ANDELI TIG-250PL

ANDELI TIG-250PL AC DC Pulse Cold Welding Machine User Manual

Model: TIG-250PL

Introduction

This manual provides comprehensive instructions for the safe and efficient operation, maintenance, and troubleshooting of your ANDELI TIG-250PL AC DC Pulse Cold Welding Machine. Please read this manual thoroughly before operating the machine to ensure proper usage and to prevent injury or damage.

Figure 1: ANDELI TIG-250PL AC DC Pulse Cold Welding Machine (Front View)

Product Overview and Features

The ANDELI TIG-250PL is a versatile 220V TIG welder designed for both AC and DC welding, featuring pulse and cold welding capabilities. It is suitable for welding aluminum, stainless steel, and other thinner metals. Its intelligent control system and multi-mode selection offer precise and intuitive operation.

Figure 2: Product Dimensions (500mm x 238mm x 390mm)

Figure 3: Key Features - AC/DC, Intelligent Welding, No Distortion, No Discoloration. Weight: 12.6KG.

Control Panel Layout

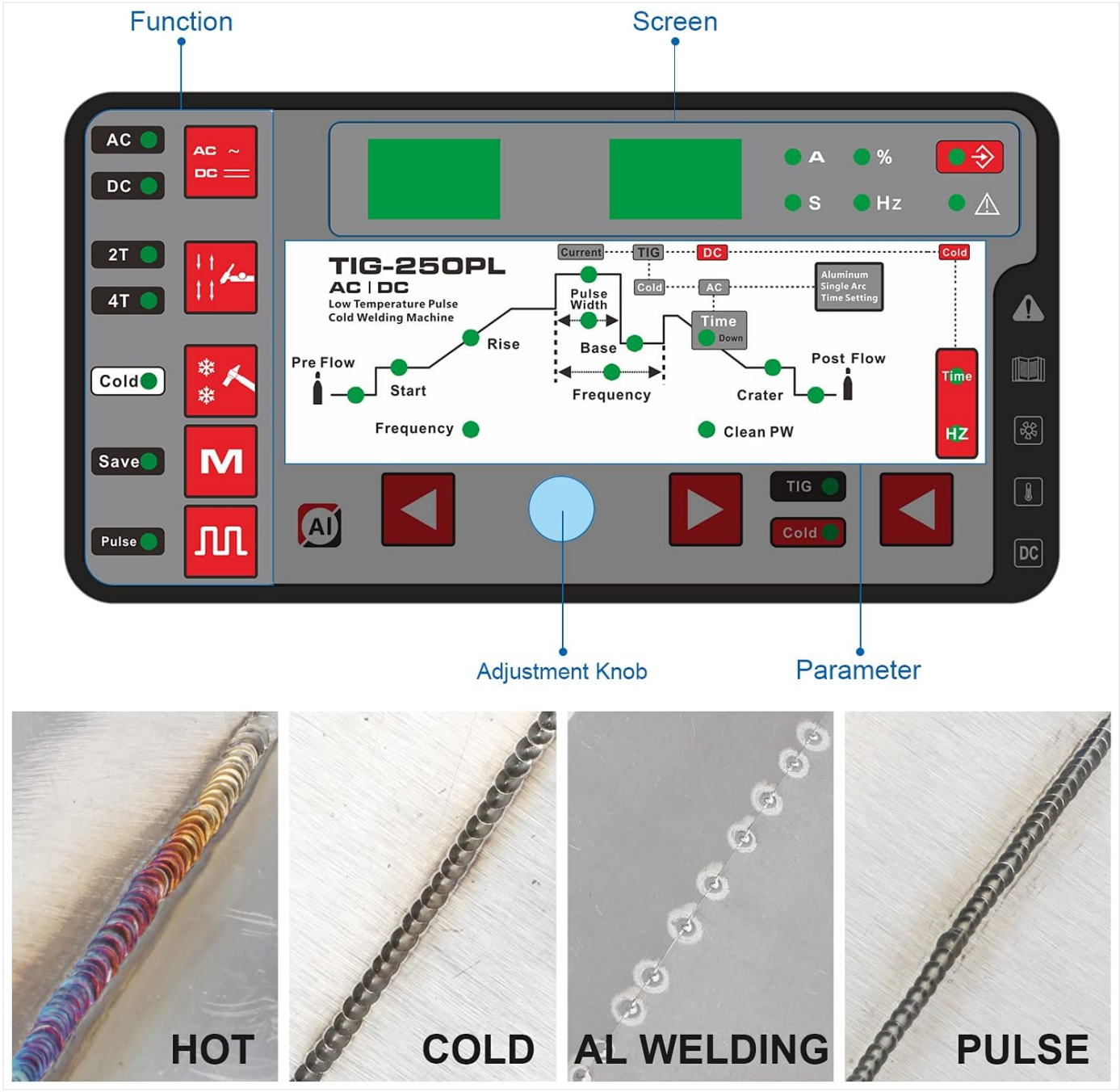

Figure 4: Detailed view of the control panel, showing digital display, function buttons, adjustment knob, and parameter settings.

- **Digital Display:** Shows current settings and parameters.
- **Function Buttons:** Select between AC/DC, 2T/4T, Cold, Save, and Pulse modes.
- **Adjustment Knob:** Used to fine-tune welding parameters.
- **Parameter Buttons:** Adjust specific welding parameters like pre-flow, start current, frequency, pulse width, base current, rise/fall time, crater, post-flow, and clean PW.

Front and Rear Panel Connections

Figure 5: Front panel showing Negative Pole, Gas-power Connector, Remote Control, Two-core Connector, and Positive Pole.

Figure 6: Rear panel showing ON/OFF Switch, Gas Tube Connector, and Power Cable connection.

Setup

Before operating the ANDELI TIG-250PL, ensure proper setup for safety and optimal performance.

1. **Power Connection:** Connect the power cable to a suitable 220V power outlet. The machine supports dual voltage (110V/220V) with an appropriate power conversion line (not included in BARE package).

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Video 1: Demonstrates the dual voltage capability and power connection of the ANDELI TIG-250PL.

2. **Gas Connection:** Connect your pure argon gas cylinder to the Gas Tube Connector on the rear panel. Ensure all connections are secure to prevent leaks.
3. **Torch and Ground Clamp:** Attach your TIG torch and ground clamp to the appropriate connectors on the front panel (Note: BARE package does not include torch and accessories).
4. **Workpiece Preparation:** Clean the workpiece thoroughly to remove any rust, paint, or contaminants that could affect weld quality.

Operating Instructions

The TIG-250PL offers multiple welding modes for various applications. Refer to the control panel diagram (Figure 4) for button locations.

Mode Selection

- **AC Mode:** Suitable for aluminum and magnesium alloys.
- **DC Mode:** Ideal for stainless steel, carbon steel, copper, and other non-ferrous metals.
- **2T/4T:**
  - **2T (Two-Touch):** Press and hold the torch trigger to weld, release to stop.
  - **4T (Four-Touch):** Press and release to start welding, press and release again to stop. Useful for longer welds.
- **Cold Welding Mode:** Minimizes heat input, reducing deformation and discoloration. Ideal for thin materials.
- **Pulse Mode:** Provides pulsed current for better control over heat input, especially for thin materials or when precise control is needed.
- **Save Function (M):** Allows saving and recalling preferred welding parameters.

Welding Modes and Applications

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Video 2: Demonstrates various welding modes including AC Cold Spot, AC Argon Arc Pulse, DC Cold Spot, DC Cold Welding Interval, DC TIG Spot, and DC Argon Arc Pulse.

Figure 7: Examples of welding results for AC Cold (0.5mm Aluminum), AC Pulse (3mm Aluminum), AC Hot TIG (3mm Aluminum), DC Cold (0.5mm Stainless Steel), DC Pulse (3mm Stainless Steel), and DC Hot TIG (1mm Square Tube).

- **AC Cold Spot Welding:** Ideal for thin aluminum welding, minimizing heat input.
- **AC Argon Arc Pulse:** Suitable for quick welding of aluminum plates, providing controlled heat.
- **DC Cold Spot Welding:** Focuses on sheet welding with minimal discoloration and no need for sanding.
- **DC Cold Welding Interval:** Allows for rapid continuous spot welding on sheet metal.
- **DC TIG Spot Welding:** Suited for thick plate welding, offering strong penetration.
- **DC Argon Arc Pulse:** Designed for fast welding of thick plates, ensuring efficient heat management.

Maintenance

Regular maintenance ensures the longevity and optimal performance of your welding machine.

- Keep the machine clean and free from dust and debris. Use compressed air to clear ventilation openings regularly.

- Inspect all cables and connections for wear or damage before each use. Replace any damaged components immediately.
- Ensure proper gas flow and check for leaks in the gas lines.
- Store the machine in a dry, clean environment when not in use.

Troubleshooting

This section addresses common issues you might encounter. For more complex problems, contact customer support.

Problem	Possible Cause	Solution
Machine does not power on	No power supply; ON/OFF switch off; internal fault.	Check power connection and outlet; ensure switch is ON; contact support if problem persists.
Poor weld quality (e.g., porosity, weak penetration)	Improper gas flow; incorrect parameters; dirty workpiece; worn electrode.	Check gas supply and flow rate; adjust welding parameters; clean workpiece; replace electrode.
Overheating indicator active	Exceeded duty cycle; blocked ventilation.	Allow machine to cool down; ensure clear ventilation paths.

Specifications

- **Model:** TIG-250PL
- **Voltage:** 220V (supports 110V with conversion line)
- **Current:** 200 AMP
- **Welding Modes:** Pulse TIG, HF TIG, Cold Pulse, Cold Welding
- **Applicable Materials:** Aluminum, Stainless Steel, Thinner Metals
- **Weight:** 12.6 KG
- **Dimensions:** 500mm x 238mm x 390mm
- **Manufacturer:** ANDELI
- **Part Number:** TIG-250PL
- **Material:** Other (referring to machine casing/components)
- **First Available:** May 23, 2020

Warranty and Support

ANDELI provides a two-year warranty and free replacement parts for the TIG-250PL. Returns and exchanges are available within 30 days of receiving the goods. For any issues or technical assistance, please contact ANDELI customer service.

- **Warranty Period:** 2 Years
- **Return Policy:** 30 days for returns and exchanges
- **Customer Service:** Efficient customer service team available for guidance.
- **Official User Manual (PDF):** Download PDF Manual

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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.

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