

AENBUSLM AMZ1-NZB-20W

AENBUSLM AMZ1-NZB-20W Laser Engraving Cutting Module User Manual

Model: AMZ1-NZB-20W | Brand: AENBUSLM

1. INTRODUCTION

This manual provides essential information for the safe and effective use of your AENBUSLM AMZ1-NZB-20W Laser Engraving Cutting Module. This module is designed for precision engraving and cutting tasks on various materials, featuring a 20W output, built-in FAC technology, compressed spot, and air assist capabilities. Please read this manual thoroughly before installation and operation to ensure proper functionality and safety.

2. SAFETY INFORMATION

WARNING: This product contains a Class 3B laser. Direct exposure to the laser beam can cause severe and permanent eye injury, skin burns, and fire hazards. Always adhere to the following safety precautions:

- **Eye Protection:** Always wear certified laser safety glasses (OD 6+ for 450nm blue laser) when operating the laser module or when in the vicinity of an active laser. Never look directly into the laser beam or at its reflection.
- **Skin Protection:** Avoid direct contact with the laser beam. The laser can cause skin burns.
- **Fire Hazard:** Laser engraving and cutting can generate heat and sparks, potentially igniting flammable materials. Always operate the laser in a well-ventilated area, away from combustible materials. Have a fire extinguisher readily available.
- **Ventilation:** Ensure adequate ventilation to remove fumes and smoke generated during operation, which can be harmful if inhaled.
- **Children and Pets:** Keep the laser engraving machine and module out of reach of children and pets. Never leave the machine unattended during operation.
- **Emergency Stop:** Familiarize yourself with the emergency stop procedure for your laser machine.
- **Power Supply:** Use only the specified power supply and cables. Ensure all connections are secure before powering on.
- **Work Area:** Ensure your work area is clean, organized, and free from obstructions.

- **Material Compatibility:** Do not engrave or cut unknown materials. Some materials can produce toxic fumes or catch fire easily. Avoid materials containing PVC.

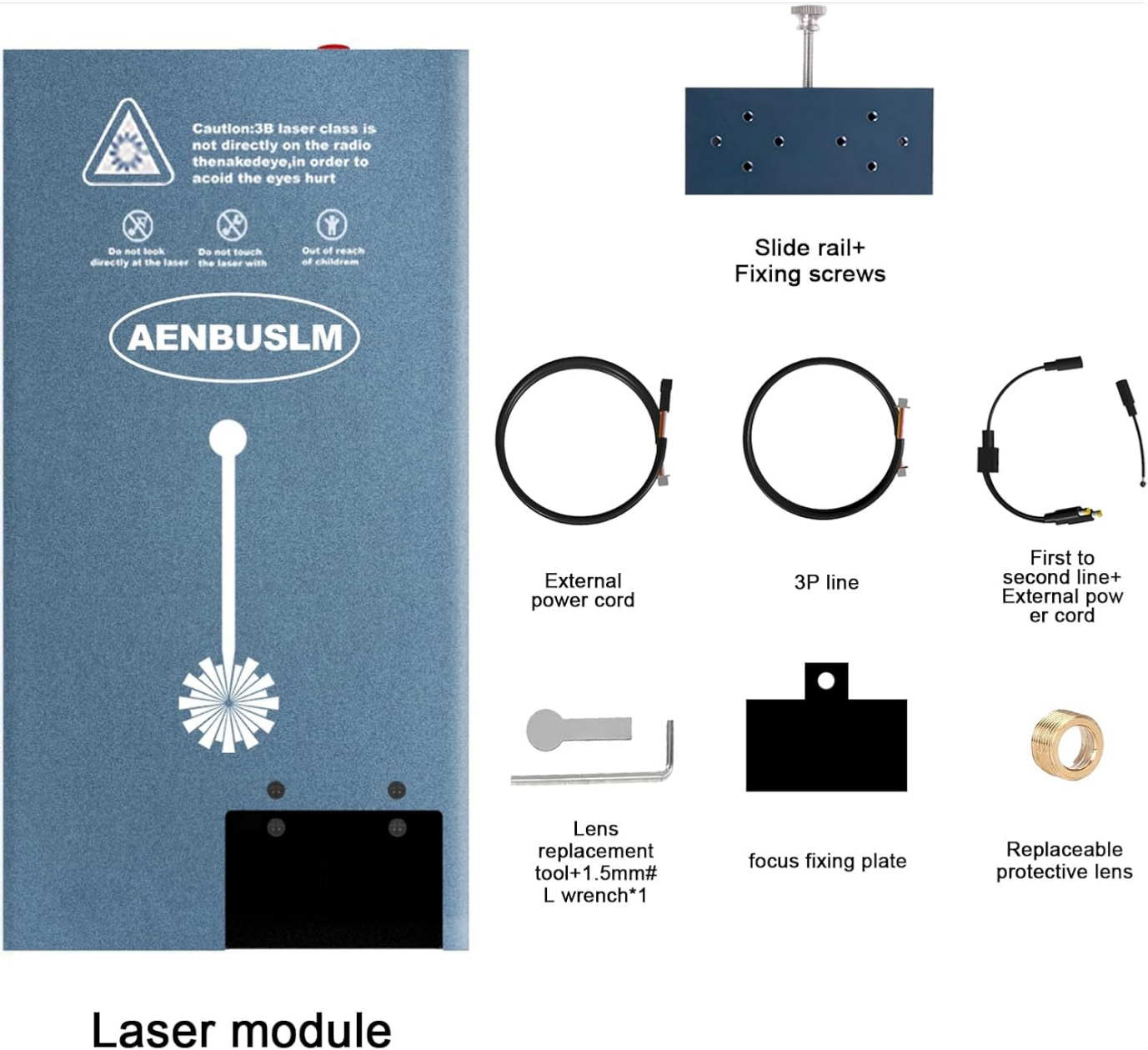


Image: AENBUSLM 20W Laser Engraving Head highlighting safety warnings and key features like 20W output, eye protection, laser cutting, air assist, and a 0.06*0.06mm laser beam.

3. PACKAGE CONTENTS

Verify that all items listed below are present in your package. If any items are missing or damaged, please contact customer support.



Image: The AENBUSLM laser module shown with its accompanying accessories, including mounting hardware, various cables, lens replacement tools, a focus fixing plate, and a replaceable protective lens.

- AENBUSLM Laser Module (AMZ1-NZB-20W)
- Slide Rail and Fixing Screws
- External Power Cord
- 3P Line (Connection Cable)

- First to Second Line + External Power Cord (Specific connection cable)
- Lens Replacement Tool
- 1.5mm L-Wrench
- Focus Fixing Plate
- Replaceable Protective Lens

4. SPECIFICATIONS

Feature	Detail
Model	AMZ1-NZB-20W (General Model: Laser module LK-WZB)
Laser Output Power	20W
Laser Class	Class 3B (as per safety warnings)
Laser Beam Spot Size	0.06*0.06mm (Compressed Spot)
Product Dimensions	10 x 2 x 2.7 inches
Item Weight	1.87 pounds
Manufacturer	AENBUSLM
Features	Air Assist, Built-in FAC (Fast Axis Collimation)

5. SETUP AND INSTALLATION

This section outlines the general steps for installing the AENBUSLM laser module onto a compatible CNC or laser engraving machine. Specific installation procedures may vary depending on your machine's model. Refer to your machine's manual for detailed instructions.

- 1. Power Off:** Ensure your laser engraving machine is completely powered off and unplugged from the power source before beginning installation.
- 2. Mounting:**
 - Attach the provided slide rail to the laser module using the fixing screws.
 - Mount the laser module assembly onto the designated carriage or mounting bracket of your laser engraving machine. Ensure it is securely fastened and stable.
- 3. Electrical Connections:**
 - Connect the 3P line from the laser module to the corresponding laser control port on your machine's mainboard.
 - Connect the external power cord to the laser module and then to a suitable power outlet.
 - If applicable, connect the "First to second line + External power cord" as per your machine's wiring diagram.
- 4. Air Assist Connection:** Connect your external air pump (if not integrated) to the air assist port on the laser module. Ensure the air hose is securely attached.
- 5. Software Configuration:** After physical installation, configure your laser control software (e.g., LightBurn, LaserGRBL) to recognize and control the new laser module. Adjust laser power settings, speed, and other

parameters as needed for your specific tasks.

20W

Laser Engraving Head



20W Output



Laser Power



Eye
Protection



External
Boosrer Air Pump



Laser Cutting



Air Assist



Laser Beam
0.06*0.06mm



Fireproof
Materials

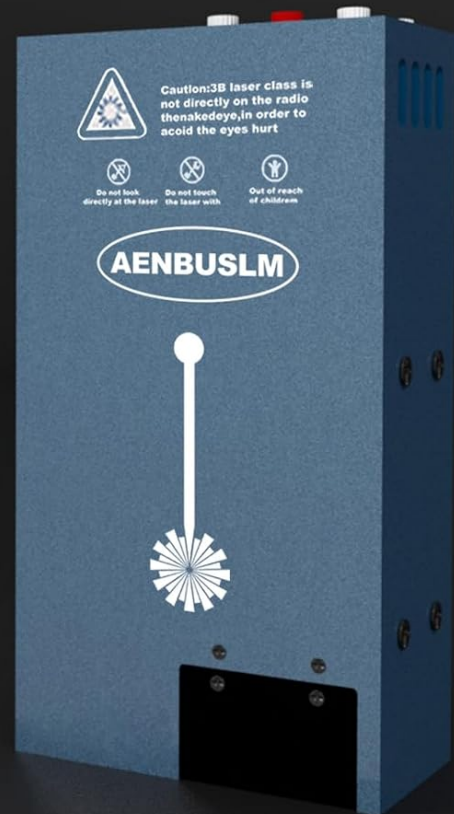


Image: The AENBUSLM laser module, highlighting its alloy material construction for secure, simple, and shortcut (all-in-one) design.

6. OPERATING INSTRUCTIONS

Operating the AENBUSLM laser module involves preparing your material, setting up your design software, and initiating the engraving or cutting process.

1. Material Preparation:

- Place the material to be processed on the machine's workbed. Ensure it is flat and securely held to prevent movement during operation.
- Verify the material is suitable for laser processing.

2. Focus Adjustment:

- Use the provided focus fixing plate to set the correct focal distance between the laser lens and the material surface. This is crucial for optimal engraving and cutting results.

- Adjust the laser module's height until the focus plate indicates the correct distance.

3. Software Setup:

- Open your laser control software (e.g., LightBurn, LaserGRBL).
- Import or create your design.
- Set appropriate parameters for laser power, speed, and passes based on the material type and desired outcome. Start with lower power and higher speed for testing, then adjust as needed.
- Ensure the work area in the software matches the physical placement of your material.

4. **Air Assist Activation:** If using air assist, ensure your air pump is turned on and functioning. Air assist helps to blow away debris, reduce charring, and improve cutting performance.

5. Initiate Operation:

- Before starting, ensure all safety precautions are in place, including wearing laser safety glasses.
- Start the engraving or cutting job from your software.
- Monitor the process closely. Do not leave the machine unattended.

Super cutting Ability

Plywood & Acrylic Cutting(one-pass)

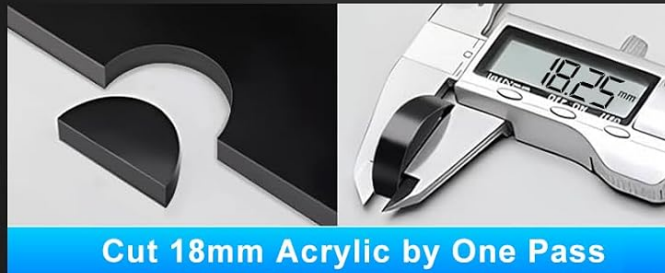


Image: The AENBUSLM laser module showcasing its cutting ability, capable of cutting 18mm acrylic and 25mm pinewood in a single pass.



Image: A visual comparison demonstrating the cleaner cut and reduced charring achieved with the AENBUSLM laser module's air assist feature compared to modules without air assist.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your laser module.

- **Lens Cleaning:** The laser lens can accumulate dust and debris, affecting laser performance. Use a soft, lint-free cloth and lens cleaning solution (or isopropyl alcohol) to gently clean the lens regularly. Replace the protective lens if it becomes scratched or damaged.
- **Module Exterior:** Keep the exterior of the laser module clean and free from dust and residue. Use a soft, dry cloth.
- **Air Assist Nozzle:** Ensure the air assist nozzle is clear of any blockages. Clean it periodically to maintain efficient airflow.
- **Connections:** Periodically check all electrical and air assist connections to ensure they are secure.

- **Storage:** When not in use, store the laser module in a clean, dry environment, away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

If you encounter issues with your AENBUSLM laser module, refer to the common troubleshooting steps below.

Problem	Possible Cause	Solution
Laser not firing	No power, loose connection, software settings, emergency stop engaged.	Check power supply, verify all cables are securely connected. Ensure laser is enabled in software and power settings are correct. Check for any engaged emergency stop buttons.
Weak laser output / Poor engraving/cutting	Incorrect focus, dirty lens, incorrect power/speed settings, material issues.	Adjust focus using the focus fixing plate. Clean the laser lens. Increase laser power or decrease speed in software. Ensure material is suitable and flat.
Excessive smoke/charring	Insufficient air assist, incorrect power/speed settings, material type.	Ensure air assist is active and powerful enough. Decrease laser power or increase speed. Verify material compatibility and ventilation.
Module not recognized by software	Driver issues, incorrect port selection, faulty cable.	Reinstall drivers if necessary. Select the correct COM port in your software. Try a different USB/connection cable.

If the problem persists after attempting these solutions, please contact AENBUSLM customer support for further assistance.

9. APPLICATIONS

The AENBUSLM AMZ1-NZB-20W laser module is versatile and suitable for a wide range of engraving and cutting applications across various materials.

Wood Creation



Image: Various examples of intricate designs engraved and cut into wood, including decorative ornaments, coasters, and personalized items.

Ideal for detailed engraving on plywood, pinewood, MDF, and other wood types. Create custom signs, art pieces, jewelry, and decorative items.

Metal Creation



Ceramic & Glass & other Creation

Image: Examples of metal items with laser engraved designs, such as personalized keychains, dog tags, and metal plates.

Suitable for engraving on various metals, including stainless steel, aluminum (anodized), and other coated metals. Perfect for custom jewelry, tags, and industrial marking.

Leather Creation



Metal Creation

Image: A collection of leather products featuring laser engraved patterns and text, including wallets, keychains, and decorative patches.

Engrave intricate designs, logos, and text onto leather and synthetic leather products. Customize wallets, belts, bags, and other accessories.

Ceramic, Glass & Other Materials



Wood Creation

Image: Examples of laser engraving on various materials such as ceramic, glass, and other non-metallic surfaces, including macarons, paper, and fabric.

Expand your creativity to ceramic, glass (with proper preparation), paper, cardboard, acrylic, and certain fabrics.

10. WARRANTY AND SUPPORT

For warranty information and technical support, please contact AENBUSLM customer service. Keep your purchase receipt and product model number (AMZ1-NZB-20W) handy when contacting support.

Manufacturer: AENBUSLM

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question