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› Aitoserlea SL-KV7 Argon Arc Welding High Precision Time Pulse Controller User Manual

Aitoserlea SL-KV7

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USER MANUAL

Model: SL-KV7

1. Introduction

The Aitoserlea SL-KV7 is a high-precision time pulse controller designed for argon arc welding applications. This device enhances the functionality of single-use, dual-use, and three-use argon arc welding machines by providing precise control over welding time, interval time, pulse frequency, and pulse duty cycle. It is suitable for modifying existing cold welding machines to achieve finer control over the welding process, particularly for stainless steel applications.

This manual provides detailed instructions for the setup, operation, and maintenance of your SL-KV7 controller. Please read it thoroughly before use to ensure safe and efficient operation.

2. Safety Information

- Always ensure the power supply matches the device's requirements (USB DC5V 1A).
- Disconnect power before making any connections or performing maintenance.
- Operate the device in a well-ventilated area.
- Keep the device away from moisture and extreme temperatures.
- Only qualified personnel should perform modifications or repairs to welding equipment.
- Refer to your welding machine's manual for specific safety precautions related to welding operations.

3. Package Contents

Verify that all items listed below are included in your package:

- 1 x SL-KV7 Argon Arc Welding High Precision Time Pulse Controller
- 1 x USB Power Adapter (DC5V 1A)
- 1 x Foot Pedal
- Instruction Manual (this document)

- (Optional) Welding tips/accessories, if included in your specific kit.



Figure 3.1: Contents of the SL-KV7 package, including the controller unit, foot pedal, power adapter, and various welding tips.

4. Specifications

Feature	Specification
Model	SL-KV7
Power Consumption	<3.5W
Working Modes	Single Point, Continuous, Argon Arc Welding, 2T, 4T
Applicable Models	Single-Use, Dual-Use, Three-Use Argon Arc Welding Machines
Memory Storage	20 Groups
Input Voltage	USB DC5V 1A 50Hz
Dimensions (L x W x H)	145 x 85 x 40 MM
Output Signal	3-48V
Welding Time Range	1-999mS
Interval Time Range	1-999mS
Pulse Frequency Range	1-20Hz

Feature	Specification
Pulse Duty Cycle Range	1-99%
Product Weight	220G

5. Setup and Installation

Follow these steps to connect the SL-KV7 controller to your argon arc welding machine:

1. **Power Connection:** Connect the provided USB power adapter to the controller's USB input port. Plug the adapter into a standard power outlet.
2. **Foot Pedal Connection:** Connect the foot pedal cable to the designated input port on the SL-KV7 controller. This port is typically a multi-pin connector.
3. **Welding Machine Connection:** Identify the control signal input on your argon arc welding machine. Connect the output cable from the SL-KV7 controller to this input. Ensure the connection is secure and matches the polarity requirements of your welding machine. The output signal range of the SL-KV7 is 3-48V.
4. **Mounting (Optional):** The controller can be placed on a stable surface or mounted near your welding station using the integrated mounting tabs.



Figure 5.1: The SL-KV7 controller with the USB power adapter and foot pedal connected. Ensure all connections are firm.



Figure 5.2: Example of the SL-KV7 controller integrated with an argon arc welding machine, showing the control cable connection.

6. Operating Instructions

The SL-KV7 controller features a user-friendly interface with digital displays and control buttons. Refer to Figure 6.1 for an

overview of the control panel.



Figure 6.1: Detailed view of the SL-KV7 control panel, showing TIME/FREQ and TIME/DUTY displays, mode buttons, and adjustment controls.

6.1. Control Panel Overview

- **TIME/FREQ Display:** Shows welding time or pulse frequency.
- **TIME/DUTY Display:** Shows interval time or pulse duty cycle.
- **MODE Button:** Cycles through different parameter settings (e.g., Welding Time, Interval Time, Pulse Frequency, Pulse Duty Cycle).
- **STORAGE Button:** Used to save and recall welding parameter groups.
- **ON/OFF Button:** Powers the unit on or off.
- **POINT Button:** Activates Single Point welding mode.
- **LINE Button:** Activates Continuous welding mode.
- **TIG Button:** Activates Argon Arc Welding mode.
- **4T Button:** Activates 4T (Four-Touch) welding mode.
- **+/- Buttons:** Adjust the values displayed on TIME/FREQ and TIME/DUTY.

6.2. Selecting Working Modes

Press the corresponding button to select the desired working mode:

- **Single Point (POINT):** For precise, short-duration welds.
- **Continuous (LINE):** For sustained welding operations.
- **Argon Arc Welding (TIG):** Standard TIG welding operation.
- **2T (Two-Touch):** Press and hold the foot pedal to weld, release to stop.
- **4T (Four-Touch):** Press and release the foot pedal to start welding, press and release again to stop.

6.3. Adjusting Parameters

Use the MODE button to cycle through the adjustable parameters, then use the +/- buttons to change their values:

- **Welding Time (1-999mS):** Controls the duration of each weld pulse.
- **Interval Time (1-999mS):** Controls the pause duration between weld pulses.
- **Pulse Frequency (1-20Hz):** Determines how many pulses occur per second.
- **Pulse Duty Cycle (1-99%):** Adjusts the ratio of pulse ON time to total pulse period.

6.4. Memory Storage

The SL-KV7 can store up to 20 groups of welding parameters. To save a setting, adjust all desired parameters, then press and hold the STORAGE button until the display indicates a save confirmation. To recall a saved setting, briefly press the STORAGE button and use the +/- buttons to select the desired group number, then press STORAGE again to load.

7. Maintenance

- **Cleaning:** Regularly wipe the controller's exterior with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a dry, dust-free environment when not in use.
- **Inspection:** Periodically check cables and connectors for signs of wear or damage. Replace any damaged components immediately.

8. Troubleshooting

Problem	Possible Cause	Solution
Controller does not power on.	No power supply; faulty USB adapter or cable.	Ensure USB adapter is properly connected and plugged into a live outlet. Try a different USB cable or adapter.
Welding machine does not respond to controller.	Incorrect connection to welding machine; incompatible signal; welding machine not in correct mode.	Verify the output cable from the SL-KV7 is correctly connected to the welding machine's control input. Consult your welding machine's manual for compatibility and control input requirements. Ensure the welding machine is set to an external control mode if applicable.
Parameters cannot be adjusted.	Controller is in a locked state or incorrect mode.	Ensure the controller is powered on and not in a menu or save state. Press MODE to select the parameter you wish to adjust.

9. Warranty and Support

For warranty information, please refer to the documentation provided with your purchase or contact the seller directly. For technical support or inquiries, please reach out to the Aitoserlea customer service team via the contact information provided at the point of purchase or on the official Aitoserlea website.

