

ANDELI TIG-250PLS

ANDELI TIG-250PLS AC/DC TIG Welder User Manual

Model: TIG-250PLS | Brand: ANDELI

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and effective operation, setup, maintenance, and troubleshooting of your ANDELI TIG-250PLS AC/DC TIG Welder. This versatile machine offers 110V/220V dual voltage capability and 200 AMP current, featuring multiple welding modes including pulse TIG, HF TIG, cold pulse, and cold welding. It is designed for welding various materials such as aluminum, stainless steel, and other thinner metals.

2. SAFETY INFORMATION

WARNING: Welding can be dangerous. Always follow safety precautions to prevent injury or death. Read and understand this manual completely before operating the welder.

- Always wear appropriate personal protective equipment (PPE), including welding helmet, gloves, and protective clothing.
- Ensure proper ventilation to avoid inhaling hazardous fumes.
- Protect bystanders from arc rays and hot metal.
- Do not operate the welder in wet conditions or near flammable materials.
- Ensure the machine is properly grounded.
- Disconnect power before performing any maintenance or service.
- Keep children and unauthorized personnel away from the welding area.
- This product is CE certified, indicating compliance with European safety standards.

3. PRODUCT OVERVIEW

3.1 Components and Package Contents

The ANDELI TIG-250PLS AC/DC TIG Welder package includes the following items:

- TIG-250PLS AC/DC 110V/220V Welder Unit
- American standard plug

- Grounding clamp (2m)
- Aluminum torch WP-26D (4m)
- Nozzles (10 pcs)
- Collets (10 pcs)
- House clamps (2 pcs)
- Tungsten poles (10 pcs)
- Foot switch (2 pcs)



Figure 3.1: ANDELI TIG-250PLS Welder and included accessories. This image displays the main welding unit, foot pedal, grounding clamp, TIG torch, various nozzles, collets, and tungsten electrodes, providing a visual overview of the complete package.

3.2 Control Panel Overview

The control panel features a digital display for clear indication of settings and various controls for precise parameter adjustment. Understanding each section is key to effective operation.

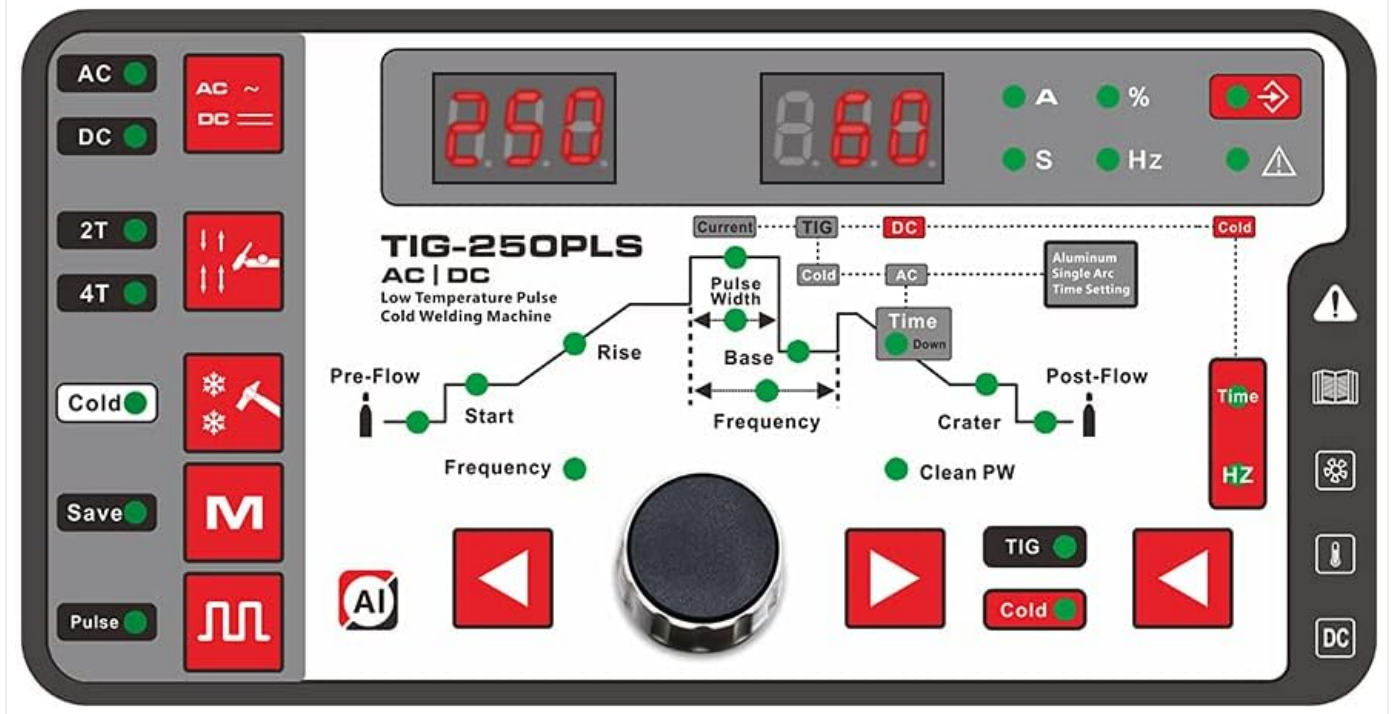


Figure 3.2: Detailed diagram of the ANDELI TIG-250PLS control panel. This diagram highlights the digital display, parameter adjustment area, and various function buttons for modes like AC/DC, 2T/4T, Cold, Save, and Pulse.

- **AC/DC Mode Selection:** Toggles between Alternating Current (AC) for aluminum and Direct Current (DC) for stainless steel and other metals.
- **2T/4T Mode:** Selects between 2-stroke (manual) and 4-stroke (semi-automatic) torch control.
- **Cold Welding Mode:** Activates the low-temperature cold welding function, ideal for reducing deformation and discoloration.
- **Save Function:** Allows saving custom welding parameters for quick recall.
- **Pulse Function:** Engages pulse welding for enhanced control and reduced heat input.
- **Parameter Adjustment Knobs/Buttons:** Used to fine-tune settings such as current (AMP), frequency (Hz), pre-flow, post-flow, and cleaning percentage.

4. SETUP

Before operating the welder, ensure proper setup and connections.

1. **Power Connection:** Connect the welder to a suitable 110V or 220V power supply using the provided American standard plug. The machine automatically detects the voltage. If converting from 220V to 110V, use the power conversion line.
2. **Grounding:** Securely attach the grounding clamp to a clean, bare metal section of your workpiece or welding table to ensure proper electrical grounding.

3. **Gas Connection:** Connect your pure argon gas cylinder to the gas inlet on the welder. Ensure all gas connections are tight to prevent leaks.
4. **Torch Connection:** Connect the WP-26D aluminum torch to the designated port on the welder.
5. **Foot Switch Connection:** Connect the foot switch to its dedicated port for remote current control.
6. **Tungsten Electrode Installation:** Install the appropriate tungsten electrode into the torch collet, ensuring it is properly sharpened for your welding application.

Your browser does not support the video tag.

Video 4.1: Overview of the ANDELI TIG-250PLS Welder's features and setup. This video demonstrates the machine's dual voltage capability, control panel functions, and various welding modes, including AC Cold Spot Welding, AC Argon Arc Pulse, DC Cold Spot Welding, DC Cold Welding Interval, DC TIG Spot Welding, and DC Argon Arc Pulse. It also shows the power plug and portability of the unit.

5. OPERATING INSTRUCTIONS

The TIG-250PLS offers multiple welding modes for various applications. Always ensure your workpiece is clean and free of contaminants before welding.

5.1 AC/DC TIG Welding

Select **AC** mode for aluminum and **DC** mode for stainless steel, carbon steel, and other metals. Adjust current, frequency, and gas flow as needed for your specific material thickness and desired weld.



Figure 5.1: Examples of welding results using the ANDELI TIG-250PLS. This image showcases various weld types including AC Cold, AC Pulse, AC Hot TIG on aluminum, and DC Cold, DC Pulse, DC Hot TIG on stainless steel and square tube, illustrating the machine's versatility.

- **AC TIG:** Ideal for welding 0.6-3mm aluminum.
- **DC TIG:** Suitable for welding 0.6-8mm stainless steel/carbon steel.

5.2 Pulse TIG Welding

The Pulse TIG mode provides better control over heat input, reducing distortion and improving weld appearance, especially on thinner materials. Activate the **Pulse** function on the control panel and adjust pulse frequency and width as

required.

5.3 Cold Welding (Cold Pulse/Cold Spot Welding)

Cold welding mode is designed to minimize heat input, significantly reducing deformation and discoloration of the workpiece. This mode is particularly effective for thin materials, producing silver-white welds on aluminum and stainless steel.

- **AC Cold Spot Welding:** Can weld 0.04 inch seamless aluminum plate.
- **DC Cold Welding:** Can weld 0.015 inch - 0.12 inch stainless steel plate.
- Ensure pure argon is used for optimal cold welding results.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your welder.

- **Cleaning:** Periodically clean the exterior of the welder with a dry, soft cloth. Ensure ventilation openings are free from dust and debris.
- **Torch and Consumables:** Inspect the TIG torch, nozzles, collets, and tungsten electrodes regularly. Replace worn or damaged consumables to maintain weld quality.
- **Cable Inspection:** Check all cables (power, ground, torch) for cuts, abrasions, or loose connections. Repair or replace damaged cables immediately.
- **Storage:** Store the welder in a clean, dry environment, away from excessive dust, moisture, and extreme temperatures.

7. TROUBLESHOOTING

This section addresses common issues you might encounter during operation.

Problem	Possible Cause	Solution
No power to the machine	Loose power connection, tripped circuit breaker, faulty power cable.	Check power plug and outlet. Reset circuit breaker. Inspect power cable for damage.
No arc initiation	Improper grounding, incorrect gas flow, worn tungsten electrode, wrong welding mode.	Ensure proper grounding. Check gas supply and flow rate. Replace or sharpen tungsten. Verify mode selection (TIG/Cold).
Poor weld quality (porosity, discoloration)	Insufficient gas shielding, contaminated workpiece, incorrect parameters (current, frequency).	Increase gas flow or check for leaks. Clean workpiece thoroughly. Adjust welding parameters according to material.
Overheating protection activated	Exceeded duty cycle, blocked ventilation.	Allow machine to cool down. Ensure clear airflow around the welder.

If problems persist, contact ANDELI customer service for free guidance.

8. SPECIFICATIONS

Key technical specifications for the ANDELI TIG-250PLS welder:

Feature	Detail
Model Number	TIG-250PLS
Input Voltage	110V/220V Dual Voltage
Current Output	200 AMP (Real 200AMP output current)
Welding Modes	Pulse TIG, HF TIG, Cold Pulse, Cold Welding
Applicable Materials	Aluminum, Stainless Steel, Thinner Metals
Cold Welding Thickness (Aluminum)	0.04 inch seamless aluminum plate
Cold Welding Thickness (Stainless Steel)	0.015 inch - 0.12 inch stainless steel plate
Item Weight	44.8 pounds
Package Dimensions	23.4 x 20.5 x 11.5 inches
Country of Origin	China
Certifications	CE certified

TIG-250PLS											
Function		TIG		PULSE		COLD	TIG		PULSE		COLD
		AC	DC	AC	DC		AC	DC	AC	DC	
Power Supply Voltage(V)		220V±15%						110V±15%			
Frequency(Hz)		50/60Hz						50/60Hz			
Efficiency(%)		60%						60%			
No-Load Voltage(V)		64						64			
Power Factor		0.76						0.76			
Rated Input Power(KW)		8.1						5.2			
Rated Input Current(A)I1max		37						48			
Effective Input Current(A)I1eff		17						21			
Welding Current Range(A)		10-200						10-145			
Efficiency Duty Cycle	20%	200A/18V						/			
	60%	115A/14.6V						145A/15.8V			
	100%	89A/13.6V						112A/14.2V			
Arc-Starting Current(A)		10-200						10-145			
Pre-Gas Time(S)		0-1						0-1			
Up-slope Time(S)		0-5						0-5			
Peak Current(A)		10-200						10-145			
Pulse Frequency(Hz)		0.5-100						0.5-100			
Pulse Width		5-100						5-100			
Base Current(A)		10-200						10-145			
Down-slop Time(S)		0-5						0-5			
Crater-filling Current(A)		10-200						10-145			
Post-Gas Time(S)		0.1-10						0.1-10			
AC Frequency		40-100						40-100			
Clean Pulse Width (AC Balance)		20-50						20-50			
AC Waveforms		Square wave	/	Square wave	/	/	Square wave	/	Square wave	/	/
Cold Welding Time(MS)		/				1-200	/				1-200
Cold Welding Interval(Hz)		/				0-10	/				0-10
Welding Thickness(MM)		0.8-5				0.4-1.2	0.8-3				0.4-1
2T/4T		YES				NO	YES				NO
Welding Material		For Stainless Steel, Carbon Steel, Aluminum, Titanium									
Remote Control		YES									
Gas Check		YES									
Protection Class		IP21S									
Insulation Class		H									
Cooling		AIR									
Dimension(MM)		460×170×310									
Net Weight(KG)		11									

Figure 8.1: Official specifications table for the TIG-250PLS welder, detailing functions, power supply, efficiency, welding current ranges, and dimensions.

9. WARRANTY AND SUPPORT

ANDELI stands behind the quality of its products.

- **Warranty:** The ANDELI TIG-250PLS comes with a two-year warranty.
- **Replacement Parts:** Free replacement parts are available during the warranty period.
- **Customer Service:** An efficient customer service team is available to provide free guidance if you encounter any problems with your product. You can contact the ANDELI Official Store US for assistance.

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