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Kerpu CP01

Kerpu CP01 Portable Spot Welder Instruction Manual

Model: CP01

1. Introduction

This manual provides instructions for the safe and effective operation of the Kerpu CP01 Portable Spot Welder. This device is designed for spot welding nickel-plated sheets to cylindrical batteries (such as 18650/21700), repairing battery packs, and other small-scale welding tasks. Please read this manual thoroughly before using the device to ensure proper operation and safety.

2. Safety Information

Always observe the following safety precautions to prevent injury or damage to the device:

- Wear appropriate eye protection (safety glasses) during operation to protect against sparks.
- Ensure adequate ventilation in your workspace.
- Do not touch the welding pens or the welded area immediately after welding, as they will be hot.
- Keep the device and its components out of reach of children.
- Use only the provided Type-C charging cable and a compatible 5V/2A adapter for charging.
- Do not attempt to weld materials thicker than the recommended 0.15mm.
- Avoid short-circuiting the welding pens.
- Do not disassemble or modify the device.
- Store the device in a dry, cool place away from flammable materials.

3. Package Contents

Please verify that all items are present in your package:



An image showing the contents of the Kerpu CP01 spot welder package, including the spot welder unit, spot welding pens, a 4x4 battery stand, Type-C charging cable, sanding paper, and a 2-meter nickel-plated sheet.

- Kerpu CP01 Spot Welder Unit
- Spot Welding Pens (40cm cable length)
- 4x4 Battery Stand
- Type-C Charging Cable
- Sanding Paper (for polishing nibs)
- Nickel Plated Sheet (2 meters)

4. Product Overview

Familiarize yourself with the components and controls of the Kerpu CP01 Spot Welder:



A diagram illustrating the various parts of the Kerpu CP01 spot welder, including the ON/OFF button, power indicator lights, gear indicator lights, pen connection ports (P- and P+), USB output (5V/2.4A), and Type-C input.

1. **ON/OFF Button:** Press and hold for 2 seconds to power on/off. Briefly click to adjust the welding gear setting.
2. **Power Indicator Lights:** Indicate the device's power status.
3. **Gear Indicator Lights:** Show the currently selected welding gear (1-11).
4. **Pen Connection Ports (P- and P+):** Connect the spot welding pens here.
5. **USB Output (5V/2.4A):** Can be used as a power bank to charge other devices.
6. **INPUT/Type-C Input:** For charging the spot welder.

5. Specifications

Manufacturer	Kerpu
Model Number	CP01

Product Dimensions	11 x 3 x 9 cm
Item Weight	600 g
Material	Aluminum Alloy
Battery Capacity	5000 mAh
Welding Thickness	0.1 - 0.15 mm (for iron strips, nickel-plated pieces, stainless steel)
Gear Adjustment	11 stages

6. Setup

6.1 Charging the Device

Before initial use, fully charge the spot welder. It is recommended to charge up to 70% for optimal battery health.



An image showing the Kerpu CP01 spot welder being charged via a Type-C cable connected to a wall adapter. The image highlights the 5000mAh battery capacity and charging recommendations.

- Connect the provided Type-C charging cable to the INPUT port (6) on the device and to a 5V/2A power adapter.
- The power indicator lights will show the charging status.
- A full charge typically takes approximately 2 hours.

6.2 Initial Power On and Pen Connection



A visual guide to the simple operation of the Kerpu CP01 spot welder, showing steps for charging, powering on, adjusting shift position, and practicing.

1. Insert the spot welding pens into the P- and P+ connection ports (4) on the device. Ensure they are securely connected.
2. Press and hold the ON/OFF button (1) for 2 seconds to power on the device. The power indicator lights will illuminate.
3. The device will start in automatic mode.

7. Operating Instructions

7.1 Adjusting Welding Gears

The CP01 features 11 adjustable gear bits to accommodate different materials and thicknesses. Selecting the correct gear is crucial for effective welding.



A diagram illustrating the 11 shift (gear) levels for the Kerpu CP01 spot welder, showing how the red indicator lights correspond to each gear setting. It also shows the spot welding process on a battery pack.

- To adjust the gear: Briefly click the ON/OFF button (1). Each click cycles through the 11 gear settings.
- The gear indicator lights (3) will show the current setting. More lights indicate a higher power setting.
- Start with lower gear settings (e.g., 1-3) and gradually increase as needed for your specific material and desired weld strength. Practice on scrap material first.

7.2 Welding Process

Follow these steps for successful spot welding:

- **Prepare Surfaces:** Ensure the surfaces to be welded (e.g., battery terminals, nickel strip) are clean, dry, and free of oxidation. Use the provided sanding paper to polish the welding pen tips and material surfaces if necessary.
- **Position Material:** Place the nickel-plated sheet firmly against the battery terminal or the material to be welded.

- **Position Pens:** Place both welding pens onto the nickel strip, ensuring good, firm contact and proper spacing (typically 2-3mm apart). Apply slight pressure.
- **Automatic Weld:** The device will automatically detect contact and initiate the weld after a short delay. You will hear a 'click' or 'pop' sound and see a spark.
- **Inspect Weld:** After welding, gently test the joint to ensure a strong connection. Adjust the gear setting if the weld is too weak or too strong (causing holes).



An image showcasing various applications of the Kerpu portable spot welder, including welding 18650/21700 batteries, repairing mobile phone batteries, and general spot welding of materials like nickel strips.

7.3 Material Compatibility

- The Kerpu CP01 is suitable for welding iron strips, nickel-plated pieces, and stainless steel pieces with a thickness range of 0.1 mm to 0.15 mm.
- It is ideal for creating battery packs by welding nickel-plated sheets to cylindrical batteries such as 18650 and 21700.
- The device can also be used for repairing battery-powered equipment like electric bicycle batteries, handheld drills, and toys by replacing and welding new battery cells.

8. Maintenance

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

- **Cleaning:** Keep the device clean and dry. Wipe the exterior with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Welding Pen Tips:** Regularly inspect the tips of the welding pens. If they become oxidized or pitted, use the provided sanding paper to polish them. Clean tips ensure good electrical contact and consistent welds.
- **Storage:** Store the device in a cool, dry place away from direct sunlight, moisture, and extreme temperatures. Ensure the battery is partially charged (around 50%) before long-term storage.
- **Battery Care:** Avoid fully discharging the battery frequently. Recharge the device when the power indicator lights show low battery.

9. Troubleshooting

9.1 Common Issues and Solutions

- **Device not turning on:**
  - Ensure the battery is charged. Connect the device to a charger.
  - Press and hold the ON/OFF button for 2 seconds to power on.
- **Poor weld quality (weak weld or holes in material):**
  - **Weak weld:** Increase the gear setting by briefly clicking the ON/OFF button.
  - **Holes in material:** Decrease the gear setting. The power is too high for the material.
  - Ensure welding pens are clean and have good contact with the material. Polish tips if needed.
  - Verify material thickness is within the recommended 0.1-0.15mm range.
- **Device automatically shuts off:**
  - **Inactivity:** The device has an automatic shutdown feature after 8 minutes of inactivity to conserve battery.
  - **Over-temperature protection:** If the device becomes too hot during prolonged use, its internal protection mechanism will activate and shut it down. Allow it to cool down completely before resuming operation.
- **Protection settings activated:** The device includes multiple protection settings (short circuit protection, voltage fluctuation protection, overcharge protection, overdischarge protection, timing stop protection). If an issue occurs, the device may temporarily cease operation. Check all connections and ensure operating conditions are normal.

10. Warranty and Support

Information regarding warranty and customer support is not available in the provided product data. Please refer to the product packaging, the seller's website, or contact the manufacturer directly for details on warranty coverage, technical support, and service options.

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