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ANDELI TIG-250G PRO

ANDELI TIG-250G PRO Intelligent TIG Welder User Manual

Model: TIG-250G PRO | Brand: ANDELI

1. Introduction

The ANDELI TIG-250G PRO is a versatile 205Amp TIG Welder designed for both 110V and 220V operation. It features advanced IGBT Inverter technology for high efficiency and reliability. This machine supports multiple welding functions including HOT, MMA, Cold, Clean, and TIG Pulse, making it suitable for a wide range of welding applications.
Key features include:

- 205Amp output, compatible with 110V/220V power sources.
- Multiple welding modes: HOT, MMA, Cold, Clean, TIG Pulse.
- IGBT Inverter technology for increased duty cycle and power conversion efficiency.
- Optimized welding process for minimal spatter and easy post-weld cleanup.
- Compact and lightweight design (22.2 pounds) with silent fan for quiet operation.
- CLEAN function for exposing the original appearance of shiny welding beads.
- CE certification for safety.



Figure 1: Front view of the ANDELI TIG-250G PRO Welder, showcasing its compact design and control panel.

2. Safety Information

Always prioritize safety when operating welding equipment. Failure to follow safety guidelines can result in serious injury or death.

- **Electric Shock Can Kill:** Ensure proper grounding. Do not touch live electrical parts. Wear dry welding gloves and protective clothing.
- **Fumes and Gases Can Be Hazardous:** Work in a well-ventilated area. Use fume extraction if necessary. Keep your head out of the fumes.
- **Arc Rays Can Burn Eyes and Skin:** Wear a welding helmet with appropriate shade. Use protective clothing and gloves. Protect bystanders with welding screens.
- **Fire and Explosion Hazard:** Keep flammable materials away from the welding area. Have a fire extinguisher readily available. Do not weld on containers that have held combustibles.
- **Hot Parts Can Cause Severe Burns:** Allow welded materials to cool before handling. Use insulated gloves.

- **Read the Entire Manual:** Before operation, thoroughly read and understand all instructions and safety warnings in this manual.

3. Setup

Proper setup is crucial for safe and effective welding. Follow these steps to prepare your ANDELI TIG-250G PRO welder for operation.

3.1 Connecting the Remote Control TIG Torch

The TIG-250G PRO comes with an upgraded remote control TIG torch for enhanced parameter adjustment during welding.

1. Locate the gas-electric integrated connector on the TIG torch cable.
2. Connect this integrated connector to the corresponding port on the front panel of the welder. Ensure it is securely fastened.
3. Connect the two-core aviation plug adapter cable from the torch to the designated port on the welder's front panel.
4. Connect the ground clamp to the positive electrode terminal on the welder.

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Video 1: Installation guide for the TIG-250G PRO welder, demonstrating how to connect the remote control TIG torch and ground clamp.

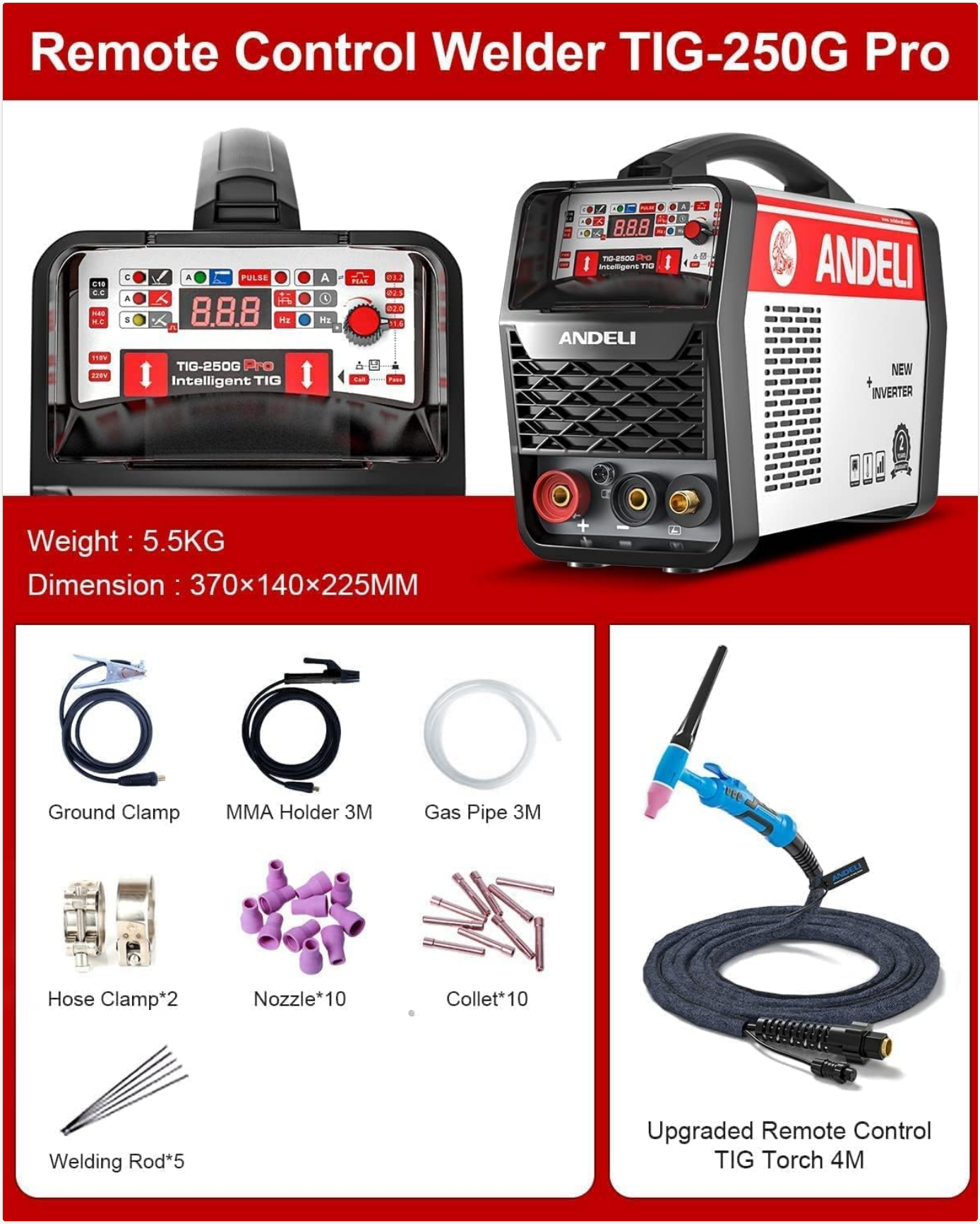


Figure 2: The ANDELI TIG-250G PRO Welder shown with its included accessories, including the TIG torch, ground clamp, and other components.

4. Operating Instructions

The TIG-250G PRO offers various welding modes and adjustable parameters for optimal performance across different materials and applications.

4.1 Control Panel Operations

The control panel allows selection of welding modes and adjustment of parameters. Use the main knob for current adjustment and other buttons for mode selection and fine-tuning.

- **MMA Mode:** For MMA (Manual Metal Arc) welding, simply adjust the current using the main knob.
- **Clean Mode:** Select 'Clean' mode for surface cleaning. 'C' gear (e.g., C5, C16) is for small, thin cleaning accessories, while 'H' gear (e.g., H5, H28) is for cleaning thick plates.
- **TIG (Thermal Welding/Argon Arc Welding) Mode:** Adjust current and after-flow settings.
- **Cold Welding Mode:** Adjust cold welding current, cold welding time, interval, and frequency.
- **Pulse Mode:** Long press the main knob to enter Pulse mode. This mode is ideal for precise control and reduced heat input.
- **Electrode Diameter Selection:** The machine allows selection of electrode diameter (e.g., d0.6 for 0.6mm plate spot weld, d1.0 for 1.0mm plate spot weld, L0.8 for 0.8mm plate drag weld, L1.5 for 1.5mm plate drag weld).
- **Fast Switching:** The machine supports fast switching between four channels for quick setup changes.

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Video 2: Demonstration of the TIG-250G PRO control panel operations, showing how to select modes and adjust parameters for different welding functions.

4.2 Remote Control TIG Torch Adjustment

The remote control TIG torch allows for real-time parameter adjustments, improving efficiency and control during welding.

- Use the **+** and **-** buttons on the torch handle to increase or decrease the welding current.
- Long press the **M** button to switch between different functions or modes directly from the torch.
- Short press the **M** button for parameter adjustment within the selected mode.



Figure 3: Close-up of the remote control TIG torch, highlighting the buttons for increasing/decreasing parameters and switching functions.

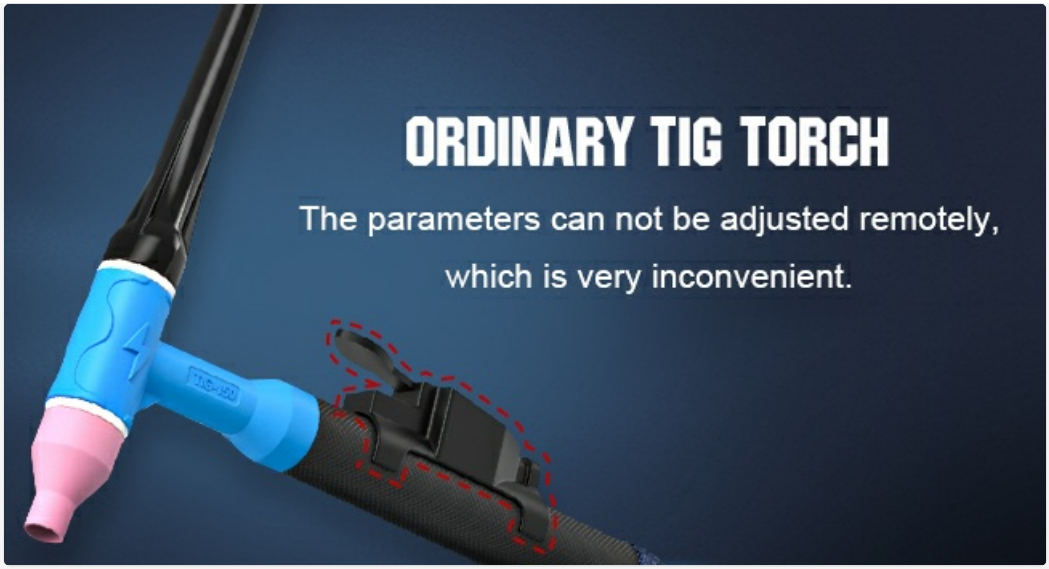


Figure 4: Illustrates the advantage of the remote control TIG torch, allowing real-time parameter adjustments compared to an ordinary torch.

4.3 Welding Applications and Effects

The TIG-250G PRO is capable of welding various materials and achieving different welding effects:

- **Cold Spot Welding:** Ideal for thin materials like 0.8mm stainless steel, producing beautiful welding beads with no deformation or color change. Also effective for 1.5mm stainless steel for stable spot welding.
- **Pulse Welding:** For materials like 3mm stainless steel, pulse welding ensures a uniform welding bead.
- **Cleaning Function:** Effectively cleans the surface to expose the original shiny welding bead. Note: Cleaning solution (HCl 0.175-0.035%) must be purchased locally as it cannot be transported with the unit.



Figure 5: Examples of welding results using the TIG-250G PRO, demonstrating the quality of Hot TIG, Cold Spot, Pulse, and MMA welds, as well as before and after cleaning.



Figure 6: The ANDELI TIG-250G PRO is suitable for welding a wide range of materials, including Angle Steel, Mild Steel, Sheet Metal, and Stainless Steel.

5. Maintenance

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

- **Cleaning:** Periodically clean the exterior of the welder and the TIG torch to remove dust and debris. Ensure ventilation grilles are clear for proper airflow.
- **Cable Inspection:** Regularly inspect all cables (power, ground, torch) for any signs of damage, cuts, or fraying. Replace damaged cables immediately.
- **Connections:** Check all electrical connections to ensure they are tight and secure. Loose connections can lead to

overheating and poor performance.

- **Storage:** Store the welder in a dry, clean environment away from excessive dust, moisture, and extreme temperatures.
- **Cooling System:** The welder features rapid heat dissipation with multi-grid design and automatic cooling. Ensure these vents are not obstructed.

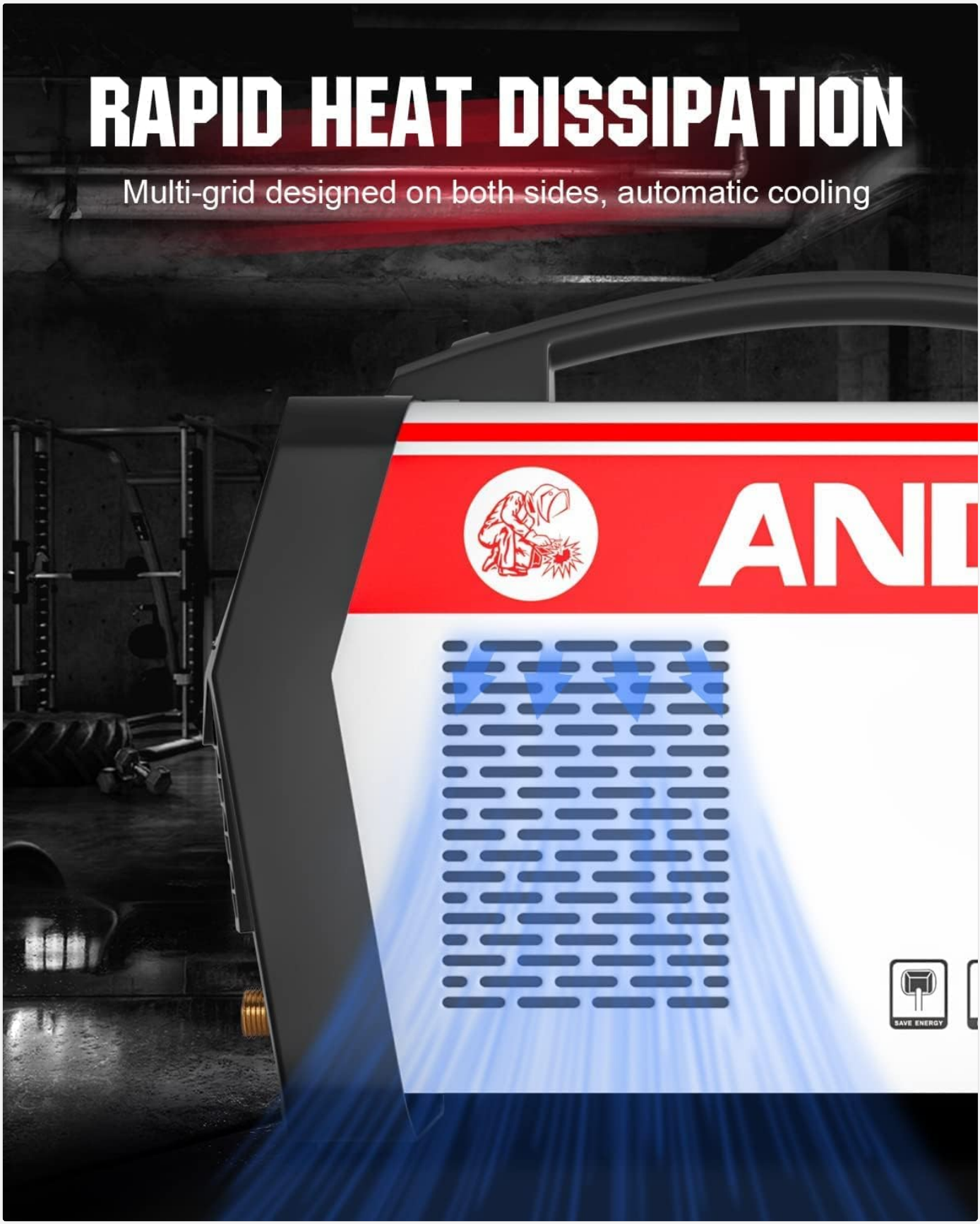


Figure 7: The welder's rapid heat dissipation system, featuring multi-grid design on both sides for efficient automatic cooling.

6. Troubleshooting

This section provides common troubleshooting steps for issues you might encounter.

Problem	Possible Cause	Solution
Welder does not power on.	No power supply, faulty power cord, internal fuse.	Check power outlet and circuit breaker. Inspect power cord for damage. Contact customer service if fuse is suspected.
No arc or weak arc.	Improper current setting, poor ground connection, worn electrode, gas flow issue (for TIG).	Adjust current. Ensure ground clamp is securely attached to clean metal. Replace electrode. Check gas cylinder and flow rate.
Overheating indicator active.	Exceeded duty cycle, obstructed ventilation.	Allow welder to cool down. Clear any obstructions from ventilation grilles.
Poor weld quality (e.g., excessive spatter, porosity).	Incorrect settings, improper technique, contaminated material, insufficient gas shielding.	Adjust parameters (current, pulse settings). Ensure proper welding technique. Clean workpiece thoroughly. Check gas flow and torch components.



Figure 8: The TIG-250G PRO includes safety features such as overheating and overload protection, antistatic design, and IP21S class rating.

7. Specifications

Feature	Detail
Manufacturer	ANDELI
Part Number	TIG-250G Pro
Item Weight	22.2 pounds
Package Dimensions	20 x 19 x 11.1 inches
Country of Origin	China
Item Model Number	TIG-250G PRO
Material	TIG-250G PRO
Power Source	AC (110V/220V compatible)
Included Components	TIG WELDER

Feature	Detail
First Available Date	August 9, 2022

8. Warranty and Support

ANDELI provides comprehensive support for its products:

- **Warranty:** This product 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 the product.

For assistance, please contact ANDELI Official Store US through the Amazon platform or refer to the contact information provided with your purchase.

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