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AWithZ P120D

AWithZ P120D Capacitor Battery Spot Welder User Manual

Model: **P120D** | Brand: **AWithZ**

1. Introduction

The AWithZ P120D is a powerful 69.2 KW capacitor battery spot welder designed for efficient and precise welding of various battery types, including 18650 and LiFePO4 lithium battery packs. It features both automatic and foot pedal operating modes, offering versatility for different welding tasks. This manual provides essential information for safe and effective use of your spot welder.



Figure 1: AWithZ P120D Spot Welder with accessories.

2. Safety Information

Always prioritize safety when operating the spot welder. Failure to follow safety guidelines can result in injury or damage to the equipment.

- Wear appropriate personal protective equipment, including eye protection, during operation.
- Ensure adequate ventilation in your workspace to disperse any fumes.
- The spot welder uses a built-in Farad capacitor and does not store power. It must be connected to a power source via the provided adapter for operation.
- Ensure welding pen tips are installed firmly. Loose tips can prevent proper spot welding.
- If excessive sparks occur, the gear setting may be too high, the welding pen may be oxidized, or the power may be too high. Use a file to friction the welding pen tips if they are oxidized.
- The machine is equipped with high-temperature protection. If used for a long time, it may temporarily shut down. Allow the machine to cool down before resuming operation.
- Practice with the spot welder on scrap materials to familiarize yourself with its operation and find the minimum effective gear setting for your application.

3. Product Features

- **5 Minute Quick Start:** Utilizes a 100-240V wide voltage input and a 15A high-current adapter for rapid charging, allowing the device to be ready for welding within 5 minutes (indicated by "OK" on the display).
- **2-in-1 Operating Modes:** Offers both automatic and foot pedal modes. Automatic mode allows immediate welding upon contact after setting the gear. Foot pedal mode provides precise control, freeing hands for accurate probe positioning.
- **Wide Application Range:** Suitable for welding cylindrical batteries (e.g., 18650/14500/21700), LiFePO4 batteries, industrial batteries, and various materials including 0.6mm nickel-plated sheet, 2mm stainless steel sheet, 2mm iron sheet, 0.5mm pure nickel sheet, and 0.2mm copper sheet.
- **Professional Design:** Equipped with 2 built-in super energy storage capacitors, providing a maximum pulse welding power of 69.2KW. Features a new MOS design for stable operation without interference or tripping issues.
- **Random Bending Spot Welding Pen Lead:** The lead is soft and flexible (60cm long), allowing for easy maneuverability without dragging the machine. Pen tips are replaceable, and 6 pairs of replacement pins are included.

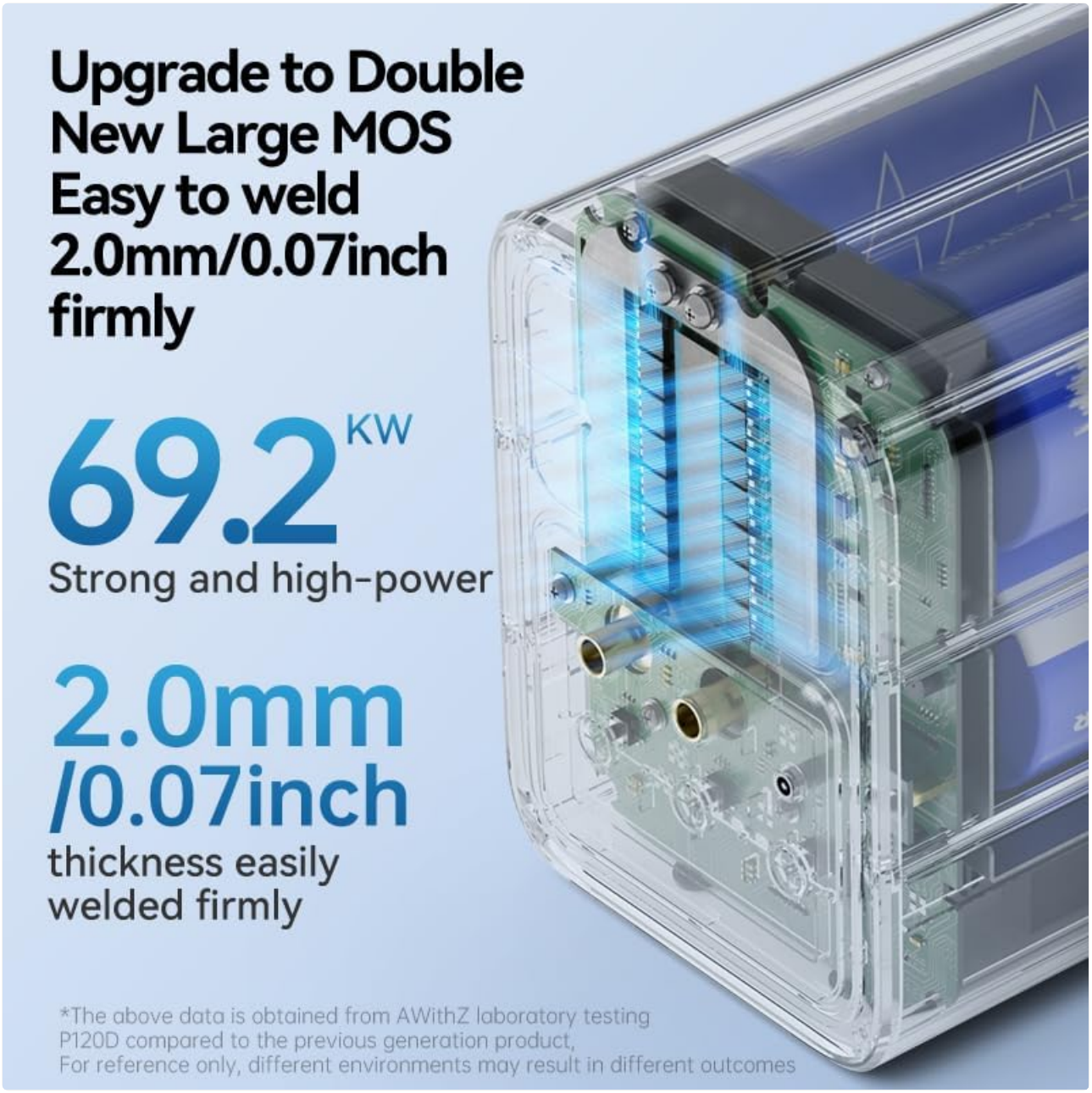


Figure 2: Internal components highlighting the large MOS and capacitor for high power output.

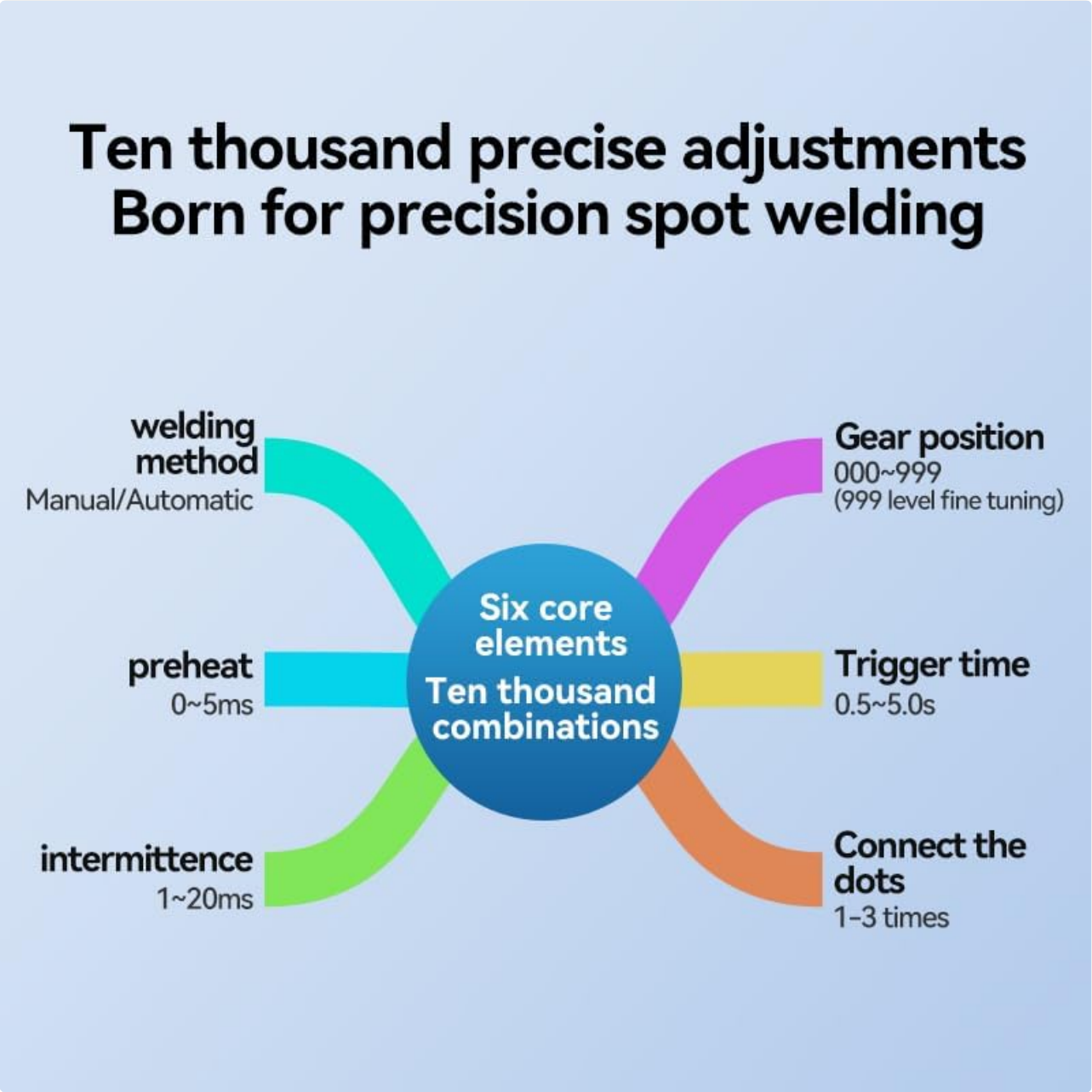


Figure 3: Overview of the precise adjustment capabilities for welding parameters.

4. Package Contents

Upon opening the package, verify that all the following items are included:

- 1 x P120D Spot Welding Machine
- 1 x 15A Charger
- 1 x Foot Pedal (2m long)
- 3 pairs of Replacement Welding Pins (6 pins total)
- 1 roll of 5-meter Nickel Plated Sheet (0.15mm thickness)
- 1 x 18650 Battery Holder
- 1 x File
- 1 x User Manual



Figure 4: Complete package contents.

5. Setup Guide

Follow these steps to set up your AWithZ P120D spot welder for the first time:

1. **Connect to Power:** Use the provided 15A charger to connect the spot welding machine to a 100-240V power source. The device will quickly activate and display "OK" within 5 minutes, indicating it's ready for use.
2. **Install Welding Pens:** Firmly install the welding pen tips into the designated ports on the front of the unit. Ensure they are securely seated to prevent welding issues.
3. **Select Mode and Gear:** Use the controls on the unit's LCD display to select your desired welding mode (Automatic or Foot Pedal) and adjust the gear setting according to the material thickness and type you intend to weld.



Figure 5: Quick start guide for the spot welder.

6. Operating Instructions

The AWithZ P120D offers flexible operation with two primary modes:

6.1. Automatic Mode

In automatic mode, once the appropriate gear is set, simply place the spot welding pen on the material. The welder will automatically detect contact and initiate the weld. This mode is ideal for repetitive tasks where consistent timing is desired.

6.2. Foot Pedal Mode

For precise positioning and control, the foot pedal mode is recommended. This mode allows you to position the welding probes exactly where needed, then trigger the weld by stepping on the foot pedal. Each press of the pedal will result in one output weld.



Figure 6: Examples of materials and applications for the spot welder.



Figure 7: Detailed specifications for weldable materials and their maximum thicknesses.

6.3. Gear Adjustment

The P120D features 999 adjustable gears, allowing for fine-tuning of welding parameters to match different material requirements. Experiment with lower gear settings first and gradually increase as needed to achieve optimal welds.

6.4. Welding Demonstration

Watch the official product video for a visual demonstration of the AWithZ P120D spot welder in action, showcasing its features and welding capabilities on various materials.

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Video 1: AWithZ Capacitor Battery Spot Welder Welding Demonstration. This video illustrates the setup process, the user interface, and practical welding examples on different materials and battery types.

7. Maintenance

Proper maintenance ensures the longevity and optimal performance of your spot welder:

- **Clean Welding Pen Tips:** If you observe excessive sparks during welding, the pen tips may be oxidized. Use the included file to gently friction and clean the tips.
- **Overheat Protection:** The unit has a built-in high-temperature protection mechanism. If the machine becomes too hot during prolonged use, it may temporarily cease operation. Allow it to cool down completely before resuming work. This prevents damage to internal components.
- **Storage:** Store the spot welder in a dry, clean environment away from direct sunlight and extreme temperatures.

8. Troubleshooting

Refer to this section for common issues and their solutions:

Problem	Possible Cause	Solution
Spot welding not occurring or weak welds.	Welding pen tips not firmly installed.	Ensure welding pen tips are securely inserted into their ports.
Excessive sparks during welding.	Gear setting too high, oxidized welding pen tips, or excessive power.	Reduce the gear setting. Use the provided file to clean the welding pen tips.
Machine stops working during prolonged use.	Overheating due to continuous high-power operation.	This is normal due to high-temperature protection. Turn off the unit and allow it to cool down completely before restarting.
"OK" not displayed on screen after 5 minutes.	Improper power connection or charger issue.	Ensure the 15A charger is correctly connected to a 100-240V power source and the welder. Use only the provided charger.

9. Specifications

Attribute	Detail
Manufacturer	AWithZ
Item Weight	6.6 pounds
Package Dimensions	11 x 6 x 4 inches
Item Model Number	P120D
Batteries	2 Lithium Polymer batteries required (included)
Power Source	AC
Wattage	69.2 KW
Included Components	P120D Spot Welder
Battery Cell Type	Lithium Polymer
Date First Available	November 29, 2024

10. Warranty and Support

The AWithZ P120D Capacitor Battery Spot Welder comes with an exceptional**18-month warranty** from the date of purchase.
For any questions, technical assistance, or warranty claims, please contact AWithZ customer support:
Email: slingkeji@163.com
We are always here to help.

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