

Telwin 816165

Telwin T-ARC 120 Portable Inverter Electrode Welder 80A User Manual

Model: 816165

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, maintenance, and troubleshooting of your Telwin T-ARC 120 Portable Inverter Electrode Welder 80A. Please read this manual thoroughly before using the equipment to ensure proper handling and to prevent injury or damage.

The Telwin T-ARC 120 is a direct current (DC) inverter electrode welder designed for MMA (Manual Metal Arc) welding. It is compact, lightweight, and suitable for various electrode types including rutile, basic, stainless, and cast iron, up to 2.5 mm.

2. SAFETY INFORMATION

WARNING: Welding operations can be dangerous. Always follow safety precautions to prevent electric shock, burns, fire, and other serious injuries.

- Always wear appropriate personal protective equipment (PPE), including welding helmet, gloves, protective clothing, and safety shoes.
- Ensure the welding area is well-ventilated to avoid inhaling fumes.
- Do not operate the welder in damp or wet conditions.
- Ensure proper grounding of the equipment.
- Keep bystanders away from the welding area.
- Disconnect power before performing any maintenance or adjustments.
- Avoid touching live electrical parts or electrodes with bare hands.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- Telwin T-ARC 120 Inverter Welder Unit
- Electrode Holder

- Ground Clamp (Dough Clamp)
- User Manual

4. PRODUCT OVERVIEW

The Telwin T-ARC 120 features a compact design with intuitive controls for MMA welding. Key components include the current adjustment knob, electrode and ground cable connections, and indicator lights.



Figure 4.1: Front panel of the Telwin T-ARC 120. This image displays the main control knob for current adjustment, the positive and negative terminals for welding cables, and the Telwin branding. The dial indicates current settings from 20A to 80A, with corresponding

electrode diameters (1.6mm to 2.5mm).

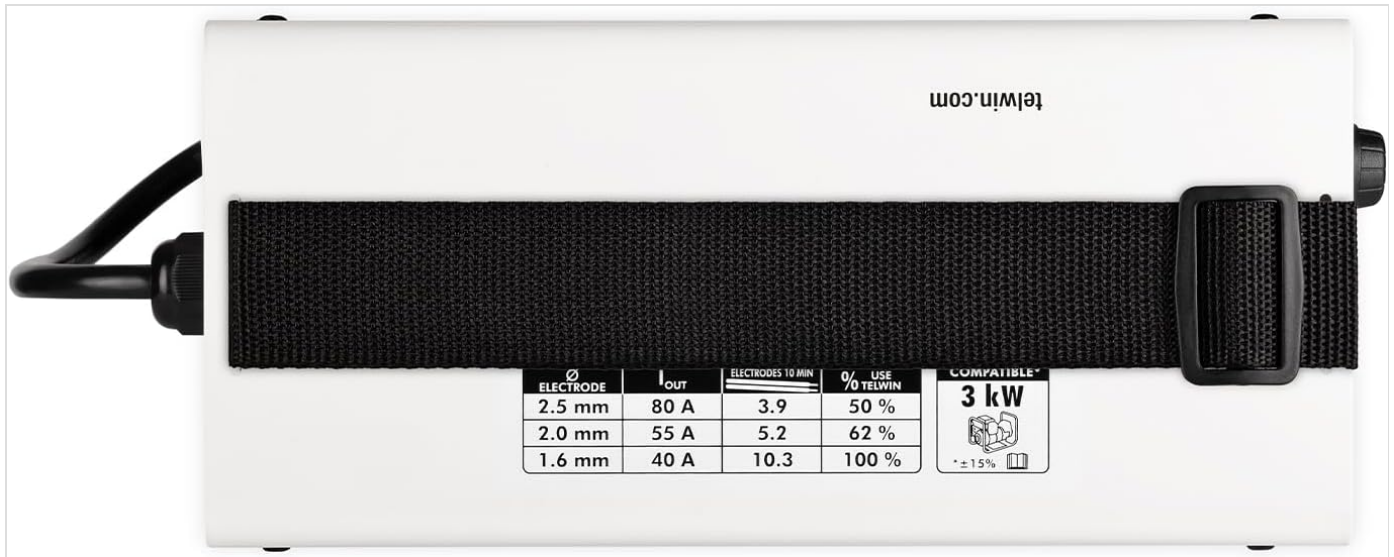


Figure 4.2: Top view of the Telwin T-ARC 120, showing the carrying strap and a label with technical specifications. The label details electrode compatibility (2.5mm at 80A, 2.0mm at 55A, 1.6mm at 40A) and duty cycle, along with generator compatibility (3kW).

5. SETUP

1. **Power Connection:** Connect the welder to a suitable power supply (230V +/- 15%). Ensure the power outlet is properly grounded and can handle the required amperage. The unit is compatible with motor generators (3kW).
2. **Ground Clamp Connection:** Attach the ground clamp cable to the negative (-) terminal on the welder. Securely attach the ground clamp to the workpiece or a clean, bare metal surface connected to the workpiece.
3. **Electrode Holder Connection:** Attach the electrode holder cable to the positive (+) terminal on the welder. Insert the appropriate electrode into the electrode holder.
4. **Electrode Selection:** Choose an electrode suitable for your welding material and thickness. The welder supports rutile, basic, stainless, and cast iron electrodes up to 2.5 mm.
5. **Current Setting:** Adjust the welding current using the knob on the front panel according to the electrode diameter and material. Refer to the specifications or electrode manufacturer's recommendations.

6. OPERATING INSTRUCTIONS

1. **Preparation:** Ensure all safety precautions are observed. Wear full PPE. Prepare the workpiece by cleaning off any rust, paint, or grease.
2. **Power On:** Turn on the welder using the main power switch.
3. **Striking an Arc:** Gently tap or scratch the electrode against the workpiece to strike an arc. Avoid sticking the electrode. The welder features *Hot Start* for easier arc ignition and *Anti-Stick* to prevent the electrode from sticking.
4. **Welding:** Maintain a consistent arc length and travel speed. The *Arc Force* feature helps maintain arc stability during welding.
5. **Finishing:** Once welding is complete, lift the electrode from the workpiece. Turn off the welder. Allow the workpiece to cool before handling.

7. MAINTENANCE

- **Cleaning:** Regularly clean the welder's exterior with a dry cloth. Ensure ventilation openings are free from dust and debris. Do not use solvents.

- **Cable Inspection:** Periodically inspect welding cables, electrode holder, and ground clamp for damage, fraying, or loose connections. Replace damaged components immediately.
- **Storage:** Store the welder in a dry, clean environment, away from direct sunlight and extreme temperatures.
- **Internal Cleaning:** For internal cleaning, consult a qualified service technician.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power	Power cable disconnected, circuit breaker tripped, welder switch off.	Check power connections, reset circuit breaker, turn on welder switch.
Welder stops during operation	Overheating (thermostatic protection activated), over-voltage/low-voltage protection.	Allow welder to cool down. Check input voltage. Reduce duty cycle.
Arc difficult to strike or unstable	Improper current setting, poor ground connection, damp electrode, incorrect electrode type.	Adjust current, ensure clean and secure ground, use dry electrodes, select correct electrode.
Electrode sticks frequently	Current too low, improper technique.	Increase current, improve arc striking technique. The <i>Anti-Stick</i> feature should help.

9. SPECIFICATIONS

Feature	Detail
Model	T-ARC 120 (Item Model Number: 816165)
Welding Type	MMA (Manual Metal Arc)
Current Type	Direct Current (DC)
Max Current	80A
Usable Electrodes	Rutile, Basic, Stainless, Cast Iron
Max Electrode Diameter	2.5 mm
Advanced Arc Control	Arc Force, Hot Start, Anti-Stick
Protections	Thermostatic, Over-voltage, Low-voltage, Over-current
Motor Generator Compatibility	Yes (+/- 15% voltage variation, typically 3kW generator)
Item Weight	4.4 Kilograms
Product Dimensions	29.5 x 47.5 x 15 cm

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact Telwin customer service directly. Keep your purchase receipt as proof of purchase.

