

Common Problems, Troubleshooting & Solutions

Industrial Laser Marking Machine

1. No Laser Output

Possible Causes

- Laser power supply is not turned on
- Emergency stop switch is activated
- Laser source fault
- Incorrect software parameter settings
- Signal cable connection failure

Solutions

- Check whether the laser power supply (LASER) is switched on
- Release the emergency stop switch
- Restart the machine and software
- Check parameter settings in the control software
- Inspect signal cables and power cables
- Contact technical support if the laser source alarm remains active

2. Weak Marking Effect

Possible Causes

- Laser power setting is too low
- Marking speed is too fast
- Lens contamination
- Incorrect focal distance
- Laser source aging

Solutions

- Increase laser power appropriately
- Reduce marking speed
- Clean the focusing lens and mirrors



- Re-adjust focal length
- Check laser source working hours and performance

3. Uneven Marking Quality

Possible Causes

- Galvo scanner abnormality
- Unstable working platform
- Material surface inconsistency
- Optical path contamination

Solutions

- Check galvanometer scanning system
- Ensure the working table is stable
- Confirm material surface is flat and clean
- Clean optical path components regularly

4. Laser Position Deviation

Possible Causes

- Incorrect software positioning
- Loose fixture or material movement
- Galvo calibration deviation
- CCD positioning error (if equipped)

Solutions

- Recheck software positioning settings
- Secure the material properly
- Recalibrate galvanometer system
- Recalibrate CCD vision system

5. Machine Cannot Start

Possible Causes



- Main power supply failure
- Air switch is off
- Emergency stop is activated
- Control cabinet electrical fault

Solutions

- Check external power supply
- Turn on air switch
- Release emergency stop switch
- Inspect electrical cabinet status
- Check circuit breakers and relays

6. Software Cannot Connect to Machine

Possible Causes

- USB / communication cable failure
- Driver issue
- Control board fault
- Incorrect software configuration

Solutions

- Reconnect communication cables
- Restart software and computer
- Reinstall driver if necessary
- Check controller board status
- Verify software communication settings

7. Excessive Smoke During Processing

Possible Causes

- Exhaust system not working
- Material generates heavy smoke
- Exhaust pipe blockage

Solutions



- Check exhaust fan and ventilation system
- Clean exhaust pipe regularly
- Improve workshop ventilation
- Use proper smoke filtration if required

8. Water Chiller Alarm (for CO2 Laser)

Possible Causes

- Low water level
- Water temperature too high
- Water flow abnormal
- Chiller malfunction

Solutions

- Refill cooling water
- Check water circulation
- Clean water filter
- Inspect chiller alarm code
- Add antifreeze during winter if necessary

9. Conveyor / Feeding System Not Working

Possible Causes

- Motor failure
- Sensor abnormality
- Conveyor belt looseness
- PLC control issue

Solutions

- Check motor power supply
- Inspect sensors and limit switches
- Adjust conveyor belt tension
- Restart PLC control system

10. Alarm Light Remains Red

Possible Causes

- Safety interlock not released
- Emergency stop activated
- Laser source alarm
- Cooling system abnormal

Solutions

- Check all safety switches
- Release emergency stop
- Check laser source status
- Inspect cooling system and alarms

➤ Important Notice

Do not disassemble electrical or laser components without authorization.

For major faults, please contact our technical support team immediately.

Unauthorized repair may cause safety risks and void warranty.

➤ Technical Support

Wuhan Sunic Laser Technology Co., Ltd.

Website: www.suniclasertech.com

Email: joanna@sunic.com.cn