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› HITBOX Aluminum MIG Welder with Double Pulse, 7 in 1, Gas MIG/Gasless Flux Core MIG/Stick/Lift TIG/Single Pulse/Dual Pulse Aluminum Welding Machine (HIM250DPP) 7 in 1 Mig Welder 200a User Manual

HITBOX HIM250DPP

HITBOX HIM250DPP 7-in-1 MIG Welder User Manual

Comprehensive Guide for Operation and Maintenance

1. INTRODUCTION

This user manual provides detailed instructions for the safe and effective operation, maintenance, and troubleshooting of your HITBOX HIM250DPP 7-in-1 MIG Welder. This versatile machine supports multiple welding processes, including Gas MIG, Gasless Flux Core MIG, Stick (MMA), Lift TIG, Single Pulse MIG, and Dual Pulse MIG, making it suitable for a wide range of welding applications.

Please read this manual thoroughly before operating the welder to ensure proper usage and to prevent injury or damage to the equipment.



Figure 1.1: HITBOX HIM250DPP 7-in-1 MIG Welder and its primary components.

2. SAFETY INFORMATION

WARNING: Welding can be dangerous. Always follow safety precautions to prevent serious injury or death.

- **Electric Shock:** Can kill. Do not touch live electrical parts. Wear dry welding gloves and protective clothing. Ensure proper grounding.
- **Fumes and Gases:** Can be hazardous to your health. Keep your head out of the fumes. Use ventilation or exhaust to remove fumes from the breathing zone.
- **Arc Rays:** Can burn eyes and skin. Wear a welding helmet with a proper shade filter and protective clothing.
- **Fire and Explosion:** Welding sparks can cause fire or explosion. Keep flammable materials away from the welding area. Have a fire extinguisher readily available.
- **Hot Parts:** Can cause severe burns. Allow hot parts to cool before touching.
- **Overcurrent/Overvoltage Protection:** The HIM250DPP features built-in protection against overcurrent,

overvoltage, overload, and overheating. However, always operate within specified parameters.



A portable MIG welding machine with an orange and black body. It features a digital display on the front panel showing various settings like voltage, amperage, and pulse frequency. The Hitbox logo is visible on the side.

HITBOX

-  Single/Double Pulse MIG
-  Large LED Display
-  Quiet & Energy Saving
-  2T/4T/Spot Welding
-  Waterproof Switch

VS

OTHERS

- Non-pulse MIG
- Ordinary Display
- Noisy & Energy-consuming
- Limited Welding Options
- Water-sensitive Switch

Figure 2.1: Safety features including overcurrent, overvoltage, overheating, and overload protection.

3. PRODUCT FEATURES

The HITBOX HIM250DPP is a versatile 7-in-1 welding machine designed for various welding tasks. Key features include:

- **Multi-functional Welding:** Supports Gas MIG (GMAW), Gasless Flux Core MIG (FCAW), Stick (MMA), Lift TIG, Single Pulse MIG, and Dual Pulse MIG.
- **Double Pulse Welding for Aluminum:** Allows precise control over peak current, base current, frequency, and duty cycle to minimize heat input, reduce distortion, and improve weld appearance, especially for aluminum.
- **Synergic MIG Control:** Automatically adjusts recommended welding thickness and wire feeding speed based on selected material and wire diameter, simplifying operation for all skill levels. Includes voltage compensation and inductance adjustment.
- **Large LED Display:** A 4.3-inch high-clear LED screen provides accurate data display for precise welding results and easy menu navigation.
- **Efficient Cooling:** The cooling fan operates only during welding, reducing noise and conserving energy.
- **Robust Safety Protections:** Equipped with VRD (Voltage Reduction Device), overcurrent, overvoltage, overload, and overheating protection functions.

4.3" HIGH CLEAR LED SCREEN

Great Visuals for Outdoor Working Environments

Synergy Control, User Friendly

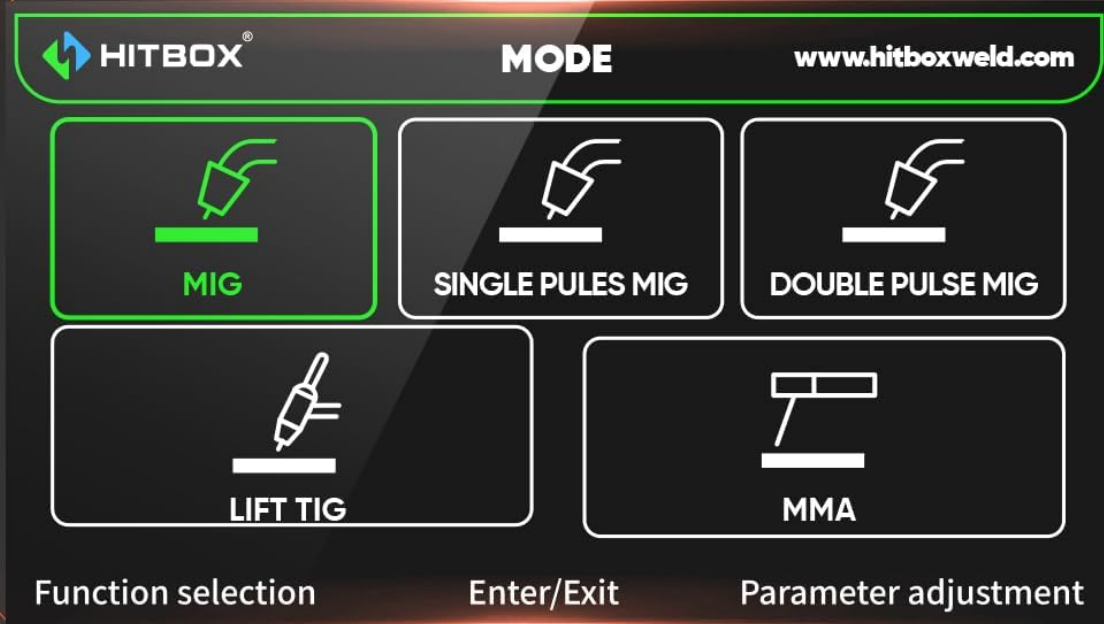


Figure 3.1: The 4.3-inch high-clear LED screen for mode selection and parameter adjustment.



Figure 3.2: Overview of the HIM250DPP's multi-process capabilities.

4. COMPONENTS AND ACCESSORIES

The HITBOX HIM250DPP package typically includes the following items:

- HITBOX HIM250DPP Welding Machine
- Welding Clamp
- Ground Clamp
- 1.0mm 0.5kg Aluminum Wire (sample)
- Hammer
- Pipe Clamp (x2)
- Wrench
- Wire Wheel
- Conductive Nozzle (x2)
- 3m MIG Torch
- Graphene Tube
- Air Hose

Note: TIG gun is not included and requires separate purchase for Lift TIG operation.



5. SETUP

5.1 Power Connection

Connect the welder to a suitable power source as indicated in the technical specifications. Ensure the power outlet matches the welder's voltage requirements (AC110V $\pm$ 15 or AC220V $\pm$ 15, 50/60Hz).

5.2 Wire Installation (MIG/Flux Core)

1. Open the wire feeder compartment on the side of the welder.
2. Place the wire spool onto the spindle, ensuring it rotates freely. The HIM250DPP supports 2-10 lbs welding wire spools.
3. Thread the welding wire through the wire feed mechanism and into the MIG torch liner.
4. Close the wire feeder compartment.
5. Ensure the wire tension is correctly set to prevent tangling or slipping.

SMOOTH WIRE FEEDING

Quality Wire Feeder



Figure 5.1: Proper installation of welding wire spool.

5.3 Ground Clamp Connection

Connect the ground clamp cable to the appropriate terminal on the welder. For MIG/Flux Core welding, the ground clamp is typically connected to the negative (-) terminal. For Stick (MMA) welding, the polarity may vary depending on the electrode type (refer to electrode manufacturer's recommendations). For Lift TIG, the ground clamp is connected to the positive (+) terminal.

Important Note: Some user reviews indicate that for Flux-Core/MIG, the grounding clip should be connected to

the positive terminal, contradicting some written instructions but aligning with diagrams. Always verify polarity based on the specific welding process and material, and perform small test welds to confirm correct setup.

5.4 Gas Connection (for Gas MIG)

If performing Gas MIG welding, connect your shielding gas cylinder (e.g., CO2, Argon, or Argon/CO2 mix) to the gas inlet on the rear of the welder using the provided air hose. Ensure all connections are secure and leak-free. Set the gas flow rate according to your welding requirements.

6. OPERATING INSTRUCTIONS

The HIM250DPP features an intuitive control panel with a large LED display and rotary knobs for parameter adjustment.



Figure 6.1: Control panel layout and parameter indicators.

- 1. 2T/4T/Spot Welding Mode Selection
- 2. Welding Material Selection
- 3. Wire Size Selection
- 4. Operation Mode of Welding Torch
- 5. Voltage Compensation
- 6. Inductance Effect
- 7. Welding Current (Amps)
- 8. Welding Voltage (Volts)
- 9. Welding Thickness (mm)
- 10. Wire Feeding Speed (m/min)
- 11. Voltage Compensation Ratio (%)
- 12. Inductance Effect Ratio (%)

6.1 Mode Selection

Turn on the welder. Use the control knob to navigate through the main menu on the LED display and select your desired welding mode:

- **Gas MIG:** For welding with shielding gas. Inert gas protection reduces oxidation and improves weld purity.



Figure 6.1.1: Gas MIG mode display.

- **Gasless Flux Core MIG:** For welding without external gas cylinders, suitable for outdoor and on-site work.



Figure 6.1.2: Gasless Flux Core MIG mode display.

- **Stick (MMA):** Manual Metal Arc welding. Features hot start and arc force for anti-stick performance.



Figure 6.1.3: Stick (MMA) mode display.

- **Lift TIG:** For precise TIG welding. Requires an additional WP17V TIG torch (not included).



Figure 6.1.4: Lift TIG mode display.

- **Single Pulse MIG:** A user-friendly mode for simple welding operations, especially for aluminum.



Figure 6.1.5: Single Pulse MIG mode display.

- **Dual Pulse MIG:** Advanced mode for aluminum welding, allowing fine-tuning of peak current, base current, frequency, and duty cycle for superior weld quality and reduced distortion.



Figure 6.1.6: Dual Pulse MIG mode display.

6.2 Parameter Adjustment (Synergic Control)

Once a mode is selected, the synergic control system will automatically suggest optimal parameters based on your

material and wire diameter selections. You can fine-tune these parameters using the adjustment knobs:

- **Current (Amps):** Adjusts the welding current.
- **Voltage (Volts):** Adjusts the welding voltage.
- **Wire Feed Speed:** Controls the speed at which the welding wire is fed.
- **Inductance:** Affects arc stability and bead wet-out.
- **Pulse Parameters (for Pulse MIG):** Adjust peak current, base current, frequency, and duty cycle for precise heat control.

The large LED display provides real-time feedback on all adjusted parameters.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your HITBOX HIM250DPP welder.

- **Cleaning:** Regularly clean the exterior of the machine with a dry cloth. Use compressed air to blow out dust and debris from the cooling vents. Ensure the machine is unplugged before cleaning.
- **Wire Feeder:** Inspect the wire feed rollers and liner for wear or blockages. Clean or replace as necessary to ensure smooth wire feeding.
- **MIG Torch:** Regularly clean the contact tip, gas nozzle, and diffuser. Replace worn contact tips to maintain good arc stability.
- **Cables and Connections:** Check all welding cables, ground clamps, and torch connections for damage, fraying, or loose connections. Repair or replace damaged components immediately.
- **Storage:** Store the welder in a clean, dry environment, away from excessive dust, moisture, and corrosive materials.

8. TROUBLESHOOTING

This section addresses common issues you might encounter with your welder. For problems not listed here, contact customer support.

Problem	Possible Cause	Solution
No Power	Power cord unplugged, circuit breaker tripped, faulty power switch.	Check power connection, reset breaker, contact service if switch is faulty.
No Arc	Poor ground connection, incorrect polarity, worn contact tip, no wire feed.	Ensure ground clamp is secure on clean metal, verify polarity, replace contact tip, check wire feed mechanism.
Wire Feeds Erratically	Incorrect wire tension, clogged liner, wrong drive roller size, worn contact tip.	Adjust wire tension, clean/replace liner, ensure correct drive roller, replace contact tip.
Poor Weld Quality	Incorrect parameters (voltage/current), improper gas flow (MIG), dirty workpiece, wrong wire/electrode.	Adjust settings according to material/wire, check gas supply/flow, clean workpiece, use appropriate consumables.
Overheat Protection Activated	Exceeded duty cycle, poor ventilation, fan malfunction.	Allow machine to cool down, ensure adequate airflow around welder, check fan operation.

9. TECHNICAL SPECIFICATIONS

Below are the technical specifications for the HITBOX HIM250DPP model:



Figure 9.1: Technical Parameters for HIM250DPP.

Parameter	Value (HIM250DPP)
Rated Input Voltage	AC110V±15 / AC220V±15, 50/60Hz
Rated Input Power (kVA)	4.5 (110V) / 7.5 (220V)
Rated Input Current (A)	41 (110V) / 34 (220V)
Welding Current Range (MMA)	20-120A (110V) / 20-180A (220V)
Welding Current Range (TIG)	15-180A (110V) / 15-200A (220V)
Welding Current Range (MIG)	50-160A (110V) / 50-200A (220V)
Welding Voltage Range (MIG)	16.5-22V (110V) / 16.5-24V (220V)
Wire Feed Speed Range (m/min)	11 (110V) / 13.5 (220V)
Rated Duty Cycle (%)	40 (110V) / 60 (220V)
Open Circuit Voltage (V)	60
Overall Efficiency (%)	85
Enclosure Class	IP21S
Power Factor	0.73
Insulation Class	H
Applicable Electrodes (mm)	1.6-3.2 (110V) / 1.6-4.0 (220V)
Applicable Wires (mm)	0.6/0.8/0.9/1.0/1.2
Item Weight	36.6 pounds

Parameter	Value (HIM250DPP)
Package Dimensions	21 x 15.25 x 15.25 inches

10. WARRANTY AND SUPPORT

HITBOX provides a manufacturer's warranty for this product. Please refer to the warranty card included in your package for specific terms and conditions. For technical support, service, or warranty claims, please contact HITBOX customer service through their official website or the retailer where you purchased the product.

Manufacturer: HITBOX

Model: HIM250DPP

Website: www.hitboxweld.com

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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