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FEIFANKE MIG250

FEIFANKE MIG250 250A MIG Welder User Manual

MODEL: MIG250-110V/220V

1. INTRODUCTION

The FEIFANKE MIG250 is a versatile 8-in-1 synergic control welding machine designed for a wide range of welding applications. It supports Gas MIG, Gasless Flux Core MIG, Single Pulse MIG, Lift TIG, Stick (MMA), and Spot welding. This machine is compatible with 110V and 220V power inputs and can weld various materials including aluminum, steel, stainless steel, metal, titanium, magnesium, and copper.

This manual provides essential information for the safe and efficient operation, setup, maintenance, and troubleshooting of your FEIFANKE MIG250 welder. Please read it thoroughly before operating the machine.



Figure 1.1: FEIFANKE MIG250 250A MIG Welder and Included Accessories.

2. SAFETY INFORMATION

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

2.1 General Safety Precautions

- **Eye and Face Protection:** Always wear a welding helmet with appropriate shade lenses to protect your eyes and face from arc rays and sparks.
- **Body Protection:** Wear flame-resistant clothing, welding gloves, and safety shoes to protect against burns and electric shock.
- **Ventilation:** Ensure adequate ventilation to remove welding fumes, which can be hazardous to your health. Work in a well-ventilated area or use a fume extractor.
- **Electrical Safety:** Never operate the welder in wet conditions. Ensure proper grounding. Do not touch live electrical parts.

- **Fire Prevention:** Keep a fire extinguisher nearby. Remove all flammable materials from the welding area. Sparks and hot metal can cause fires.
- **Cylinder Safety (for Gas MIG):** Secure gas cylinders to prevent them from falling. Handle cylinders with care and ensure valves are closed when not in use.

2.2 Built-in Safety Features

The FEIFANKE MIG250 welder incorporates several safety protections:

- **Overcurrent Protection:** Automatically shuts down if current exceeds safe limits.
- **Overload Protection:** Protects the machine from excessive load.
- **Overvoltage Protection:** Safeguards against high voltage input.
- **Overheat Protection:** Shuts down if internal temperature becomes too high. An intelligent fan cooling system helps manage heat and reduce dust ingress.

ADVANCED DIGITAL CONTROL AND SAFETY



Figure 2.1: Advanced Digital Control and Safety Features.

3. PRODUCT OVERVIEW AND COMPONENTS

The FEIFANKE MIG250 is a compact and powerful multi-process welder. Understanding its components is crucial for proper operation.

3.1 Multi-Functionality

This welder offers 6-in-1 functionality:

- Gas MIG Welding
- Gasless MIG Welding (Flux Core)
- MMA (Stick) Welding
- Lift TIG Welding
- Spot Welding
- Single Pulse MIG Welding

6 IN 1-MULTI FUNCTION MIG WELDER



Gas MIG

Gasless MIG



MMA

Lift TIG



Spot Welding



Single pulse MIG



Figure 3.1: 6-in-1 Multi-function MIG Welder.

3.2 Control Panel

The intelligent LCD control panel provides precise real-time welding data and allows for easy adjustment of parameters.

SYNERGIC MIG WELDING

Automatically Adjust Wire Speed & Voltage

- ① Press The "SYN" Button.
- ② Select Wire Diameter
- ③ Select GAS/Material
- ④ Current Voltage



Figure 3.2: Synergic MIG Welding Control Panel.

PRODUCT ACCESSORIES

- | | |
|---|---|
| 1 1x MIG250 Welder | 11 4x Headband |
| 2 1x 3m MB15 Gas Torch | 12 2x Aluminium Conductive Nozzle (1.0mm/1.2mm) |
| 3 1x 0.5kg/1.0mm Aluminium Welding Wire | 13 3x Conductive Nozzles (0.8/0.9/1.0mm) |
| 4 1x 0.5kg/1.0mm Flux Cored Wire | 14 1x 0.8/0.9k Type |
| 5 1x 0.5kg/1.0mm Solid Wire | 15 1x 0.8/1.0k Type |
| 6 1x Graphite Tube | 16 1x 1.0/1.2mm U Type |
| 7 1x 1.8m Ground Clamp | 17 1x Instruction Manual |
| 8 1x 1.8m Welding Torch Clamp | |
| 9 1x 110V/220V Adapter Cord | |
| 10 1x 2m Gas Tube | |



Figure 3.3: Detailed Panel Description.

Table 3.1: Control Panel Components

No.	Component
1	Spool Holder
2	Wire Feed Unit
3	Welding Mode Button
4	Welding Mode Button
5	MIG Material Select Button
6	MIG Diameter Select Button
7	2T/4T/Spot Mode Button
8	Euro Connector for Torch
9	Polarity Changeover Plug
10	"-" Output Terminal
11	"+" Output Terminal
12	Welding Voltage Knob
13	Synergic Select Button
14	Gas Check and Quick Wire Speed Button
15	Power Switch
16	Gas Inlet
17	Cooling Fan
18	36V Gas Metering Port
19	Handle

3.3 Included Accessories

The package includes essential accessories to get you started:



Figure 3.4: Product Accessories.

- 1 x MIG250 Welder
- 1 x 3m MB15 Gas Torch
- 1 x 0.5KG/1.0mm Aluminum Welding Wire
- 1 x 0.5KG/1.0mm Flux Core Wire
- 1 x 0.5KG/1.0mm Solid Wire
- 1 x Graphite Tube
- 1 x 1.8m Ground Clamp
- 1 x 1.8m Welding Torch Clamp
- 1 x 110V/220V Adapter Cord
- 1 x 2m Gas Tube
- 4 x Headband
- 2 x Aluminum Conductive Nozzle (1.0mm/1.2mm)
- 3 x Conductive Nozzles (0.8/0.9/1.0mm)
- 1 x 0.8/0.9K Type Roller
- 1 x 0.8/1.0K Type Roller
- 1 x 1.0/1.2mm U Rollers
- 1 x Instruction Manual

4. SETUP

4.1 Power Connection

1. Ensure the welder's power switch is in the OFF position.
2. Connect the 110V/220V adapter cord to the welder's power input.
3. Plug the power cord into a suitable grounded electrical outlet. The welder automatically detects the input voltage.

4.2 Wire Installation

1. Open the side panel to access the spool holder and wire feed unit.
2. Place the desired wire spool (e.g., 0.5KG Flux Core Wire, Solid Wire, or Aluminum Wire) onto the spool holder (1). The welder supports 5kg spools.
3. Thread the wire through the wire feed unit (2), ensuring it passes through the correct groove on the pressure wire wheel (3) for the wire diameter being used.
4. Close the pressure wire wheel mechanism.

5. Feed the wire into the MIG torch liner. Use the 'Fast Wire Feed' function (long press 'Wire Select' button) to quickly feed the wire through the torch until it exits the contact tip.
6. Ensure the correct contact tip and drive roller (U, V, K type) are installed for your chosen wire type and diameter.



Figure 4.1: Wire Feeding Structure.

4.3 Torch and Clamp Connection

1. Connect the MB15 MIG Torch to the Euro Connector (8) on the front panel.

2. Connect the Earth Clamp to the "-" Output Terminal (10).
3. Connect the Electrode Holder (for MMA) or TIG Torch (for Lift TIG, not included) to the "+" Output Terminal (11).



Figure 4.2: Welder Cable Connection for Various Modes.

4.4 Gas Connection (for Gas MIG)

1. Connect one end of the 2m Gas Tube to the Gas Inlet (16) on the rear of the welder.
2. Connect the other end of the gas tube to your shielding gas regulator and cylinder.
3. Ensure all connections are secure and leak-free.
4. Use the 'Check Gas' function to verify gas flow before welding.

5. OPERATING INSTRUCTIONS

5.1 Powering On and Mode Selection

1. Turn on the Power Switch (15) located on the rear of the machine.
2. Use the Welding Mode Button (3/4) to cycle through the available welding processes: Gas MIG, Gasless MIG, MMA, Lift TIG, Spot, Single Pulse MIG.

5.2 Synergic Control (MIG Modes)

The synergic control simplifies setup by automatically adjusting recommended current and wire feed speed based on your selections.

1. Press the "SYN" button (13) to activate synergic mode.
2. Select the Wire Diameter using the MIG Diameter Select Button (6).
3. Select the Gas/Material type using the MIG Material Select Button (5).
4. The display will show the recommended current and voltage. You can fine-tune the Welding Voltage Knob (12) to adjust the arc characteristics to your preference.



Figure 5.1: Multifunctional Digital Operation.

5.3 2T/4T/Spot Modes

- **2T (Two-Touch):** Press and hold the torch trigger to start welding, release to stop.
- **4T (Four-Touch):** Press and release the trigger to start welding, press and release again to stop. Useful for long welds.
- **Spot:** For precise spot welding applications.

5.4 Welding Process Overview

The welder supports various processes, each with specific applications:

- **Gas MIG Welding:** Requires shielding gas (e.g., Argon, CO₂, or mixed gas). Ideal for high-quality welds on steel and stainless steel. Provides clean welds with minimal spatter.
- **Gasless Flux Core Welding:** Uses flux-cored wire, eliminating the need for external shielding gas. Convenient for outdoor use or when gas cylinders are impractical. Suitable for general fabrication and thicker materials.
- **Single Pulse MIG:** Reduces heat distortion, making it suitable for precision welding of aluminum and stainless steel.
- **MMA (Stick) Welding:** Uses coated electrodes. Versatile for various metals and conditions, especially outdoors or on dirty surfaces.
- **Lift TIG Welding:** Provides precise, high-quality welds, especially on thin materials. Requires a separate TIG torch (not included).



Figure 5.2: MIG Welding Process.



Figure 5.3: Stick Welding Process.

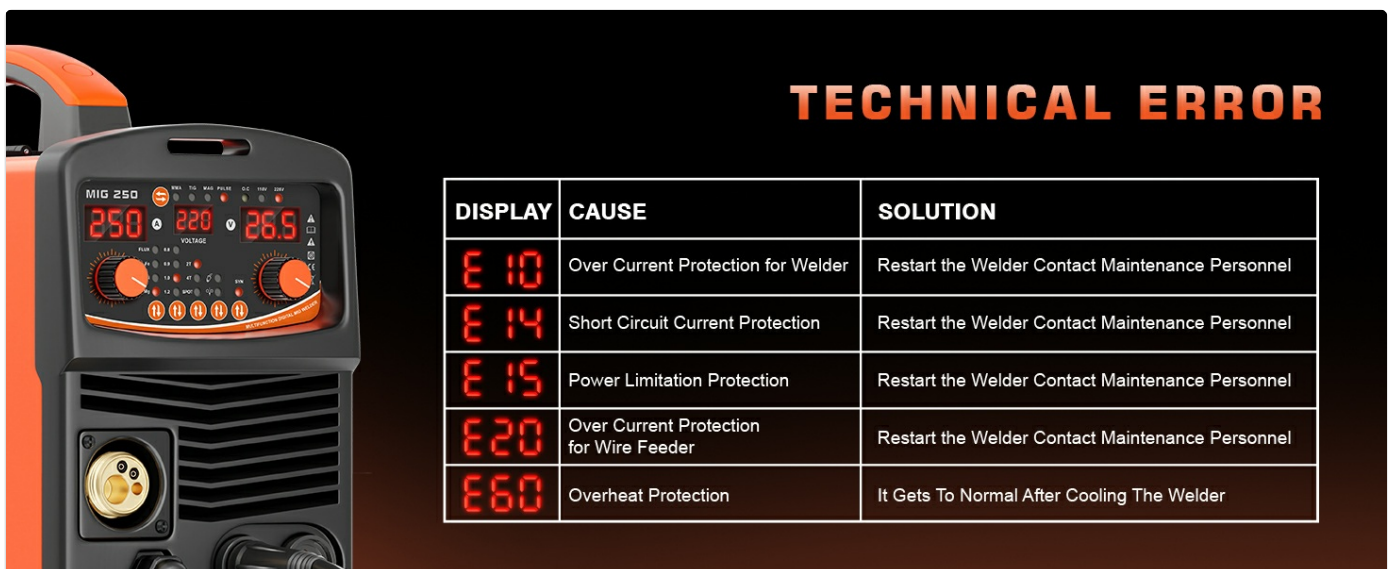


Figure 5.4: Lift TIG Welding Process.

6. MAINTENANCE

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

- **Cleaning:** Periodically clean the exterior of the welder with a dry cloth. Use compressed air to blow out dust and debris from the cooling vents.
- **Cable Inspection:** Regularly inspect all cables (power, ground, torch) for cuts, fraying, or damage. Replace damaged cables immediately.
- **Contact Tip and Nozzle:** For MIG welding, regularly check and clean the contact tip and nozzle. Replace worn contact tips to ensure consistent wire feeding and arc stability.
- **Wire Feed Rollers:** Clean the wire feed rollers and ensure they are free of debris. Verify that the correct roller type and groove size are used for the wire diameter.
- **Storage:** Store the welder in a clean, dry environment when not in use.

7. TROUBLESHOOTING

This section outlines common issues and their solutions. For problems not listed here, contact customer support.



Figure 7.1: Technical Error Codes.

Table 7.1: Error Codes and Solutions

Display	Cause	Solution
E 10	Over Current Protection for Welder	Restart the Welder. Contact Maintenance Personnel if issue persists.
E 14	Short Circuit Current Protection	Restart the Welder. Contact Maintenance Personnel if issue persists.
E 15	Power Limitation Protection	Restart the Welder. Contact Maintenance Personnel if issue persists.
E 20	Over Current Protection for Wire Feeder	Restart the Welder. Contact Maintenance Personnel if issue persists.
E 60	Overheat Protection	It gets to normal after cooling the welder. Allow the machine to cool down.

8. SPECIFICATIONS

Table 8.1: Product Specifications

Attribute	Detail
Manufacturer	FEIFANKE
Part Number	MIG250
Item Weight	33.8 pounds
Package Dimensions	19.5 x 13.75 x 12.75 inches
Item Model Number	MIG250
Style	MIG250-110V/220V
Color	Orange
Material	Metal
Power Source	AC/DC
Item Package Quantity	1
Batteries Included?	No
Batteries Required?	No
First Available Date	January 8, 2025

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the warranty card included with your product or contact FEIFANKE customer service directly. Keep your purchase receipt as proof of purchase.

FEIFANKE Customer Service: Please visit the official FEIFANKE website or refer to the contact details provided in your product packaging for support.