Kerpu CP01

Kerpu CP01 Pocket-Sized Battery Spot Welder User Manual

Model: CP01

1. Introduction

The Kerpu CP01 is a compact, portable battery spot welder designed for efficient and precise welding of nickel strips to various battery types. Its pocket-sized design and integrated 5000mAh rechargeable battery make it ideal for on-the-go use. This manual provides essential information for safe and effective operation, maintenance, and troubleshooting.

Key Features:

- Pocket-sized and portable design.
- Integrated 5000mAh high-capacity rechargeable battery.
- 11 adjustable power gears for precise welding control.
- Automatic trigger mode for ease of use.
- Durable aluminum alloy casing for fire and drop resistance.
- Built-in safety protections: overcharge, temperature control, short-circuit detection.
- LED indicators for gear setting, charging status, and battery level.



Figure 1.1: Kerpu CP01 Spot Welder and included accessories, including welding pens, nickel strips, battery holders, metal file, and USB-C cable.

2. Safety Information

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Eye Protection:** Always wear appropriate eye protection (safety glasses or goggles) when operating the spot welder to protect against sparks and molten metal.
- **Ventilation:** Use the device in a well-ventilated area to disperse any fumes produced during welding.
- **Material Compatibility:** This device is designed for welding nickel strips to batteries. Do not attempt to weld other materials or materials thicker than 0.12mm (iron, steel, stainless steel sheets).
- **Battery Safety:** Ensure batteries are properly secured and insulated before welding. Avoid short-circuiting battery terminals.
- **Temperature Protection:** The device features an automatic shutdown if the internal temperature exceeds 60°C (140°F) to prevent damage and fire. Allow the device to cool down before resuming operation.
- **Charging:** Use only the provided USB to Type-C charging cable. Do not use damaged cables or chargers.

- **Water and Moisture:** Keep the device away from water and moist environments.
- **Children and Pets:** Keep the device out of reach of children and pets.
- **Modifications:** Do not attempt to disassemble, modify, or repair the device yourself. Contact customer support for assistance.

3. Product Components and Overview

Familiarize yourself with the components of your Kerpu CP01 spot welder.



Figure 3.1: Overview of the Kerpu CP01 Spot Welder's controls and indicators.

- **ON/OFF & Gear Button:** Press and hold to power on/off. Short press to cycle through welding gears.
- **Power Indicator Light (Blue):** Indicates remaining battery level.
- **Gear Indicator Light (Red):** Shows the currently selected welding gear (1-11).
- **Soldering Pen Interface (P- / P+):** Connect the welding pens here.
- **USB Output (5V/2.4A):** Can be used as a power bank to charge other devices.
- **INPUT (Type-C):** Charging port for the spot welder.
- **Charging Indicator (Green):** Indicates charging status.

Package Contents:

- 1 x Kerpu CP01 Pocket-Sized Battery Spot Welder (5000mAh)
- 2 x Spot Welding Pens (30cm line length + 9cm pen head)
- 2 x Nickel Sheets (2m length, 0.9cm width, 0.1mm thickness)
- 4 x Battery Holders (4x4 configuration)
- 1 x Metal File
- 1 x USB to Type-C Charging Cable (1m)

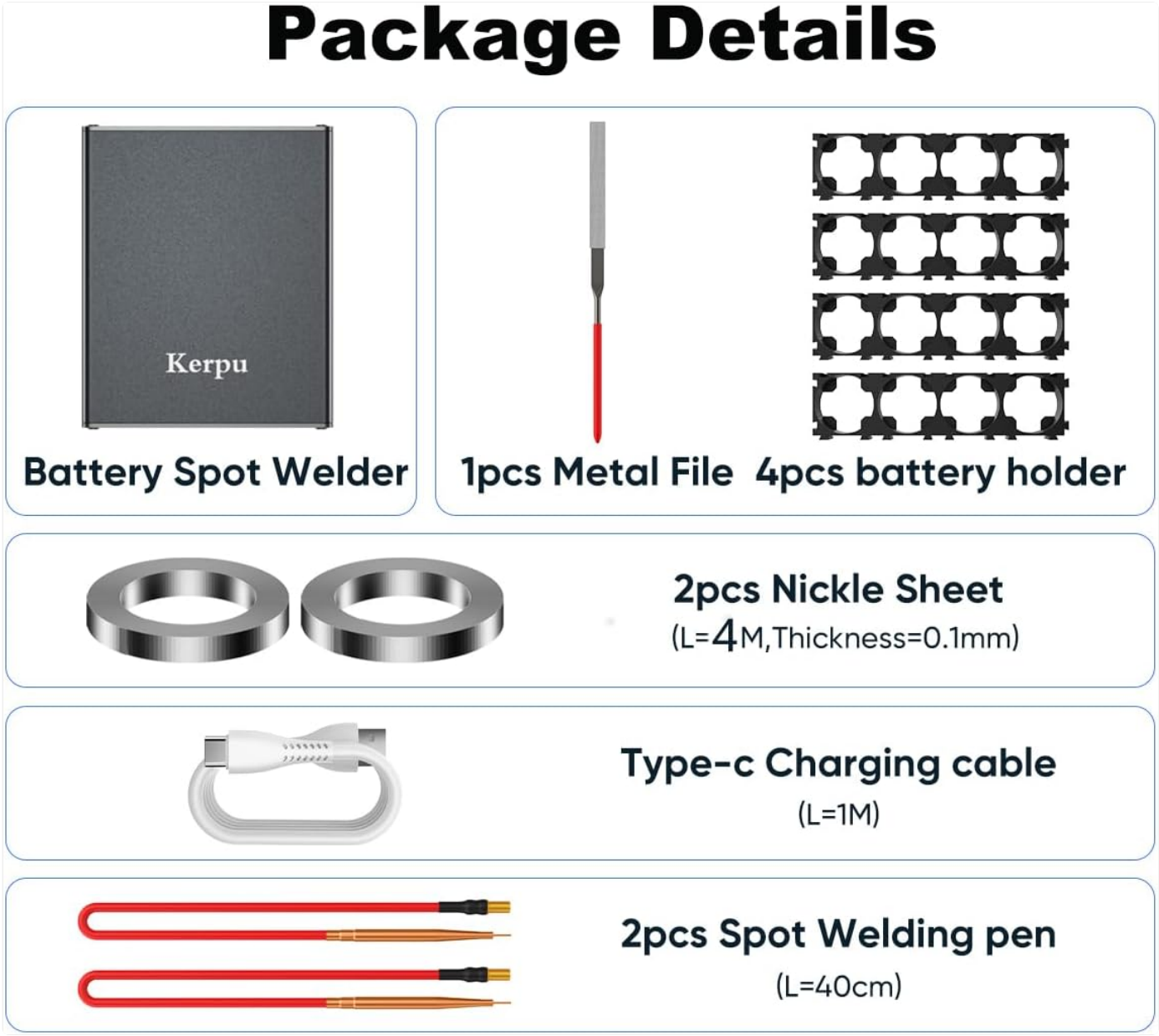


Figure 3.2: All items included in the Kerpu CP01 package.

4. Setup

4.1 Initial Charging

Before first use, fully charge the spot welder. This typically takes about 3 hours with a 5V/2A input.

1. Connect the provided USB to Type-C charging cable to the INPUT port on the spot welder.
2. Connect the other end of the USB cable to a compatible USB power adapter (e.g., 5V/2A phone charger) or a computer USB port.
3. The green charging indicator light will illuminate during charging. It will turn off or change color (depending on model) when fully charged.



Figure 4.1: Charging the Kerpu CP01 Spot Welder. A full charge takes approximately 3 hours.

4.2 Connecting Welding Pens

Ensure the device is powered off before connecting the welding pens.

1. Locate the P- and P+ soldering pen interfaces on the top of the spot welder.
2. Insert the plugs of the welding pens firmly into the corresponding P- and P+ ports. Ensure a secure connection.

5. Operating Instructions

5.1 Powering On/Off

- To power on, press and hold the ON/OFF & Gear Button until the power indicator lights illuminate.
- To power off, press and hold the ON/OFF & Gear Button until the lights turn off.

5.2 Adjusting Welding Gears

The Kerpu CP01 offers 11 adjustable power gears to accommodate different nickel strip thicknesses and battery types. Higher gear numbers indicate higher welding power.

- After powering on, short press the ON/OFF & Gear Button to cycle through the 11 gears.
- Observe the red Gear Indicator Lights to confirm the selected gear.
- It is recommended to start with a lower gear and gradually increase power as needed, testing on scrap material first.

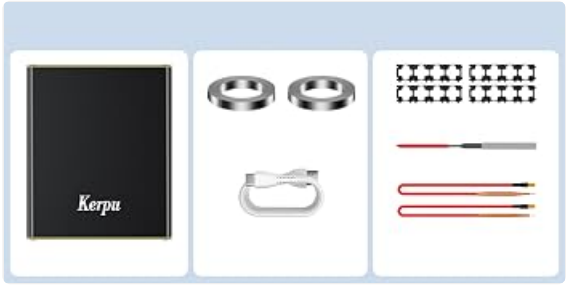


Figure 5.1: The 11 adjustable power gears, indicated by red LED lights.

5.3 Welding Process (Automatic Trigger)

The Kerpu CP01 features an automatic trigger, simplifying the welding process.

1. **Prepare Surfaces:** Ensure the battery terminals and nickel strip are clean and free of oxidation. Use the included metal file if necessary.
2. **Position Nickel Strip:** Place the nickel strip firmly against the battery terminal where you intend to weld.

3. **Position Welding Pens:** Hold one welding pen in each hand. Place both pen tips firmly onto the nickel strip, ensuring they are parallel and approximately 2-3mm apart, directly over the battery terminal. Apply firm, even pressure.
4. **Automatic Weld:** The device will automatically detect contact and trigger a weld after a short delay (typically 0.8 seconds). You will hear a "pop" sound and see a spark.
5. **Inspect Weld:** After the weld, lift the pens and inspect the joint. A good weld will be strong and secure. If the weld is weak, increase the gear setting and try again on a new spot. If the weld burns through, decrease the gear setting.
6. **Repeat:** Repeat the process for all desired weld points.



Figure 5.2: Demonstrating the spot welding process on cylindrical lithium, cadmium nickel, and nickel-metal hydride batteries.

5.4 Power Bank Function

The Kerpu CP01 can also function as a portable power bank.

- Connect your smartphone or other USB-powered device to the USB Output port (5V/2.4A) using a compatible USB cable.
- The device will begin charging your connected device.

6. Maintenance

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

- **Cleaning:** After each use, wipe down the device and welding pens with a clean, dry cloth to remove any residue or debris. Do not use abrasive cleaners or solvents.
- **Welding Pen Tips:** Over time, the tips of the welding pens may become worn or oxidized. Use the included metal file to gently clean and reshape the tips for optimal conductivity.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures. Ensure the device is powered off before storage.
- **Battery Care:** For long-term storage, it is recommended to charge the battery to approximately 50-75% every few

months to maintain battery health.

7. Troubleshooting

If you encounter issues with your Kerpu CP01 spot welder, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on.	Low battery.	Charge the device fully.
Weak welds or no weld.	Insufficient power setting. Poor contact with nickel strip/battery. Dirty or oxidized welding pen tips/surfaces. Nickel strip too thick.	Increase the welding gear setting. Apply more firm and even pressure to the welding pens. Clean welding pen tips with the metal file. Ensure battery terminals and nickel strip are clean. Ensure nickel strip thickness is within specifications (max 0.12mm).
Weld burns through nickel strip.	Excessive power setting.	Decrease the welding gear setting.
Device shuts down during operation.	Overheating protection activated.	Allow the device to cool down. Ensure adequate ventilation.
Welding pens spark excessively or unevenly.	Worn or dirty welding pen tips.	Clean and reshape welding pen tips with the metal file.

If the problem persists after attempting these solutions, please contact customer support.

8. Specifications

Feature	Detail
Model Number	CP01
Brand	Kerpu
Dimensions (L x W x H)	11 x 8 x 2 cm
Weight	400 grams
Battery Type	Lithium-polymer
Battery Capacity	5000 mAh
Input Voltage	4.2 Volts (Charging via Type-C)
USB Output	5V/2.4A
Adjustable Gears	11 levels
Max. Welding Thickness	0.12mm (nickel strips, iron, steel, stainless steel sheets)
Material	Aluminum Oxide (Casing)
Safety Features	Overcharge protection, Temperature control, Short-circuit detection

9. Warranty and Support

9.1 Warranty Information

Specific warranty details for the Kerpu CP01 are not provided in this manual. Please refer to the product packaging or the retailer's website for warranty terms and conditions.

9.2 Customer Support

If you have any questions, require technical assistance, or experience issues not covered in this manual, please contact Kerpu customer support through the retailer's platform or the official Kerpu website. When contacting support, please provide your product model (CP01) and a detailed description of the issue.

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

Details

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