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› ANDELI TIG Welder TIG-250MGLC Instruction Manual

ANDELI TIG-250MGLC

ANDELI TIG Welder TIG-250MGLC Instruction Manual

Model: TIG-250MGLC | Brand: ANDELI

1. INTRODUCTION

The ANDELI TIG-250MGLC is a versatile 4-in-1 Smart Portable DC Inverter Welding Machine, offering TIG, COLD, MMA, and CLEAN functions. Designed for efficiency and precision, this welder is suitable for a variety of applications including mold repairing, and welding carbon steel, copper, and stainless steel. Its intelligent design ensures ease of use and high-quality results.



Front view of the ANDELI TIG-250MGLC Welder, showcasing its compact design.

2. PACKAGE CONTENTS

Upon unpacking your ANDELI TIG-250MGLC Welder, please ensure all the following items are present and in good condition:

- TIG-250MGLC Welding Machine
- Ground Clamp (2m)
- WP-17F Torch (4m)
- Gas Pipe (3m)
- Hose Clamp (x2)
- User Manual
- MMA Holder
- Welding Wire
- Welding Rods
- Tungsten Electrodes
- Pyrex Cup Kit

Note:

- This machine does not include an American plug.
- Cleaning solution cannot be transported and must be purchased locally.

MMA / HOT / COLD / CLEAN 4 in 1 TIG-250MGLC

3



Feature

220V

Welding Thickness : 0.8-6mm

Build-in Parameters

Weight : 5.28KG

Dimension : 370×140×270MM



Manual



Ground Clamp 2M



WP-17F 4M



Gas Pipe 3M



Hose Clamp*2



Pyrex Cup Kit



HD-250L 4M



MMA Holder



Welding Wire 3M



Welding Rod*5



Tungsten Electrode*10

Illustration of all items included in the ANDELI TIG-250MGLC Welder package.

3. SAFETY INFORMATION

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

- **Electric Shock:** Can kill. Do not touch live electrical parts. Wear dry welding gloves and protective clothing. Insulate yourself from work and ground.
- **Fumes and Gases:** Can be hazardous. Keep your head out of the fumes. Use enough ventilation or exhaust at the arc to keep fumes and gases away from the breathing zone.

- **Arc Rays:** Can burn eyes and skin. Wear a welding helmet with a proper shade of filter to protect your face and eyes. Wear appropriate protective clothing to protect your skin.
- **Fire and Explosion:** Welding can cause fire or explosion. Keep flammable materials away from the welding area. Have a fire extinguisher nearby.
- **Burns:** Hot metal can cause severe burns. Do not touch hot parts with bare hands. Allow the workpiece to cool before handling.

4. SETUP AND INSTALLATION

Follow these steps to properly set up your ANDELI TIG-250MGLC Welder.

4.1. TIG Torch Connection

1. Connect the gas-electrical joint of the TIG torch to the corresponding interface on the welder. Tighten it securely to prevent air leaks.
2. Connect the switch wire from the TIG torch to the two-core interface on the welder. Tighten it to prevent it from falling off.

Video demonstrating the connection of the TIG torch to the welder.

4.2. MMA Holder Connection

1. Connect the MMA holder to the negative pole (red interface) on the welder.
2. Connect the ground clamp to the positive pole (black interface) on the welder.

Video demonstrating the connection of the MMA holder and ground clamp.

4.3. Cleaning Torch Connection

1. Connect the cleaning torch's quick connector to the negative pole (black interface) on the welder.
2. Connect the cleaning torch's switch wire to the two-core interface on the welder. Tighten it to prevent it from falling off.

Video demonstrating the connection of the cleaning torch.

4.4. Installation of Cleaning Torch Components

The cleaning torch requires assembly of its components:

- Install the brush into the torch body and tighten it.
- Install the nozzle over the brush and tighten it.
- Install the rubber pipe, ensuring about 1cm of the brush is exposed. This setup (C05-C10) is for thin plate cleaning.
- For thick plate cleaning (H11-H40), install the copper brush into the nozzle first, then tighten the nozzle onto the torch. Wrap the copper brush with the cleaning cloth and fix it with a rubber band.

Video demonstrating the assembly of the cleaning torch components.

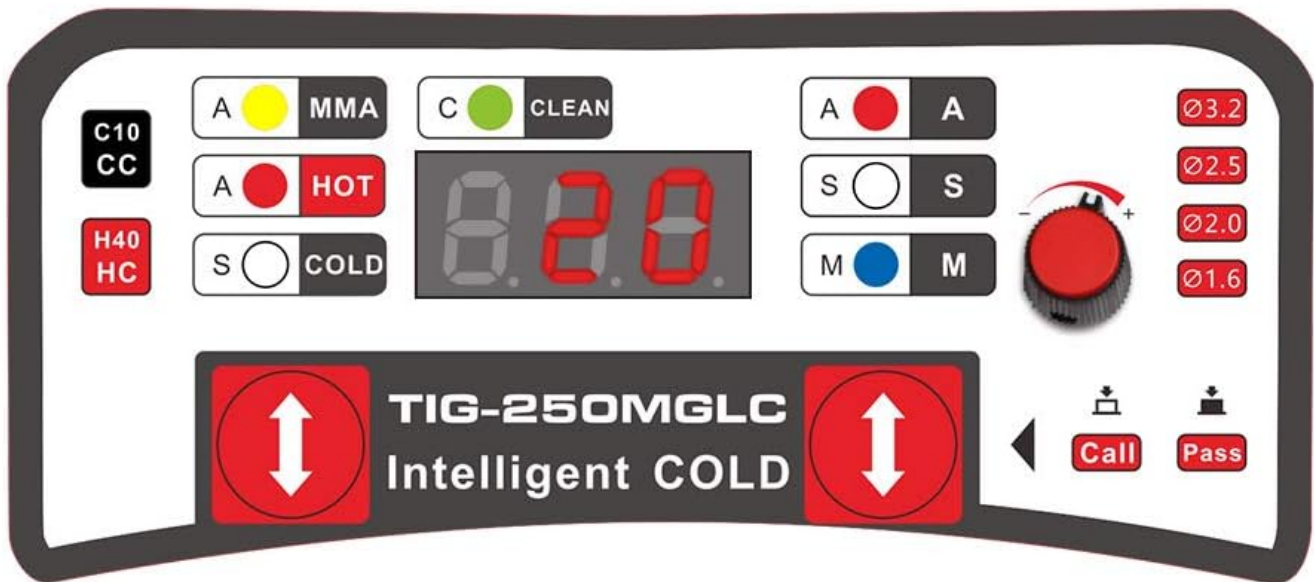
4.5. Air Pipe Connection Method

1. Connect the air pipe to the joint on the welder.
2. Use a hose clamp to secure the air pipe to the joint. Tighten the hose clamp firmly to prevent any air leaks.

Video demonstrating the connection of the air pipe.

5. OPERATING INSTRUCTIONS

The ANDELI TIG-250MGLC features an intuitive control panel for various welding modes.



Close-up view of the ANDELI TIG-250MGLC control panel.

5.1. MMA Welding Panel Introduction

Switch the machine to MMA mode. The maximum current is 250A. Adjust the current based on plate thickness. The machine has built-in parameters for common electrode sizes:

- d1.5: Current is 80A (for 1.5 electrode welding)
- d2.5: Current is 120A (for 2.5 electrode welding)
- d3.2: Current is 170A (for 3.2 electrode welding)
- d4.0: Current is 250A (for 4.0 electrode welding)

You can fine-tune the current using the knob. Parameters can be saved to five channels (C1-C5) by pressing the save button.

Video explaining the MMA welding panel and parameter adjustments.

5.2. TIG Welding Panel Introduction

Switch the machine to TIG mode. The maximum current is 250A, and the minimum is 5A. Adjust the current based on plate thickness. For spot welding 0.8mm plate, adjust current to about 100A. If welding with wire, the current should be higher; without wire, it should be lower. The typical current range is 100-120A.

The machine has four built-in parameter storage channels (d0.8, d1.0, d1.2, d3.0) for common plate thicknesses. For example, when welding 0.8mm plate, adjust to d0.8, and no further current adjustment is needed. You can save custom parameters to five channels (C1-C5) by pressing the save button.

Video explaining the TIG welding panel and parameter adjustments.

5.3. Cold Welding Panel Introduction

Switch the machine to Cold mode. The time indicator will light up, and the screen will show time. The current is fixed in this mode; you only need to adjust the time. Slowly adjust the time from small to large until the welding works effectively. If the welding effect is black when time is 54, you should reduce the value. It is good if the welding spot is silver-white.

The tungsten electrode should be extended during welding, and the closer to the weld bead, the better. You can save parameters to five channels (C1-C5) by pressing the save button. There are also four built-in parameter storage channels (d0.4, d0.8, d1.5, d3.0) for different plate thicknesses, which will produce a silver-white spot without further current adjustment.

Video explaining the Cold welding panel and parameter adjustments.

5.4. Cleaning Function Panel Introduction

Switch the machine to Clean mode. There are two modes: C and H. In C mode, use a brush to clean thin plates, adjusting the current with the knob from 1 to 10. In H mode, use a copper brush to clean thick plates, adjusting the current with the knob from 11 to 40. Adjust the current as needed, as long as the bead can be cleaned effectively.

Video explaining the Cleaning function panel and parameter adjustments.

6. WELDING DEMOS

6.1. MMA Welding Demo

Demonstration of MMA welding on a 10mm thick plate using a 3.2 electrode at 230A. The video shows the welding process and the resulting weld bead after removing the coating.

MMA welding demonstration and weld effect display.

6.2. TIG Welding Demo

Demonstration of TIG welding on a 0.67mm thick plate using 95A current. The video shows the welding process and the resulting clean, colorful weld bead.

TIG welding demonstration and weld effect display.

6.3. Cold Mode Demo

Demonstration of Cold welding on a 0.7mm thick plate with time set to 40. The video shows the welding process and the resulting silver-white weld bead, indicating proper cold welding.

Cold mode welding demonstration and weld effect display (silver-white welding bead).

6.4. Cleaning Function Demo

Demonstration of the cleaning function on a 1.5mm thick plate. The video shows applying cleaning solution and then using the cleaning torch to remove discoloration, resulting in a clean surface.

Cleaning function demonstration and cleaning effect display.

7. SPECIFICATIONS

Feature	Specification
Function Modes	TIG, COLD, MMA, CLEAN
Power Supply Voltage	AC220V ± 15%
Frequency	50 / 60 Hz
No-Load Voltage	56V
Efficiency	85%
Rated Input Power (TIG)	4.1 KW
Rated Input Power (MMA)	5.6 KW
Rated Input Current (TIG)	18.5 A
Rated Input Current (MMA)	25.3 A
Welding Current Range (TIG)	5-170 A
Welding Current Range (MMA)	10-150 A
Duty Cycle (40% 10min) TIG	170A / 16.8V
Duty Cycle (100%) TIG	108A / 14.3V
Duty Cycle (40% 10min) MMA	150A / 26V
Duty Cycle (100%) MMA	95A / 23.8V
Power Factor	0.7
Protection Class	IP21S
Insulation Class	F
Cooling	AIR
Dimensions (MM)	370 x 140 x 270
Net Weight (KG)	5.28

TIG-250MGLC

Function		TIG			MMA
		HOT	COLD	CLEAN	
Power Supply Voltage(V)		AC220V ± 15%			
Frequency(Hz)		50 / 60			
No-Load Voltage(V)		56			
Efficiency(%)		85			
Rated Input Power(KW)		4.1			5.6
Rated Input Current(A)		18.5			25.3
Welding Current Range(A)		5-170			10-150
Duty cycle (% 40℃ 10min)	40%	170A / 16.8V			150A / 26V
	100%	108A / 14.3V			95A / 23.8V
Power Factor		0.7			
Protection Class		IP21S			
Insulation Class		F			
Cooling		AIR			
Dimension(MM)		370×140×270			
Net Weight(KG)		5.28			

Detailed technical specifications for the TIG-250MGLC Welder.



8. TROUBLESHOOTING

If you encounter issues with your welder, refer to the following common troubleshooting steps:

- **No Power:** Check the power cable connection, ensure the power switch is ON, and verify the power source (220V).
- **No Arc:** Ensure all connections (torch, ground clamp) are secure. Check the electrode/tungsten is properly installed and not worn. Verify correct current settings for the material and electrode.
- **Poor Weld Quality:** Adjust current and voltage settings according to the material thickness. Ensure proper gas flow (for TIG/Cold modes). Check for clean workpiece surfaces.
- **Overheating:** Allow the machine to cool down. Ensure proper ventilation around the unit. Do not exceed the recommended duty cycle.

For persistent issues, please contact customer support.

9. MAINTENANCE

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

- **Cleaning:** Regularly clean the exterior of the machine to prevent dust and debris buildup. Use the cleaning function for weld beads as needed.
- **Connections:** Periodically check all electrical and gas connections for tightness and wear.
- **Ventilation:** Ensure the ventilation openings are clear of obstructions to prevent overheating.
- **Storage:** Store the welder in a dry, clean environment when not in use.

10. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the warranty card included in your package or visit the official ANDELI website. Keep your purchase receipt as proof of purchase.