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Hilitand YYB-5

Hilitand YYB-5 12V/24V Forward/Reverse Motor Control Board User Manual

1. INTRODUCTION

This manual provides comprehensive instructions for the Hilitand YYB-5 Two-Relay Timing Module. This versatile control board is designed for precise control of various electrical loads, including forward/reverse motor operations, solenoid valves, pumps, and lighting systems. It features a wide time range and robust power output capabilities, making it suitable for a multitude of industrial and hobbyist applications.



Figure 1: Angled view of the Hilitand YYB-5 module, showing the relays, terminal blocks, display, and control buttons.

2. KEY FEATURES

- **Types of Functions:** The module features 6 types of commonly used functions to meet the requirements of various applications.
- **Wide Application:** The control board can manage 2-way solenoid valves, pumps, motors, lights, and other freely operating loads.
- **Time Range:** The module's time range extends from 0.1 seconds to 999 minutes, adjustable at any time.
- **Power Output:** The motor control board can manage DC or AC loads up to 30A.
- **Good Performance:** The module offers good performance, is easy to install, and has a long service life.



Figure 2: Overview image of the Hilitand YYB-5 Motor Relay Delay Module, emphasizing its 6 types of commonly used functions.

3. TECHNICAL SPECIFICATIONS

Specification	Value
Brand	Hilitand
Model Number	YYB-5 (Manufacturer Reference: Hilitandn7e1ipg8s4)

Specification	Value
Product Dimensions (L x W x H)	9.5 x 9 x 2.5 cm; 100 grams
Power	810 Watts
Items in Package	1
Compliant Specifications	DC
Batteries Included	No
Batteries Required	No
Country of Origin	China
Connector Type	Screw Terminals
Contact Material	Silver or Copper
Contact Type	Normally Closed
Current Rating	30 A
Operating Mode	Automatic
UPC	748018581561
ASIN	B07QCS3D6V



Figure 3: Dimensional drawing of the Hilitand YYB-5 motor control board, showing length, width, and height in millimeters and inches.

4. SETUP AND WIRING

Proper wiring is crucial for the safe and correct operation of the YYB-5 module. Always ensure the power supply is disconnected before making any connections.

4.1 Power Supply Connection

Connect your 12V or 24V DC power supply to the designated terminals on the module. Observe correct polarity (positive to '+' and negative to '-'). The module supports both 12V and 24V DC input.

4.2 Load Connections (Motor, Solenoid, Lights)

The module features two independent relays, each with Common (COM), Normally Open (NO), and Normally Closed (NC) terminals. These allow for flexible control of various loads, including forward/reverse motor applications.

- **Motor Control:** For forward/reverse motor control, connect the motor to the relay outputs as shown in Figure 4. This configuration allows the module to switch the motor's direction.
- **General Loads:** For other loads like solenoid valves or lights, connect the load to the COM and either NO or NC terminals of a relay, depending on whether you want the load to be ON when the relay is activated (NO) or OFF (NC).



Figure 4: Wiring diagram for connecting a motor to the Hilitand YYB-5 module, illustrating power supply, load 1, load 2, and motor connections.



Figure 5: Detailed wiring diagram for the Hilitand YYB-5 module, showing connections for DC/AC power, signal/button inputs, and relay outputs (COM, NO, NC) for two loads.

4.3 Signal Input

The module may include terminals for external signal inputs or buttons (e.g., IN1, IN2, IN3, GND) to trigger specific functions or modes. Refer to the detailed programming guide for specific connections related to these inputs.

5. OPERATING INSTRUCTIONS

The Hilitand YYB-5 module is highly programmable, offering 6 distinct operating modes. Programming is typically done via the onboard display and buttons (SET, +, -, KEY).

5.1 Module Functions

The 6 functions allow for various timing and control scenarios, such as delay ON, delay OFF, cycle timing, and more complex sequences for motor control. Each function will have specific parameters to set (e.g., time duration, number of cycles).

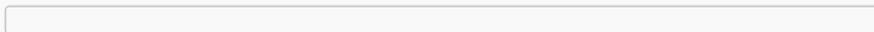


Figure 6: Image of the Hilitand YYB-5 module highlighting its capability to control 2-way solenoid valves, pumps, motors, and lights.

5.2 Programming the Module

While specific programming steps vary by function, the general process involves:

1. **Enter Programming Mode:** Press and hold the 'SET' button until the display changes, indicating entry into programming mode.
2. **Select Function:** Use the '+' and '-' buttons to cycle through the available functions (e.g., P-1, P-2, etc.). Press 'SET' to confirm your selection.
3. **Set Parameters:** For the selected function, use the '+' and '-' buttons to adjust time values (e.g., ON time, OFF time) or other parameters. The 'KEY' button might be used to switch between setting different parameters or digits.
4. **Save Settings:** Once all parameters are set, press and hold the 'SET' button again to save the configuration and exit programming mode.

For detailed instructions on each of the 6 functions and their specific parameter settings, please refer to the comprehensive programming guide available from the manufacturer or product support resources.

6. MAINTENANCE

The Hilitand YYB-5 module is designed for long-term reliability with minimal maintenance. Follow these guidelines to ensure optimal performance:

- **Keep Clean and Dry:** Protect the module from dust, dirt, and moisture. Avoid operating in environments with excessive humidity or corrosive substances.
- **Inspect Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to intermittent operation or damage.

- **Avoid Physical Shock:** Handle the module with care to prevent physical damage.
- **Ventilation:** Ensure adequate airflow around the module, especially if operating at higher loads, to prevent overheating.

7. TROUBLESHOOTING

If you encounter issues with your Hilitand YYB-5 module, consider the following troubleshooting steps:

- **Module Not Powering On:**
 - Verify the power supply voltage (12V or 24V DC) is correct.
 - Check power supply connections for correct polarity and secure contact.
 - Ensure the power supply is functional.
- **Load Not Activating/Deactivating:**
 - Check the wiring of the load to the relay terminals (COM, NO, NC).
 - Verify the load itself is functional and within the module's 30A current rating.
 - Review the programmed function and parameters to ensure they match your desired operation.
- **Incorrect Timing:**
 - Re-enter programming mode and verify all time settings.
 - Ensure the time unit (seconds, minutes) is correctly configured if applicable.
- **Buttons Unresponsive:**
 - Ensure the module is powered correctly.
 - Gently press buttons to ensure they are not stuck.

If problems persist after following these steps, please contact Hilitand customer support for further assistance.

8. WARRANTY AND SUPPORT

For information regarding product warranty, returns, or technical support, please refer to the documentation provided at the time of purchase or contact Hilitand directly through their official website or customer service channels. Please have your product model (YYB-5) and ASIN (B07QCS3D6V) available when seeking support.