

DAVITU DVT-3C91AAF6512CCDE0A9DC729822364A56

Davitu Motor Controller User Manual

For Johnson Treadmill Models T101/T102

1. PRODUCT OVERVIEW

This manual provides essential information for the installation, operation, and maintenance of the Davitu Motor Controller, specifically designed as a replacement circuit board for Johnson Treadmill models T101 and T102. This controller manages the DC motor functions of your treadmill, ensuring proper speed and performance.

The Davitu Motor Controller is a critical component for the functionality of compatible treadmills, providing precise control over the treadmill's drive motor.

2. SAFETY INFORMATION

WARNING: Electrical Shock Hazard. Always disconnect power before servicing.

- Ensure the treadmill is unplugged from the power outlet before attempting any installation, maintenance, or troubleshooting.
- Only qualified personnel should perform installation and repair work. Improper installation can lead to electrical shock, fire, or damage to the equipment.
- Do not operate the treadmill if the controller or any electrical components appear damaged.
- Keep the controller board dry and away from liquids. Moisture can cause short circuits and damage.
- Wear appropriate personal protective equipment (PPE) when handling electrical components.

3. SETUP AND INSTALLATION

This section outlines the general steps for replacing an existing motor controller. Refer to your specific Johnson Treadmill T101/T102 service manual for detailed wiring diagrams and procedures, as variations may exist.

1. **Power Disconnection:** Unplug the treadmill from the wall outlet. Wait a few minutes for any residual charge in capacitors to dissipate.
2. **Access the Controller:** Locate and remove the motor hood or cover of your treadmill to expose the existing motor controller board.
3. **Document Connections:** Before disconnecting any wires, take clear photos of all existing connections to the old controller. Note the color and position of each wire (e.g., AC input, motor output, console communication, incline motor, safety key). Label wires if necessary.

4. **Disconnect Old Controller:** Carefully disconnect all wires and mounting screws securing the old controller.
5. **Install New Controller:** Position the Davitu Motor Controller in the same location as the old one. Secure it using the appropriate mounting screws.
6. **Connect Wiring:** Refer to your documented connections and the original treadmill wiring diagram. Connect all wires to the corresponding terminals on the new Davitu Motor Controller. Ensure all connections are secure and properly seated. Common connections include:
 - **AC Input:** Power supply from the treadmill's main power cord.
 - **DC Motor Output:** Connections to the treadmill's drive motor (often labeled M+ and M-).
 - **Console/Control Panel:** Communication wires to the treadmill's display and control buttons.
 - **Safety Key/Emergency Stop:** Wires related to the safety key circuit.
 - **Incline Motor (if applicable):** Connections for the incline mechanism.
7. **Visual Inspection:** Double-check all connections for correctness and security. Ensure no wires are pinched or exposed.
8. **Initial Power Test:** Before replacing the cover, plug in the treadmill and perform a brief test. Stand clear of the belt. If the treadmill powers on and responds to basic commands (e.g., start/stop, speed adjustment), unplug it again.
9. **Replace Cover:** Once satisfied with the installation and initial test, replace the motor hood/cover.



Figure 3.1: Top view of the Davitu Motor Controller board. This image shows the layout of the main components, including the large capacitor, various resistors, integrated circuits, and connection terminals for power and motor control.



Figure 3.2: Angled view of the Davitu Motor Controller, highlighting the aluminum heat sink for heat dissipation and the various input/output connectors along the edges of the board.

4. OPERATING INSTRUCTIONS

The Davitu Motor Controller functions as the core electronic component that drives the treadmill's motor. Its operation is integrated with the treadmill's main console and control panel. Once installed, the controller will respond to commands issued from the treadmill's user interface.

- **Power On:** Plug the treadmill into a grounded electrical outlet. The treadmill's console should illuminate.
- **Safety Key:** Ensure the safety key is properly inserted into its designated slot on the treadmill console. The treadmill will not operate without the safety key.
- **Start Program:** Select your desired workout program or press the "Start" button on the treadmill console. The motor controller will receive the signal and begin to power the drive motor, initiating belt movement.
- **Speed Adjustment:** Use the speed control buttons on the console to increase or decrease the treadmill's speed. The motor controller will adjust the power output to the motor accordingly.
- **Incline Adjustment (if applicable):** If your treadmill model supports incline, use the incline control buttons. The motor controller may also manage the incline motor, or a separate incline control board

might be present.

- **Stop/Pause:** Press the "Stop" or "Pause" button on the console to halt or temporarily stop the treadmill belt.
- **Power Off:** After use, press the "Stop" button, remove the safety key, and unplug the treadmill from the wall outlet for complete power disconnection.

Note: The specific functions and button layouts will vary based on your Johnson Treadmill T101/T102 model. Refer to your treadmill's original user manual for detailed operating instructions.

5. MAINTENANCE

Proper maintenance of the motor controller ensures its longevity and reliable performance. Always disconnect power before performing any maintenance.

- **Dust Removal:** Periodically (e.g., every 3-6 months, depending on usage and environment) remove the treadmill's motor cover and gently clean any accumulated dust or debris from the controller board using compressed air or a soft, dry brush. Avoid using liquids.
- **Connection Check:** While the cover is off, visually inspect all wire connections to the controller. Ensure they are snug and free from corrosion. Do not overtighten.
- **Environmental Conditions:** Ensure the treadmill is operated and stored in a dry, temperature-controlled environment. Avoid extreme temperatures, high humidity, or direct sunlight, which can degrade electronic components.
- **Ventilation:** Ensure the treadmill's motor compartment has adequate ventilation. Do not block air vents, as proper airflow is crucial for dissipating heat from the controller and motor.

6. TROUBLESHOOTING

If your treadmill experiences issues after installing the Davitu Motor Controller, perform the following basic troubleshooting steps. Always disconnect power before inspecting internal components.

Common Issues and Solutions:

- **Treadmill Does Not Power On:**
 - Check if the treadmill is securely plugged into a working electrical outlet.
 - Verify the circuit breaker for the outlet has not tripped.
 - Ensure the safety key is fully inserted into the console.
 - Inspect the main power cord for any damage.
 - Check the main power switch on the treadmill (if present).
- **Motor Not Running / Belt Not Moving:**
 - Confirm all wiring connections to the motor controller are secure and correctly matched (refer to Section 3).
 - Check the motor brushes (if applicable to your motor type) for wear.
 - Ensure the treadmill belt is not overly tight or binding, which could overload the motor.
 - If the motor hums but doesn't turn, there might be an issue with the motor itself or a component on the controller.

- **Erratic Speed / Inconsistent Performance:**

- Verify all communication wires between the console and the controller are firmly connected.
- Ensure the motor is clean and free of debris.
- Check for any loose components or signs of overheating on the controller board (e.g., discolored areas, burnt smell).

- **Overheating / Burning Smell:**

- Immediately unplug the treadmill.
- This indicates a serious issue. Do not attempt to operate the treadmill. Contact a qualified technician.

If these steps do not resolve the issue, it is recommended to consult a qualified treadmill technician or contact the seller for further assistance. Do not attempt complex repairs unless you are trained and qualified.

7. SPECIFICATIONS

| Feature | Detail |
|-----------------------------|--|
| Product Type | Treadmill Motor Controller Circuit Board |
| Brand | DAVITU |
| Compatible Treadmill Models | Johnson Treadmill T101/T102 |
| Motor Type | DC Motor |
| Part Number | DVT-3C91AAF6512CCDE0A9DC729822364A56 |
| Date First Available | October 19, 2022 |

8. WARRANTY AND SUPPORT

This product is subject to the return policy of the seller. Please refer to your purchase documentation for specific return window details, typically 30 days from the date of receipt.

For technical support, troubleshooting assistance beyond what is provided in this manual, or inquiries regarding product defects, please contact the seller directly through the platform where the purchase was made. Provide your order number and a detailed description of the issue to facilitate a quicker resolution. Extended protection plans may be available for purchase separately. These plans are offered by third parties and are not directly associated with the product's inherent warranty or the manufacturer.

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