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ComMarker B4-30W

ComMarker B4 30W Fiber Laser Engraver Instruction Manual

Brand: ComMarker | Model: B4-30W

1. INTRODUCTION

The ComMarker B4 30W Fiber Laser Engraver is a versatile 2-in-1 desktop and handheld fiber laser marking machine. It features a 30W 110V Raycus laser source and is compatible with LightBurn and Ezcad2 software. This machine is designed for high-speed precision engraving on various materials, including metals like stainless steel, aluminum, gold, silver, and alloys, as well as most painted products and non-transparent plastics. It comes with two lenses (110x110mm and 200x200mm) to accommodate different marking areas and applications.

2. SAFETY INFORMATION

This product is a Class 1 Laser Product with a power output of 1.95mW, compliant with IEC 60825-1 and FDA Accession No. 2521455-000. Despite its classification, proper safety precautions must always be observed when operating any laser device.

- **Eye Protection:** Always wear the provided 1064nm laser safety goggles during operation to protect your eyes from direct or reflected laser light.
- **Work Area:** Operate the laser engraver in a well-ventilated area to dissipate fumes and particles generated during engraving.
- **Material Safety:** Ensure materials being engraved do not produce hazardous fumes or ignite easily. Consult material safety data sheets if unsure.
- **Emergency Stop:** Familiarize yourself with the emergency stop button and its location.
- **Supervision:** Never leave the machine unattended during operation.
- **Children and Pets:** Keep children and pets away from the laser engraver during operation.
- **Maintenance:** Disconnect power before performing any maintenance or cleaning.

3. PACKAGE CONTENTS

The ComMarker B4 30W Fiber Laser Engraver package includes the following items:

- 1x B4 Machine
- 1x 110mm x 110mm Lens
- 1x 200mm x 200mm Lens
- 1x Adapter
- 1x Rotary Axis
- 1x Foot Switch
- 1x Positioner
- 1x USB Drive (containing software and drivers)
- 1x Ruler
- 1x Data Cable
- 1x Allen Wrench Set
- 1x 1064nm Goggles
- 2x Paperboard
- 2x Steel Plate
- 1x Auxiliary Holder
- 1x Material Package



Image: All components included in the ComMarker B4 30W Fiber Laser Engraver package, neatly arranged.

4. PRODUCT FEATURES

- **High-Speed Precision:** Equipped with a high-speed precision galvanometer for accurate and fast marking.
- **Dual Lens System:** Includes 110x110mm and 200x200mm lenses for varied marking areas.
- **2-in-1 Design:** Functions as both a desktop and handheld fiber laser marking machine for enhanced versatility.
- **Software Compatibility:** Supports LightBurn and Ezcad2 for design and control.
- **Automatic Lifting:** Features automatic lifting for ease of use and precise focusing.
- **Safety Features:** Includes an emergency switch for immediate shutdown and dust shields for extended service life.
- **Wide Material Range:** Capable of engraving metals (Stainless Steel, Aluminum, Gold, Silver, Alloy) and marking most painted products and non-transparent plastics.



Image: The ComMarker B4 30W Fiber Laser Engraver in operation, demonstrating its precision.



Image: Close-up of the ComMarker B4 30W Fiber Laser Engraver highlighting the electric lifting mechanism for easy height adjustment.



Image: Diagram illustrating the compact dimensions and various configurations of the ComMarker B4 series.

5. SPECIFICATIONS

ComMarker B4 Fiber Laser Engraveing Machine

Specification	Power			
	20W	30W	50W	60W
Laser Source	MAX	MAX	MAX	MAX
Working Area	110mm*110mm+200mm*200mm			
Laser Wavelength	1064nm			
Marking Speed	0-15000mm/s			
Frequency	30-60kHz	40-60kHz	50-100kHz	55-100kHz
Support Software	EzCad 2 (we provide) / Lightburn			
Support System	Windows 7/8/10/11 /MAC(need to use lightburn)			
Minimum line width	0.01mm			
Graphic Format Supported	BMP, GIF, JPG, JPEG, DXF, DST, AI, etc			
Compatible Materials	all kinds of metal including Stainless Steel, Aluminum, Gold, Silver, Alloy etc. It can mark some of the plastics and rubbers.			
Repetition Precision	±0.003mm			
Scanner	Sino Galvo			
MotherBoard	BJ JCZ			
Certification	FDA, CE, FCC			
Warranty	24 months			

Image: A detailed table outlining the specifications for the ComMarker B4 Fiber Laser Engraving Machine, including power options, laser source, working area, wavelength, marking speed, frequency, software support, system compatibility, minimum line width, graphic formats, compatible materials, repetition precision, scanner, motherboard, certifications, and warranty.

Parameter	Value
Laser Wavelength	1064 nm
Marking Speed	0-15000mm/s
Frequency	20-60kHz
System Compatibility	Windows 7/8/10/11, MAC (LightBurn)
Supported Graphics Formats	BMP, GIF, JPG, JPEG, DXF, DST, AI, etc.
Minimum Line Width	0.01mm
Engraving Depth	0.1-0.5mm
Product Dimensions	28 x 10 x 10 inches
Item Weight	44 pounds

6. SETUP & INSTALLATION

6.1. Software Installation (Mac)

Follow these steps to install LightBurn software on your Mac and configure the ComMarker B4:

1. Plug the provided USB drive into your Mac.
2. Open the USB drive and copy the 'EZCAD for ComMarker B4' folder to your desktop.
3. Open your web browser and navigate to www.lightburnsoftware.com.
4. Click on 'Download / Trial' and select the 'Mac OS version' to download the LightBurn installer.
5. Once downloaded, open the .dmg file and drag the LightBurn icon into your Applications folder.
6. Connect the ComMarker B4 machine to your Mac via USB cable and turn on the machine.
7. Open the Applications folder and launch LightBurn.
8. In LightBurn, go to 'Devices' and click 'Create Manually'.
9. Select 'JCZ Fiber' and click 'Next'.
10. Click 'Import EZCad Config' and navigate to the 'EZCAD for ComMarker B4' folder on your desktop. Inside, find the 'plug' folder and select 'markcfg7'.
11. Verify the configuration details, ensuring 'Laser Type: Fiber' is displayed, then click 'Next'.
12. Rename your device (e.g., 'ComMarker B4') and set the work area dimensions (e.g., X Axis Length 110mm, Y Axis Length 110mm). Click 'Next', then 'Finish', and 'OK'.
13. Go to 'Device Setting' (wrench icon) in LightBurn. Click 'Load COR file' and select 'jcz11.cor' from the '110mm' folder within 'EZCAD for ComMarker B4' on your desktop.
14. Adjust the frequency data (Min Freq, Max Freq) according to your machine's specifications (e.g., 20000-200000 for 30W).
15. Ensure 'Galvo 2 is X axis' is checked. Click 'OK' to save settings.

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Video: Step-by-step guide on how to install and set up LightBurn software for the ComMarker B4 Fiber Laser Engraver on a Mac operating system.

6.2. Software Installation (Windows)

Follow these steps to install LightBurn software on your Windows PC and configure the ComMarker B4:

1. Plug the provided USB drive into your Windows PC.
2. Open the USB drive and copy the 'EZCAD for ComMarker B4' folder to your desktop.
3. Right-click on the 'Start' button, then choose 'Computer Management'. In 'Computer Management', click 'Device Manager'.
4. Connect the ComMarker B4 machine to your PC via USB cable and turn on the machine.
5. In Device Manager, look for 'USBLMVCV2' (or 'Unknown Device') under 'Other devices' or 'Universal Serial Bus devices'.
6. Right-click on 'USBLMVCV2' and select 'Update driver'. Choose 'Browse my computer for drivers' and navigate to the 'driver' folder within 'EZCAD for ComMarker B4' on your desktop. Select the subfolder corresponding to your Windows version (e.g., 'win11' for Windows 11). Click 'Next' and 'Finish' to install the driver.
7. Once the driver is installed, Device Manager should display 'BJJCZ Device'.
8. Open your web browser and navigate to www.lightburnsoftware.com.
9. Click on 'Download / Trial' and select the 'Windows 64-bit version' to download the LightBurn installer.

10. Once downloaded, open the installer and follow the prompts. Before finishing the setup, ensure to tick 'Install EzCad2 driver (used by galvos)'.
11. Launch LightBurn. In LightBurn, go to 'Devices' and click 'Create Manually'.
12. Select 'JCZ Fiber' and click 'Next'.
13. Click 'Import EZCad Config' and navigate to the 'plug' folder within 'EZCAD for ComMarker B4' on your desktop. Select 'markcfg7'.
14. Verify the configuration details, ensuring 'Laser Type: Fiber' is displayed, then click 'Next'.
15. Rename your device (e.g., 'ComMarker B4') and set the work area dimensions (e.g., X Axis Length 110mm, Y Axis Length 110mm). Click 'Next', then 'Finish', and 'OK'.
16. Go to 'Device Setting' (wrench icon) in LightBurn. Click 'Load COR file' and select 'jcz11.cor' from the '110mm' folder within 'EZCAD for ComMarker B4' on your desktop.
17. Adjust the frequency data (Min Freq, Max Freq) according to your machine's specifications (e.g., 20000-200000 for 30W).
18. Ensure 'Galvo 2 is X axis' is checked. Click 'OK' to save settings.

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Video: Detailed instructions on how to install and configure LightBurn software for the ComMarker B4 Fiber Laser Engraver on a Windows operating system.

7. OPERATING INSTRUCTIONS

7.1. Material Compatibility

The ComMarker B4 Fiber Laser Engraver is suitable for a wide range of materials:

- **Metals:** Stainless Steel, Aluminum, Gold, Silver, Alloy, etc.
- **Coated Materials:** Most painted products.
- **Plastics:** Non-transparent plastics.

Common applications include engraving on metal, jewelry, pens, tags, and tumblers.

7.2. Engraving Process

After setting up your machine and software, you can import your design into LightBurn or Ezcad2. Use the software to adjust laser parameters (speed, power, frequency) based on your material and desired effect. The machine's automatic lifting and three-point coincidence focusing system ensure accurate and precise engraving.

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Video: A short preview demonstrating the ComMarker B4 fiber laser engraving machine in action, showcasing its compact design and engraving capabilities.

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Video: Demonstration of the ComMarker B4 engraving various items such as knives, coins, jewelry, and cups, highlighting its versatility across different materials and shapes.

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Video: An in-depth look at the engraving effects achieved with the ComMarker B4 using LightBurn software, showcasing different engraving modes and their results on various materials.

9. TROUBLESHOOTING

If you encounter issues with your ComMarker B4, consider the following:

- **Machine Not Connecting:** Ensure the USB cable is securely connected to both the machine and your computer. Verify that the correct drivers are installed in Device Manager (Windows) or that LightBurn is properly configured (Mac).
- **Laser Not Firing:** Check if the machine is powered on and the emergency stop button is disengaged. Confirm that the laser is 'Ready' in the LightBurn software interface.
- **Poor Engraving Quality:** Adjust laser parameters (speed, power, frequency) in the software. Ensure the material is properly focused using the machine's automatic lifting and three-point coincidence system. Clean the lenses if necessary.
- **Software Errors:** Restart LightBurn or your computer. Ensure your software is up to date.

10. WARRANTY & SUPPORT

The ComMarker B4 30W Fiber Laser Engraver comes with a **24-month warranty**.

For any technical assistance, troubleshooting, or warranty claims, please contact ComMarker customer support:

Email: support@commarker.com