

ANDELI MIG-205DP-DB

ANDELI MIG-205DP-DB Multiprocess Welder Instruction Manual

Model: MIG-205DP-DB

1. INTRODUCTION AND OVERVIEW

The ANDELI MIG-205DP-DB is an 8-in-1 multiprocess welding machine designed for versatility and performance. It integrates Pulsed MIG, Gas MIG, SYN/MAN MIG, HF TIG, CUT (Plasma Cutter), Clean, Cold, and Stick (MMA) Aluminum Welding functions. This machine operates on dual voltage (110V/220V) with automatic detection, making it suitable for various home and workshop applications. It features a 205A maximum welding current and a 50A maximum cutting current, along with 2T/4T modes for efficient operation. Equipped with an advanced MCU-based digital control system, the MIG-205DP-DB provides stable and consistent performance. Its smart interface, featuring a large HD LED screen and intuitive rotary knob, allows for easy selection of welding processes, materials, and thickness, as well as fine-tuning of parameters like inductance, wire feeding, pre/post gas timing, and anti-stick functions.



Image 1.1: Front view of the ANDELI MIG-205DP-DB Multiprocess Welder, showcasing its compact design and digital control panel.

2. SAFETY INFORMATION

Always prioritize safety when operating welding and cutting equipment. Read and understand all safety warnings and instructions before use. Failure to follow these instructions may result in electric shock, fire, serious injury, or death.

- **Electrical Safety:** Ensure proper grounding. Do not operate in wet conditions. Use appropriate personal protective equipment (PPE) including welding helmets, gloves, and protective clothing.
- **Fume Hazards:** Welding and cutting produce fumes and gases. Work in a well-ventilated area or use fume extraction equipment.
- **Arc Rays:** Arc rays can injure eyes and burn skin. Always use a welding helmet with the correct shade filter and wear protective clothing.
- **Fire and Explosion:** Keep flammable materials away from the welding area. Welding sparks can cause fires. Have a fire extinguisher readily available.
- **Hot Parts:** Welded materials and equipment parts can remain hot for a significant time after operation.

Avoid contact with bare skin.

- **Machine Protection:** The unit features advanced auto-protection against voltage fluctuation, overheating, and other abnormalities. If a fault occurs, the unit will shut down and display an error code. It will automatically restart once conditions stabilize.

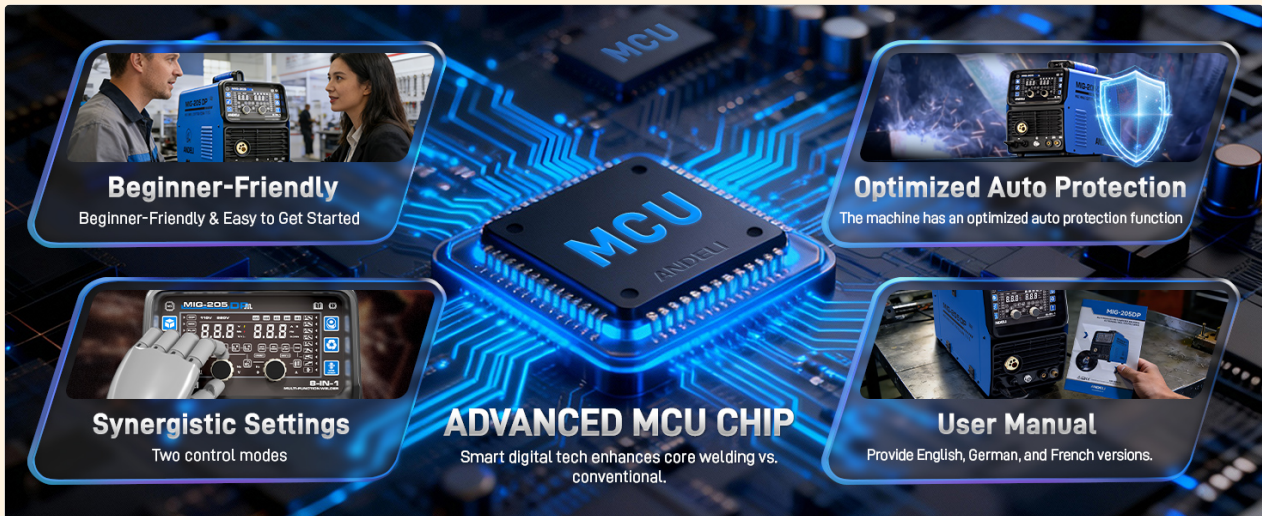


Image 2.1: Overview of the safety features, including IP21S water rating, protection against overcurrent, overload, and overheating, dual voltage capability, and preset air pressure.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any items are missing or damaged, contact customer support immediately.

1. Welding Machine MIG-205DP
2. Welding Machine Carry Case
3. TIG Gloves
4. Welding Gloves
5. Air Filter Regulator
6. Nozzle (x2)
7. Welding Rod (x10)
8. Electrode (x10)
9. MIG Torch Tips (x10)
10. TIG Parts (x10)
11. Shunt (x2)
12. Knurl Groove Drive Roller
13. Hose Hoop (x2)
14. Hose Barb (x2)
15. Power Adapter Cord (110V-220V)
16. MIG Welding Torch
17. MMA Holder
18. Ground Clamp
19. Cutting Torch
20. TIG Torch
21. Clean Torch

22. Graphene Liner

23. Gas hose for MIG welding

24. Gas Hose



Image 3.1: Visual representation of the complete package contents, including the welder unit, torches, cables, and accessories.

4. MACHINE OVERVIEW (COMPONENTS)

Familiarize yourself with the main components and connections of the MIG-205DP-DB welder.

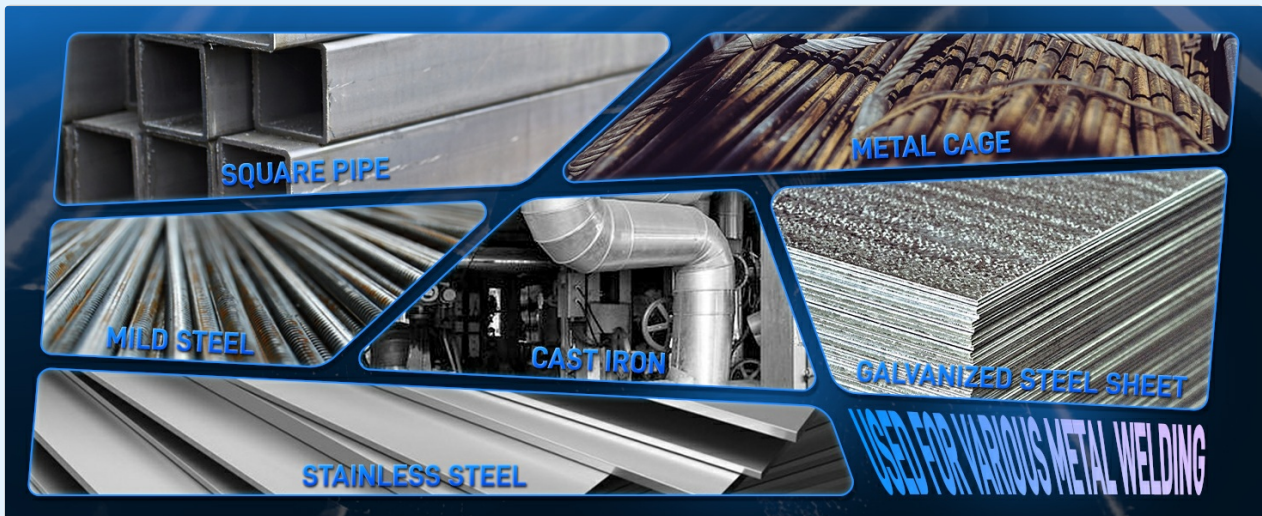


Image 4.1: Front and rear panel overview with numbered components.

1. **Digital Panel:** Main interface for settings and display.
2. **Europe Type Torch Connector:** For connecting MIG torch.
3. **Negative (-) Welding Output Terminal:** Connects to the workpiece clamp for negative polarity.
4. **Polar Conversion Line:** For changing polarity for different welding processes.
5. **Aviation socket for Cutting torch and TIG switch:** Connection point for plasma cutting and TIG torch control.
6. **Positive (+) Welding Output Terminal:** Connects to the electrode holder or workpiece clamp for positive polarity.
7. **CUT Negative (-) Welding Output Terminal:** Specific negative terminal for plasma cutting.
8. **Power Switch:** Turns the machine on/off.
9. **Power Cable:** Connects to the power supply.

10. **2 Pine Aero Socket Cable Welding Cap:** Protective cap for specific connections.
11. **MIG welding gas inlet / CUT And TIG gas inlet:** Connections for shielding gases.
12. **Reducing Valve:** For regulating gas flow.



Image 4.2: Digital control panel with labeled functions.

1. **Gas Selection Button:** Selects gas type.
2. **Preferences Button:** Accesses saved settings.
3. **2T/4T/Spot Welding Button:** Toggles between trigger modes and spot welding.
4. **Material/Gas Selection:** Chooses material type and corresponding gas.
5. **Input Voltage Display:** Shows current input voltage (110V/220V).
6. **Wire Diameter Selection:** Sets wire diameter.
7. **Modes Selection:** Selects welding/cutting mode.
8. **Voltage/Current Display Area:** Shows real-time voltage and current.
9. **MIG Parameters Adjustment:** Adjusts MIG specific settings.
10. **MMA Parameters Adjustment:** Adjusts MMA specific settings.
11. **Torch Process Methods:** Selects torch operation method.
12. **Encoder Knob:** For navigating menus and adjusting values.
13. **Adjusting Knob:** For fine-tuning parameters.
14. **Select Wire Diameter Button:** Confirms wire diameter selection.
15. **Select Welding Mode Button:** Confirms welding mode selection.
16. **Wire Check Function:** Tests wire feed without arc.

5. SETUP

Proper setup is crucial for safe and effective operation.

5.1 Power Connection

The MIG-205DP-DB supports dual voltage 110V/220V. The machine automatically detects the input voltage. Use the provided adapter cable if switching between voltages.

- Ensure the power switch is in the OFF position before connecting to power.
- Connect the power cable to a suitable grounded power outlet.

5.2 Gas Connection (for Gas MIG, HF TIG, Plasma Cutting)

The machine comes with a pre-installed air filter regulator.



Image 5.1: Wire spool support and pre-installed air filter regulator.

- Connect the gas hose from your shielding gas cylinder (e.g., Argon, CO₂, or Argon/CO₂ mix for MIG; Argon for TIG; compressed air for Plasma Cutting) to the appropriate gas inlet on the machine.
- Attach the reducing valve to the gas cylinder and then connect the gas hose to the reducing valve.
- Adjust the gas flow rate according to the welding process and material.

5.3 Wire Installation (for MIG/Flux Core)

The machine supports 2lb or 10lb spools of MIG wire with diameters of 0.023", 0.030", 0.035", 0.040", or 0.045".

- Open the wire spool compartment.
- Install the appropriate wire spool and thread the wire through the drive roller mechanism. Ensure the correct U-grooved drive roll is used for your wire type and size.
- Close the compartment and ensure the wire is properly tensioned.

5.4 Torch and Ground Clamp Connection

- Connect the desired torch (MIG, TIG, or Plasma Cutting) to its respective connector on the front panel.
- Connect the ground clamp to the appropriate welding output terminal (Negative for most MIG/TIG, specific CUT Negative for plasma cutting).
- Attach the ground clamp securely to the workpiece, ensuring good electrical contact.

6. OPERATING MODES

The MIG-205DP-DB offers 8 distinct welding and cutting functions.



Image 6.1: Visual representation of the various operating modes.

6.1 MIG/MAG Welding (Pulsed MIG, Gas MIG, SYN/MAN MIG)

Suitable for aluminum, steel, and stainless steel. Features Synergy mode for automatic parameter adjustment and manual mode for custom settings.



Image 6.2: Aluminum Pulse MIG Welding demonstration.

6.2 HF TIG Welding

Delivers versatile, long-duration welding with HF non-contact ignition. Includes a COLD welding mode for minimizing distortion on thin stainless/carbon steel.



Image 6.3: HF TIG Welding demonstration.

6.3 Cold TIG Welding

An exclusive TIG mode that provides a low-heat advantage, minimizing distortion on thin stainless and carbon steel.

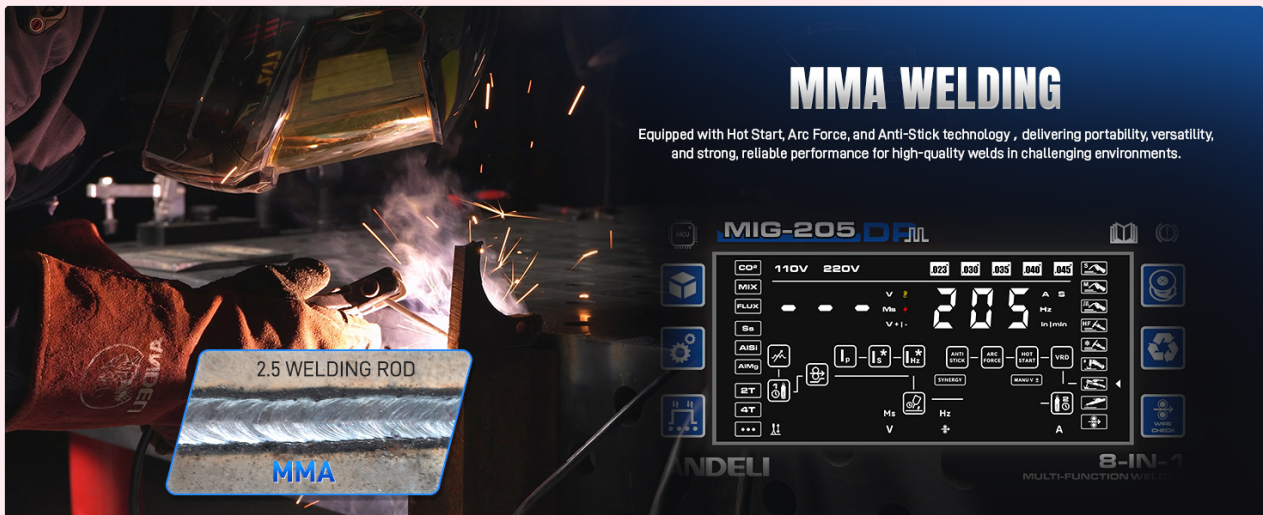


Image 6.4: Cold TIG Welding demonstration.

6.4 Plasma Cutting (CUT)

Features a built-in HF pilot arc for non-contact cutting, capable of handling painted, rusty, or uneven surfaces. Clean cut up to 10mm (3/8"), maximum cut up to 18mm (2/3").



Image 6.5: Plasma Cutting demonstration.

6.5 MMA (Stick) Welding

Equipped with Hot Start, Arc Force, and Anti-Stick technology for reliable performance in challenging environments.



Image 6.6: MMA Welding demonstration.

6.6 Clean Function

A dedicated function to remove oxidation and discoloration from stainless steel welds, improving appearance and quality.

7. ADVANCED FEATURES

7.1 Smart Interface and Control

The large HD LED screen and intuitive rotary knob allow for easy selection of process, material, thickness, and functions like 2T/4T/spot welding. The system supports professional adjustments for inductance, slow wire feeding, pre/post gas timing, initial/finish current, anti-stick, thrust, and VRD, all displayed in real-time.



Image 7.1: The 5-inch LED display for enhanced visibility and control.

7.2 2T/4T Modes

The 2T (Two-Touch) mode requires the trigger to be held down during welding. The 4T (Four-Touch) mode allows for continuous welding without holding the trigger, providing comfort for longer operations.

7.3 Spot Welding

Delivers a fixed-duration weld at each trigger press for consistent spot welds, ideal for thin metals or sheet assembly. Spot welding is available in MIG, HF TIG, and LIFT TIG functions.



Image 7.2: Spot Welding, 2T/4T Function, and Cleaning Mode in action.

7.4 Automatically Memorized Function

The multiprocess welding machine can automatically save and recall welding parameters, reducing setup time between jobs and ensuring repeatable precision and uniformity in every weld.

8. MAINTENANCE

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

- **Cleaning:** Regularly clean the machine's exterior and ventilation openings to prevent dust and debris buildup. Use a dry, soft cloth.

- **Air Filter Regulator:** Periodically check and clean the air filter regulator to ensure proper air flow for plasma cutting.
- **Torch Maintenance:** Inspect torches for wear and tear. Replace consumables (nozzles, contact tips, electrodes) as needed.
- **Cable Inspection:** Check all cables for damage, cuts, or frayed insulation. Replace damaged cables immediately.
- **Wire Drive System:** Keep the wire drive rollers clean and free of debris. Ensure proper tension for consistent wire feeding.
- **Storage:** Store the welder in a dry, clean environment when not in use.

9. TROUBLESHOOTING

This section provides solutions to common issues. For problems not listed here, contact customer support.

Problem	Possible Cause	Solution
Machine does not power on	No power supply; Power switch off; Faulty power cable.	Check power outlet and circuit breaker; Ensure power switch is ON; Inspect power cable for damage.
No arc during welding/cutting	Improper ground clamp connection; Incorrect settings; Consumables worn; Gas flow issues (for gas processes).	Ensure good ground connection; Verify process settings; Replace worn contact tips/nozzles/electrodes; Check gas supply and flow rate.
Wire feeding issues (MIG)	Incorrect drive roller tension; Kinked wire; Worn liner; Wrong drive roller size.	Adjust drive roller tension; Straighten wire path; Replace liner; Ensure correct drive roller for wire diameter.
Error Code E8	Incorrect electrode polarity setting for flux-cored mode.	Ensure the negative electrode plug is disconnected when operating in flux-cored mode, or adjust polarity correctly for the selected process.
Overheating shutdown	Exceeded duty cycle; Blocked ventilation.	Allow machine to cool down; Ensure adequate ventilation around the machine.

10. SPECIFICATIONS

Detailed technical specifications for the ANDELI MIG-205DP-DB Multiprocess Welder.

Feature	Specification
Model Number	MIG-205DP-DB
Power Supply Voltage	110V/220V Dual Voltage (Auto-detection)
Max Welding Current	205A

Feature	Specification
Max Cutting Current	50A
Clean Cut Thickness (Plasma)	10mm (3/8")
Maximum Cut Thickness (Plasma)	18mm (2/3")
Item Weight	60.5 pounds (approx. 27.4 kg)
Package Dimensions	27 x 19 x 18 inches
Wire Diameter Support	0.023", 0.030", 0.035", 0.040", 0.045"
IP Rating	IP21S
Cooling Way	FAN & AIR
Functions	Pulsed MIG, Gas MIG, SYN/MAN MIG, HF TIG, CUT, Clean, Cold, Stick (MMA)



- PACKAGE INCLUDES**
- 1 Welding Machine MIG 205DP *1
 - 2 Welding Machine Carry Case *1
 - 3 TIG Gloves *1
 - 4 Welding gloves *1
 - 5 Air Filter Regulator *1
 - 6 Welding Rod *10
 - 7 Nozzle *2
 - 8 Electrode *10
 - 9 MIG Torch Tips *10
 - 10 TIG Parts *1
 - 11 Shunt *2
 - 12 Nozzle *10
 - 13 Knurl Groove Drive Roller *1
 - 14 Hose Hoop *2
 - 15 Hose Barb *2
 - 16 Power Adapter Cord *1
 - 17 MIG Welding Torch *1
 - 18 MMA Holder *1
 - 19 Ground Clamp *1
 - 20 Cutting Torch *1
 - 21 Tig Torch *1
 - 22 Clean Torch *1
 - 23 Graphene Liner *1
 - 24 Gas hose for MIG welding *1
 - 25 Gas Hose *1

Image 10.1: Comprehensive technical specifications table.

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Image 10.2: Welding Settings Quick Reference Chart. Note: Use this chart as a guide only; optimal settings may vary with joint type and operator technique.

11. WARRANTY AND SUPPORT

11.1 Warranty Information

The ANDELI MIG-205DP-DB Multiprocess Welder is backed by a two-year warranty. This warranty covers manufacturing defects and includes free replacement parts. Please retain your proof of purchase for warranty claims.

11.2 Customer Support

For technical assistance, troubleshooting, or warranty claims, please contact ANDELI customer support. Refer to the contact information provided with your product packaging or visit the official ANDELI website for support details.