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› DMK Relfar FWH30-D10A Intelligent Dual Swing Handheld Laser Welding Gun User Manual

DMK FWH30-D10A

DMK Relfar FWH30-D10A Intelligent Dual Swing Handheld Laser Welding Gun

User Manual

1. INTRODUCTION

This manual provides essential information for the safe and effective operation, setup, and maintenance of your DMK Relfar FWH30-D10A Intelligent Dual Swing Handheld Laser Welding Gun. Please read this manual thoroughly before using the equipment to ensure proper function and to prevent injury or damage.

The Relfar FWH30-D10A is an advanced 3000W handheld laser welding gun featuring intelligent dual swing technology and 4-in-1 functionality, designed for precise and efficient welding applications.

2. SAFETY INFORMATION

WARNING: Laser welding equipment can cause serious injury if not handled properly. Always adhere to the following safety guidelines:

- Always wear appropriate personal protective equipment (PPE), including laser safety glasses, welding gloves, and protective clothing.
- Ensure the work area is well-ventilated to avoid inhaling fumes.
- Never look directly into the laser beam or allow it to strike reflective surfaces.
- Keep bystanders away from the welding area.
- Disconnect power before performing any maintenance or adjustments.
- Do not operate the equipment if any components are damaged.
- Familiarize yourself with emergency shutdown procedures.

3. PRODUCT OVERVIEW AND FEATURES

The Relfar FWH30-D10A welding gun is engineered for high-performance laser welding. Key features include:

- **Intelligent Dual Swing Technology:** Provides precise, high-speed welding with reduced heat input and six selectable welding patterns for various processes.
- **Handheld Ergonomic Design:** Ensures comfortable operation and enhanced productivity.
- **3000W High Power Output:** Delivers superior performance across a wide range of materials.

- **4-in-1 Functionality:** Supports single or double wire feed, adapting to diverse welding scenarios.
- **Enhanced Fault Tolerance:** Dual-axis swing patterns offer better fault tolerance and stronger welds compared to single-line patterns.
- **Simplified Adjustments:** Graphics-based system adjustments for swing patterns are simpler and faster than motor adjustments.



FWH30-D10C

Figure 3.1: Relfar FWH30-D10A Intelligent Dual Swing Handheld Laser Welding Gun. This image shows the main welding gun unit with its ergonomic handle and welding head.



FWH30-D20A

Figure 3.2: Complete Relfar FWH30-D10A Welding System Components. This image displays the various components included with the welding system, such as the control unit, power supplies, cables, and the welding gun itself.

4. SETUP

Proper setup is crucial for safe and effective operation. Follow these general steps:

1. **Unpacking:** Carefully unpack all components and verify against the packing list. Inspect for any shipping damage.
2. **Power Connection:** Connect the main power supply unit to a suitable electrical outlet according to local electrical codes. Ensure the power source matches the equipment's requirements.
3. **Control Unit Connection:** Connect the handheld welding gun and other peripheral components (e.g., wire feeder, gas supply) to the main control unit as indicated in the system diagram.

4. **Grounding:** Ensure the entire system is properly grounded to prevent electrical hazards.
5. **Protective Lens Installation:** Install the protective lens into the welding head as per instructions.
6. **Wire Feed Setup (if applicable):** If using a wire feeder, load the welding wire according to the feeder's instructions and connect it to the welding gun.
7. **Gas Supply Connection (if applicable):** Connect the shielding gas cylinder and regulator to the system, ensuring all connections are secure and leak-free.
8. **Initial Power-On:** Power on the system and follow the on-screen prompts for initial configuration.

5. OPERATING INSTRUCTIONS

The FWH30-D10A offers intuitive operation with its intelligent control system.

5.1 Powering On and System Navigation

1. Turn on the main power switch. The system display will illuminate.
2. Use the control panel to navigate through the main menu.
3. Select the desired welding mode (e.g., single wire feed, double wire feed, cleaning, cutting).

5.2 Setting Welding Parameters

- **Laser Power:** Adjust the laser output power based on the material thickness and type.
- **Welding Speed:** Set the travel speed of the welding gun.
- **Wire Feed Speed (if applicable):** Adjust the speed at which the filler wire is fed.
- **Gas Flow Rate (if applicable):** Set the shielding gas flow rate for optimal weld protection.
- **Swing Pattern Selection:** Choose from the six available swing patterns on the system interface. These patterns enhance weld quality and fault tolerance.
- **Focus Adjustment:** Ensure the laser focus is correctly set for the application.

5.3 Welding Operation

1. Secure the workpiece firmly.
2. Position the welding gun at the starting point of the weld seam, maintaining the correct working distance.
3. Activate the laser by pressing the trigger on the handheld gun.
4. Move the gun steadily along the weld path at the set speed.
5. Release the trigger to stop the laser.
6. Inspect the weld for quality and consistency.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your welding gun.

- **Daily Cleaning:** Clean the protective lens and nozzle daily to remove spatter and debris. Use only approved cleaning solutions and cloths.
- **Protective Lens Replacement:** Replace the protective lens regularly, or immediately if it shows signs of damage or excessive contamination.
- **Cooling System Check:** Ensure the cooling system (if external) is functioning correctly and the coolant level is adequate.
- **Cable Inspection:** Periodically inspect all cables and connections for wear, damage, or loose fittings.
- **Wire Feeder Maintenance (if applicable):** Clean the wire feed rollers and guide tubes to prevent wire jamming.
- **General Inspection:** Regularly check the entire system for any signs of damage, loose components, or unusual noises.

Always disconnect the power supply before performing any maintenance.

7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
No laser output	Power not connected, emergency stop engaged, safety interlock open, damaged fiber optic cable.	Check power connections, release emergency stop, ensure all safety interlocks are closed, inspect fiber optic cable for damage.
Poor weld quality	Incorrect parameters (power, speed, focus), contaminated lens, improper shielding gas, dirty workpiece.	Adjust welding parameters, clean or replace protective lens, check gas flow and purity, clean workpiece thoroughly.
Wire feed issues	Wire tangled, clogged liner, incorrect roller tension, wrong wire size.	Untangle wire, clean or replace liner, adjust roller tension, ensure correct wire size is used.
System error message	Specific system fault.	Refer to the system's on-screen error code for specific troubleshooting steps. Contact support if the issue persists.

If you encounter problems not listed here or if solutions do not resolve the issue, please contact DMK customer support.

8. SPECIFICATIONS

Attribute	Detail
Product Name	Relfar Laser Cleaning Head (Note: Product title indicates Welding Gun, this might be a generic part name)
Model	FWH30-D10A
Brand	DMK
Power Output	3000W (Weld Head)
Functionality	4-in-1 (Single/Double Wire Feed)
Technology	Intelligent Dual Swing
Weight (Head)	0.7kg
Country of Origin	China
ASIN	B0GJDHMY2S

Note: Specifications are subject to change without notice.

9. WARRANTY AND SUPPORT

For warranty information, please refer to the documentation provided with your purchase or contact your vendor. DMK is committed to providing reliable products and customer support.

For technical assistance, troubleshooting, or spare parts, please contact DMK customer service:

- **Manufacturer:** DMK
- **Contact Email:** dmk-laser@qq.com

- **Brand Store:** DMK Laser Store on Amazon