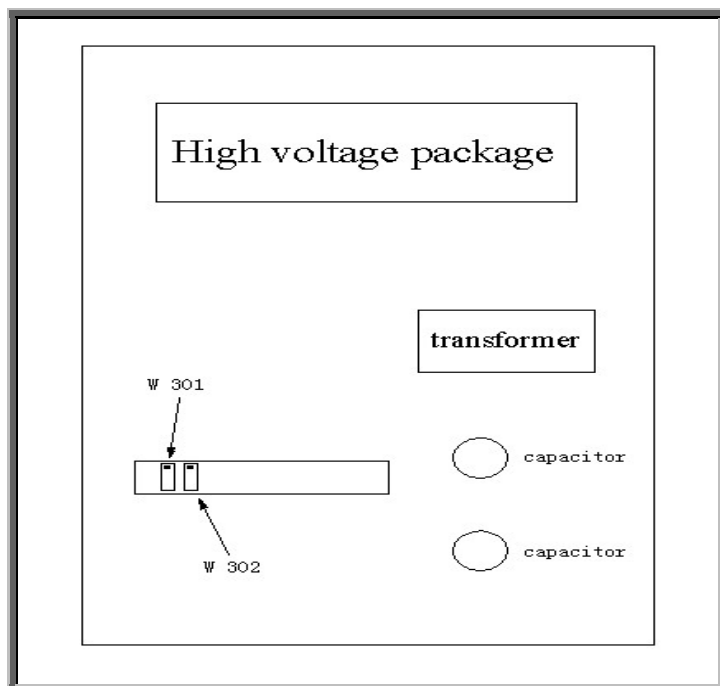


Photo 5



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**Disaccord electricity of manual control and computer control.**

Computer output voltage bound can not arrive at 0-5V.

Solve method: adjust W301