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Telwin Technology Tig 182 AC/DC-HF/Lift

User Manual

TECHNOLOGY TIG 182 AC/DC-HF/LIFT 230V WELDING MACHINE

Model: Technology Tig 182 AC/DC-HF/Lift | Brand: Telwin

1. Introduction

This manual provides essential information for the safe and effective operation, setup, and maintenance of your Telwin TECHNOLOGY TIG 182 AC/DC-HF/LIFT 230V welding machine. Please read this manual thoroughly before using the equipment to ensure proper function and to prevent injury or damage.

The TECHNOLOGY TIG 182 is an inverter welding machine designed for TIG (Tungsten Inert Gas) and MMA (Manual Metal Arc) welding processes. It offers both AC (Alternating Current) for aluminum and DC (Direct Current) for steel, stainless steel, copper, and other metals, with High Frequency (HF) and LIFT arc striking options.

2. Safety Instructions

Welding can be hazardous. Always follow safety precautions to prevent electric shock, fire, burns, and exposure to fumes and gases. This section outlines general safety guidelines. Refer to local regulations and standards for comprehensive safety information.

- **Electric Shock:** Ensure the welding machine is properly grounded. Do not touch live electrical parts. Wear dry welding gloves and protective clothing. Work in a dry area.
- **Fumes and Gases:** Provide adequate ventilation or use a fume extractor to remove welding fumes and gases from the breathing zone.
- **Fire and Explosion:** Keep flammable materials away from the welding area. Have a fire extinguisher readily available. Do not weld on containers that have held flammable materials.
- **Arc Rays:** Wear a welding helmet with appropriate shade filter to protect eyes and face from arc rays. Wear protective clothing to shield skin from UV/IR radiation.
- **Burns:** Hot metal and equipment can cause severe burns. Wear heat-resistant gloves and protective clothing. Allow welded materials to cool before handling.
- **Noise:** Welding operations can produce noise. Use hearing protection if noise levels are excessive.
- **Maintenance:** Disconnect power before performing any maintenance or service on the machine.

3. Product Components and Features

The Telwin TECHNOLOGY TIG 182 AC/DC-HF/LIFT 230V welding machine is designed for versatility and performance. Below is an overview of its key components.



Figure 1: Front and bottom view of the Telwin TECHNOLOGY TIG 182 AC/DC-HF/LIFT 230V welding machine. The top section, in red and black, features the control panel with a digital display, various indicator lights, and adjustment knobs. Ventilation grilles are visible on the front. The bottom section, primarily black, shows connection points for welding cables and a gas hose. A sturdy black handle is integrated into the top for portability.

- **Control Panel:** Features a digital display for current settings, mode selection buttons (AC/DC, HF/LIFT), and adjustment knobs for welding parameters.
- **Power Switch:** Located on the machine, used to turn the unit on or off.
- **Welding Cable Connectors:** Standard DINSE connectors for attaching the welding torch and ground clamp.
- **Gas Inlet:** Connection point for the inert gas supply (e.g., Argon) required for TIG welding.
- **Cooling Vents:** Designed to dissipate heat and ensure optimal performance and longevity of the internal components.
- **Carrying Handle:** Integrated for easy transport of the machine.

4. Setup

Proper setup is crucial for safe and effective welding. Follow these steps carefully:

1. **Power Connection:** Connect the machine's power cord to a suitable 230V AC power outlet. Ensure the outlet is properly grounded and can supply the required amperage.
2. **Ground Clamp Connection:** Attach the ground clamp cable to the appropriate terminal on the welding machine (usually marked with a ground symbol or '-'). Secure the ground clamp firmly to the workpiece or welding table, ensuring good electrical contact.
3. **TIG Torch Connection:** Connect the TIG torch cable to the designated connector on the machine. Ensure all connections are tight.

- Gas Cylinder Connection (for TIG):** Connect the gas hose from the machine's gas inlet to a regulator on an inert gas cylinder (e.g., Argon). Ensure all connections are leak-free. Open the gas cylinder valve slowly.
- Tungsten Electrode Installation:** Insert the appropriate tungsten electrode into the TIG torch collet and tighten the collet body. Ensure the electrode is properly sharpened for the desired welding process.
- Work Area Preparation:** Clear the welding area of any flammable materials. Ensure adequate ventilation.

5. Operating

Once the machine is set up, you can begin welding. Always wear appropriate Personal Protective Equipment (PPE) before starting.

- Power On:** Turn on the main power switch of the welding machine. The digital display and indicator lights should illuminate.
- Select Welding Mode:**
 - TIG AC:** For welding aluminum and magnesium alloys. Use HF start for non-contact arc initiation.
 - TIG DC:** For welding steel, stainless steel, copper, and other non-ferrous metals (except aluminum). Choose between HF or LIFT arc start.
 - MMA:** For stick welding.
- Adjust Welding Parameters:** Use the control knobs to set the desired welding current (amperage) based on the material thickness and type of electrode/filler wire. Adjust gas pre-flow/post-flow and other TIG specific parameters as needed.
- Arc Initiation:**
 - HF Start:** Position the torch close to the workpiece and press the torch trigger. The arc will initiate without contact.
 - LIFT Arc:** Touch the tungsten electrode to the workpiece, then lift it slightly. The arc will initiate.
- Welding:** Maintain a consistent arc length and travel speed. Feed filler wire into the weld puddle as required for TIG welding.
- Power Off:** After welding, release the torch trigger. Allow the gas post-flow to complete. Turn off the machine's power switch and close the gas cylinder valve.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your welding machine. Always disconnect the power supply before performing any maintenance.

- Cleaning:** Periodically clean the machine's exterior with a dry cloth. Use compressed air to blow out dust and debris from the cooling vents. Do not use solvents.
- Cable and Connector Inspection:** Regularly inspect welding cables, torch, and ground clamp for signs of wear, damage, or loose connections. Replace damaged components immediately.
- Tungsten Electrode Care:** Ensure tungsten electrodes are clean and properly sharpened. Replace worn or contaminated electrodes.
- Gas Hose Inspection:** Check the gas hose and connections for leaks or damage.
- Storage:** Store the machine in a clean, dry environment, protected from dust and moisture, when not in use.

7. Troubleshooting

This section provides solutions to common issues you might encounter. For problems not listed here, contact qualified service personnel.

Problem	Possible Cause	Solution
Machine does not power on.	No power supply; faulty power cord; internal fuse blown.	Check power outlet and cord. Ensure power switch is ON. Contact service if fuse is suspected.
No arc.	Poor ground connection; incorrect settings; faulty torch; gas flow issue (TIG).	Ensure ground clamp is secure. Verify settings. Check torch connections. Confirm gas flow for TIG.
Poor weld quality.	Incorrect current; improper technique; contaminated material/electrode; wrong gas.	Adjust current. Review welding technique. Clean workpiece/electrode. Verify correct shielding gas.
Overheating indicator on.	Exceeded duty cycle; blocked cooling vents; high ambient temperature.	Allow machine to cool down. Ensure vents are clear. Reduce welding time or current.

8. Specifications

Key technical specifications for the Telwin TECHNOLOGY TIG 182 AC/DC-HF/LIFT 230V welding machine:

Feature	Detail
Manufacturer	TELWIN
Model Number	Technology Tig 182 AC/DC-HF/Lift (815332)
Product Dimensions (L x W x H)	43 x 17 x 34 cm
Weight	13.4 Kilograms
Power Type	Hand Powered (refers to operation, not power source)
Input Voltage	230V
ASIN	B017XRRRCMG

9. Warranty and Support

For warranty information, please refer to the documentation provided with your purchase or contact the retailer. For technical support, spare parts, or service, please contact Telwin customer service or an authorized service center. Keep your purchase receipt and the product's serial number handy when seeking support.

You can find more information and contact details on the official Telwin website: www.telwin.com