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› DWEII YX850 Power Failure Automatic Switching Module User Manual

DWEII YX850

DWEII YX850 Power Failure Automatic Switching Module User Manual

1. INTRODUCTION

The DWEII YX850 is an automatic switching module designed to provide uninterrupted power supply by seamlessly transitioning between a main DC power source and a standby battery. This module is suitable for applications requiring continuous operation, such as incubators, laptops, and network devices, within a DC 5V-48V range. It ensures that your connected load remains powered even during main power interruptions.

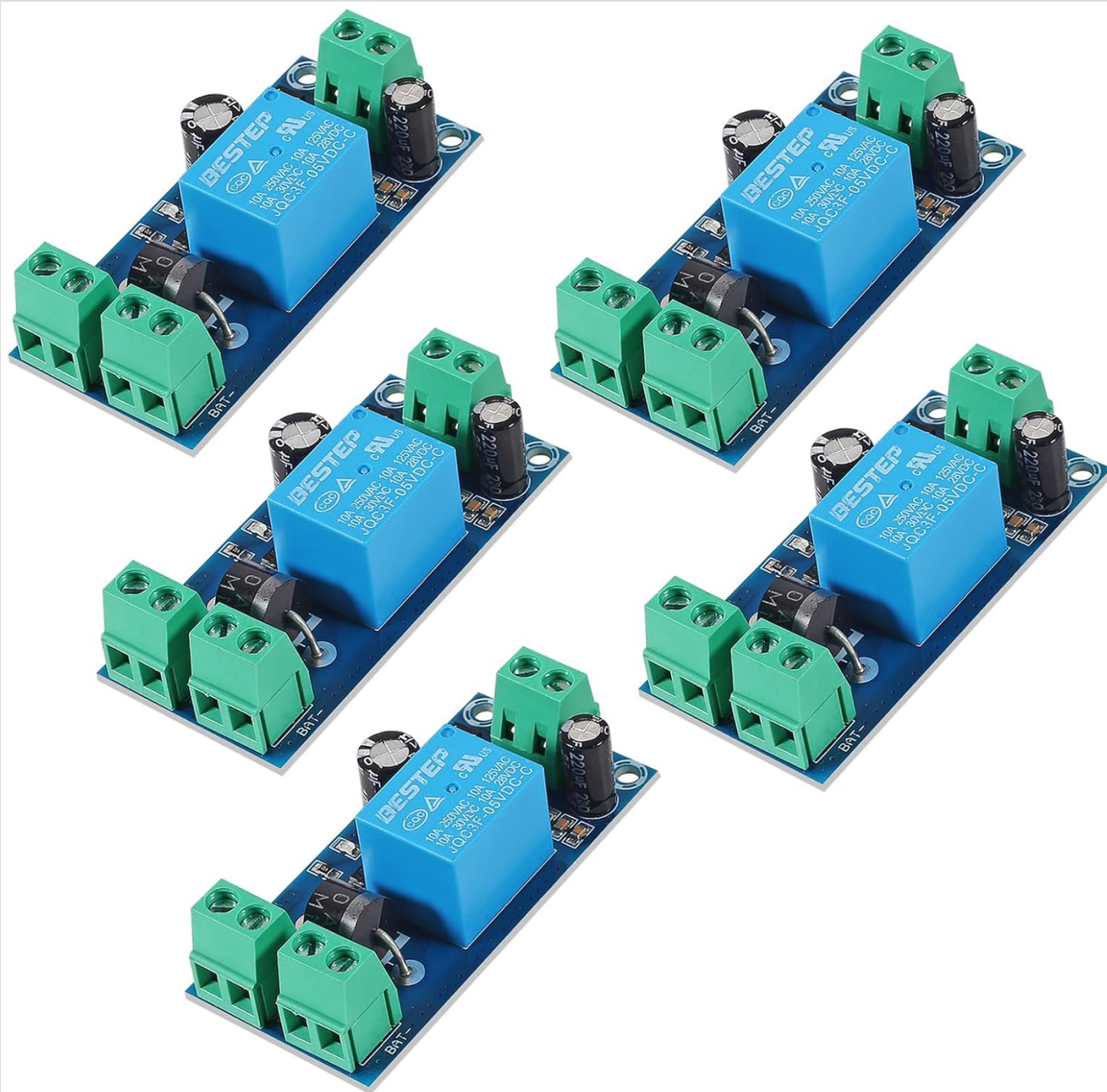


Image 1.1: Multiple DWEII YX850 Power Failure Automatic Switching Modules.

2. SPECIFICATIONS

- **Product Model:** YX850
- **Application Voltage Range:** DC 5V-48V
- **Switching Current Rating:** 10A
- **Dimensions (LxWxH):** Approximately 61mm x 30mm x 18mm (2.4 x 1.2 x 0.7 inches)
- **Installation Hole Spacing:** Approximately 23mm (for 2 x Φ 3MM screws)
- **Item Weight:** 4.2 ounces (0.12 Kilograms)
- **Manufacturer:** DWEII

3. SETUP AND INSTALLATION

The YX850 module features screw terminals for secure wire connections. Proper wiring is crucial for correct operation. Ensure that the voltages of the main power source, the standby battery, and the connected load are

identical for optimal performance.

3.1 Wiring Diagram Overview

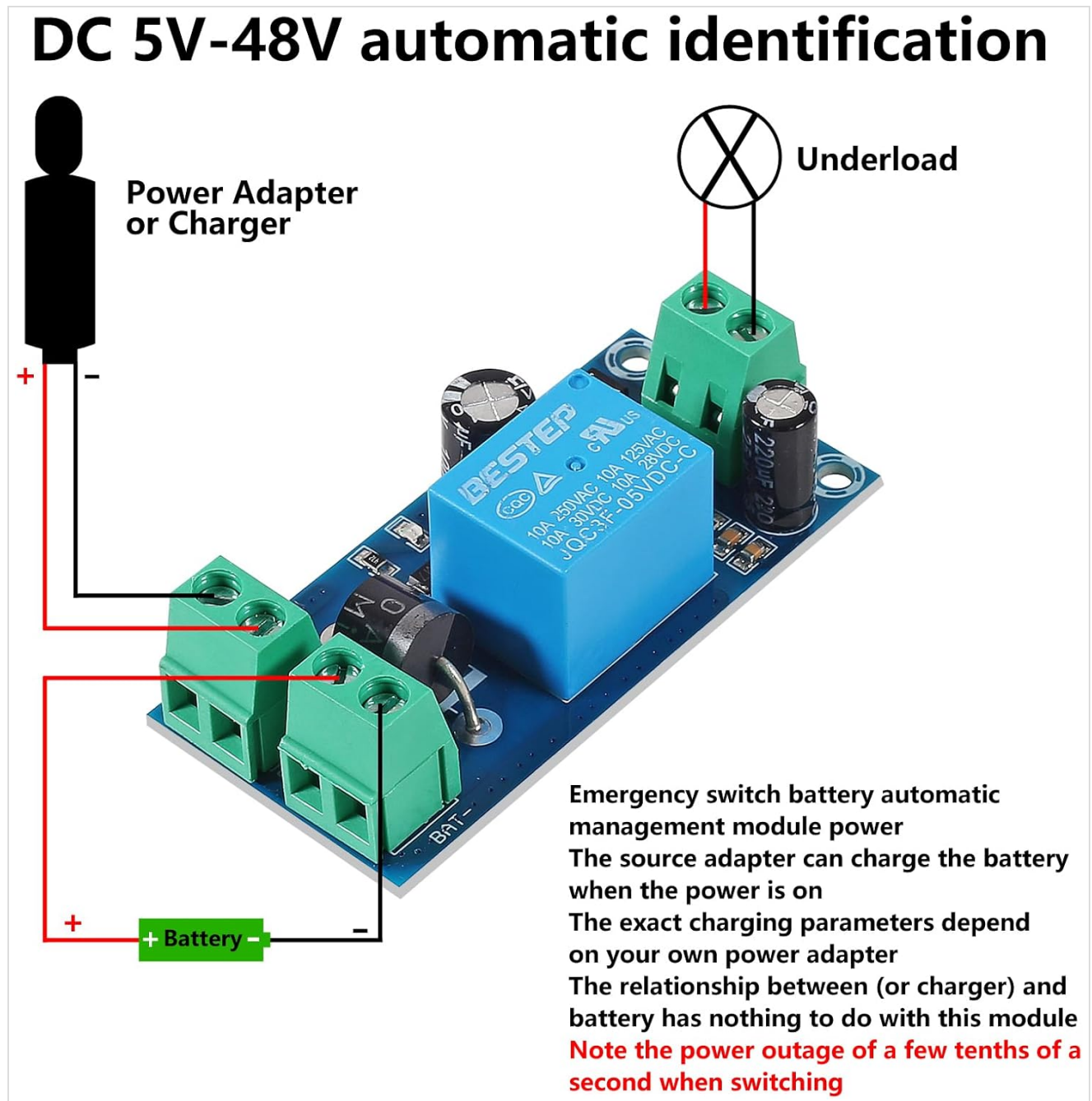


Image 3.1: Wiring diagram illustrating connections for the main power source, battery, and load.

This diagram shows the three primary connection points: the main DC power input (from a power adapter or charger), the standby battery, and the load (output). The module automatically detects the presence of the main power source.

3.2 Terminal Connections

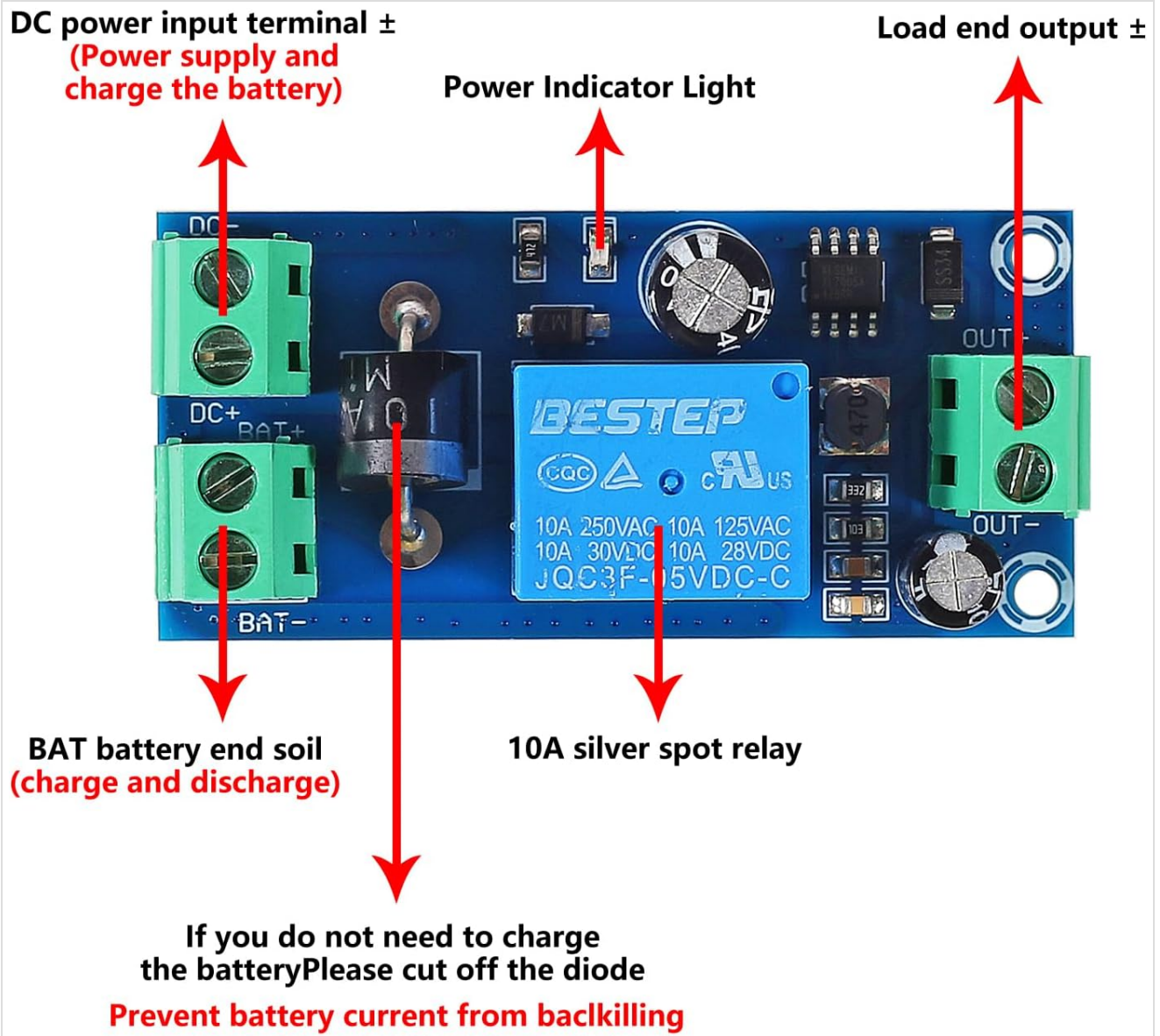


Image 3.2: Detailed component and terminal labels on the YX850 module.

- **DC Power Input Terminal (DC+ / DC-):** Connect your main DC power source (e.g., power adapter, charger) here. This terminal also facilitates charging the battery if an external charging circuit is integrated.
- **Battery End Terminal (BAT+ / BAT-):** Connect your standby battery here. This terminal is used for both charging (if applicable via the main input) and discharging to power the load during main power failure.
- **Load End Output Terminal (OUT+ / OUT-):** Connect your device or load that requires uninterrupted power to these terminals.

Important Note on Diode: The module includes a diode. If you do not intend to charge the battery through the main power input or wish to prevent current from flowing back into the main power source from the battery, you may need to cut off this diode. Refer to Image 3.2 for the diode's location. This action should only be performed if you understand the implications for your specific setup.

Wire Gauge: The screw terminals are designed for small gauge wires, typically up to 18 AWG, suitable for the module's 10A current rating.

4. OPERATING INSTRUCTIONS

The DWELL YX850 module operates automatically once correctly wired. When the main DC power source is active and connected to the DC input terminals, the module will draw power from this source to supply the connected load. A power indicator light on the module will illuminate, confirming the presence of main power.

In the event of a main power failure (i.e., the DC input terminal loses power), the module will automatically switch to the standby battery to continue powering the load. This transition occurs rapidly, typically resulting in a temporary power interruption of less than 1 second as the relay switches.

When the main DC power is restored, the module will automatically switch back to the main power source, and the power indicator light will re-illuminate.

5. MAINTENANCE

The YX850 module is designed for reliable operation with minimal maintenance. To ensure longevity and consistent performance:

- **Keep Clean:** Periodically inspect the module for dust or debris accumulation. Clean gently with a soft, dry brush if necessary.
- **Check Connections:** Ensure all wire connections to the screw terminals remain secure. Loose connections can lead to intermittent power or module malfunction.
- **Ventilation:** Ensure the module is installed in an environment with adequate airflow to prevent overheating, especially if operating at higher current loads.
- **Battery Health:** Regularly check the health and charge level of your standby battery, as its performance directly impacts the module's ability to provide backup power.

6. TROUBLESHOOTING

- **Load Not Receiving Power:**
 - Verify that the main DC power source is active and correctly connected to the DC input terminals.
 - Check that the standby battery is charged and properly connected to the BAT terminals.
 - Ensure all wire connections are secure and correctly polarized.
 - Confirm that the voltages of the main power, battery, and load are compatible and within the 5V-48V range.
- **Temporary Power Interruption During Switching:**
 - This is normal behavior. The module uses a relay for switching, which inherently causes a brief interruption (less than 1 second). This is expected and not a malfunction.
- **Battery Not Charging (if applicable):**
 - If you are relying on the main power input to charge the battery, ensure the diode is intact (not cut off).
 - Verify that your main power source is capable of charging the battery and that an appropriate external charging circuit is in place, as this module primarily handles switching, not advanced battery charging management.
- **Module Not Switching Automatically:**
 - Check the main DC power input. The module should switch to battery only when the main power is absent.
 - Inspect the relay on the module for any visible damage.

7. IMPORTANT NOTES AND WARNINGS

- **Voltage Consistency:** For proper operation, the voltages of the main power source, the standby battery, and the connected load should be the same.

- **Temporary Power Interruption:** Be aware that there will be a brief power interruption (less than 1 second) during the automatic switching process. This is inherent to the relay-based design.
- **Diode Function:** The integrated diode prevents battery current from flowing back to the main power input. If you do not require this protection or wish to implement your own charging solution, the diode can be cut off. Exercise caution and ensure you understand the electrical implications before modifying the module.
- **Current Rating:** Do not exceed the 10A switching current rating to prevent damage to the module.
- **Polarity:** Always observe correct polarity when connecting power sources and loads to avoid damage to the module and connected devices.

8. WARRANTY AND SUPPORT

For warranty information or technical support regarding your DWEII YX850 module, please refer to the product packaging or contact the retailer or manufacturer directly. Keep your purchase receipt for warranty claims.

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