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TWTADE YJ4N-GS-DC 12V

TWTADE DC 12V Electromagnetic Power Relay

Model: YJ4N-GS-DC 12V

Instruction Manual

1. Product Overview

The TWTADE DC 12V Electromagnetic Power Relay (Model YJ4N-GS-DC 12V) is a versatile electrical component designed for switching electrical circuits. This 14-pin DPDT (Double Pole Double Throw) relay features 4 Normally Open (NO) and 4 Normally Closed (NC) contacts, an LED indicator, and comes with a compatible YJTF08A-E socket, aluminum DIN rail, screws, and a base hook for easy installation.
It is widely applicable in various control systems, including:

- Domestic air conditioning compressor motors
- Fan motors and cooling pump motors
- Car starter relays and bypass relays
- General motor control applications
- Generator circuit breakers
- Other industrial control and automation systems



Figure 1: TWTADE DC 12V Electromagnetic Power Relay with Socket and DIN Rail.

2. Safety Information

Please read and understand all safety instructions before installing or operating this device. Failure to do so may result in electric shock, fire, or personal injury.

- **Electrical Hazard:** Always disconnect power before installing, wiring, or servicing the relay.
- **Qualified Personnel:** Installation and wiring should only be performed by qualified electricians or technicians.
- **Voltage Rating:** Ensure the supply voltage matches the relay's coil voltage (DC 12V) and that contact loads do not exceed the specified ratings (5A 240VAC/28VDC).
- **Proper Wiring:** Use appropriate wire gauges and ensure all connections are secure to prevent overheating or short circuits.
- **Environment:** Install the relay in a dry, well-ventilated area, free from excessive dust, moisture, and corrosive gases.

3. Specifications

Feature	Detail
Manufacturer	TWTADE
Model Number	YJ4N-GS-DC 12V
Coil Voltage	DC 12V
Contact Configuration	DPDT (4NO 4NC)
Number of Pins	14 Pins
Contact Rating	5A 240VAC / 28VDC
Socket Model	YJTF08A-E
Indicator	LED (Green for DC coil)
Mounting Type	DIN Rail Mount
Package Dimensions	16.2 x 10.1 x 4.8 cm
Weight	100 grams

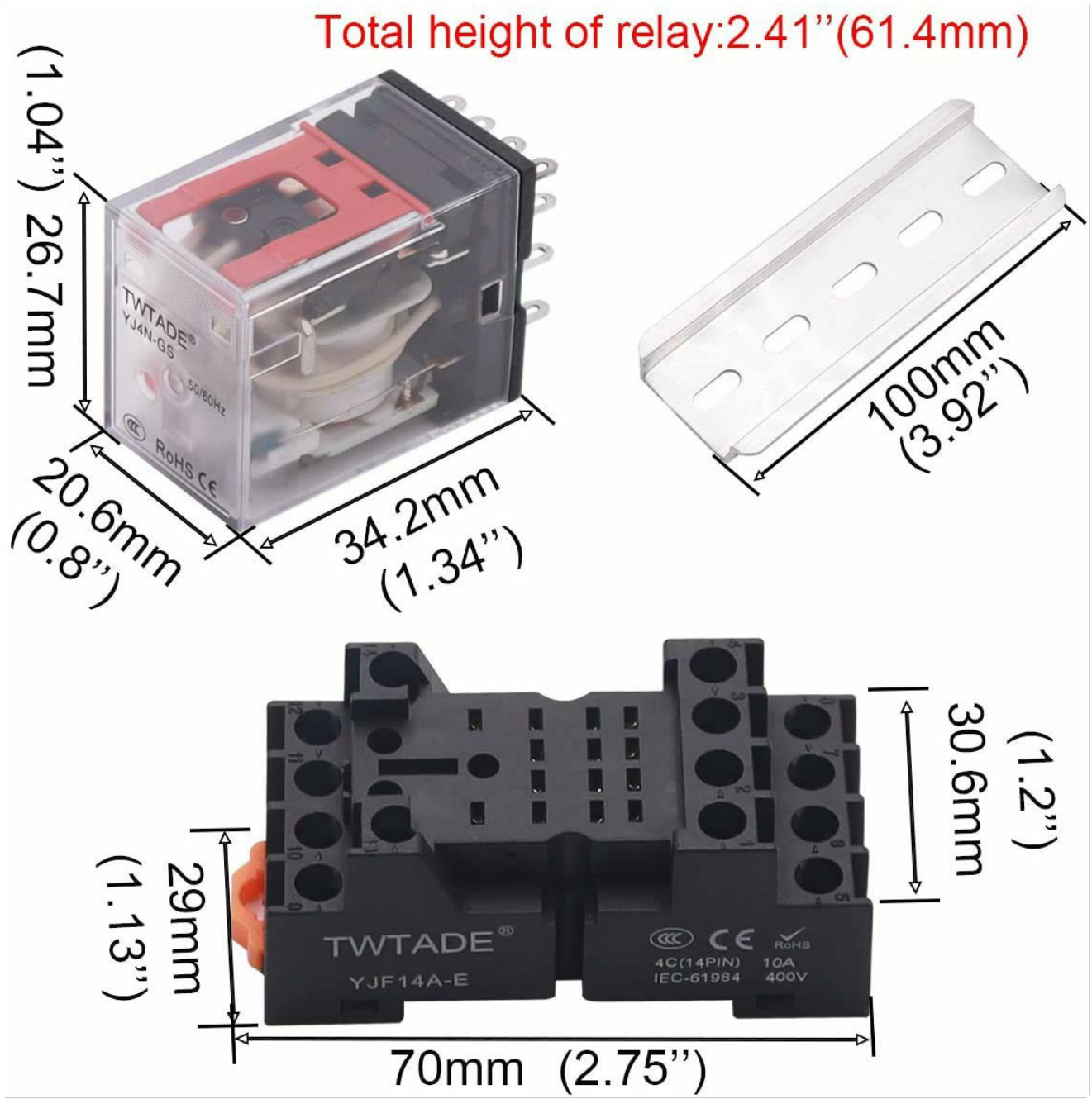


Figure 2: Dimensional drawing of the relay and socket.

4. Package Contents

The package typically includes the following components:

- 1 x TWTADE DC 12V Electromagnetic Power Relay (YJ4N-GS-DC 12V)
- 1 x YJTF08A-E Relay Socket
- 1 x Aluminum DIN Rail
- Mounting Screws
- Base Hook

5. Setup and Installation

Follow these steps for proper installation of the relay and socket:

1. **Mounting the DIN Rail:** Secure the provided aluminum DIN rail to a stable surface within your control panel or

enclosure using appropriate screws.

2. **Attaching the Socket:** Slide the YJTF08A-E relay socket onto the DIN rail. Ensure it clicks into place securely.
3. **Wiring the Socket:** Refer to the wiring diagram (Figure 3) for correct terminal connections. Connect the control circuit to the coil terminals (13 and 14 for DC 12V) and the load circuits to the appropriate contact terminals (1-5, 2-6, 3-7, 4-8 for NO; 1-9, 2-10, 3-11, 4-12 for NC).
4. **Inserting the Relay:** Carefully align the 14 pins of the YJ4N-GS-DC 12V relay with the corresponding holes in the YJTF08A-E socket. Gently push the relay into the socket until it is fully seated.
5. **Verify Connections:** Double-check all wiring for correctness and security before applying power.

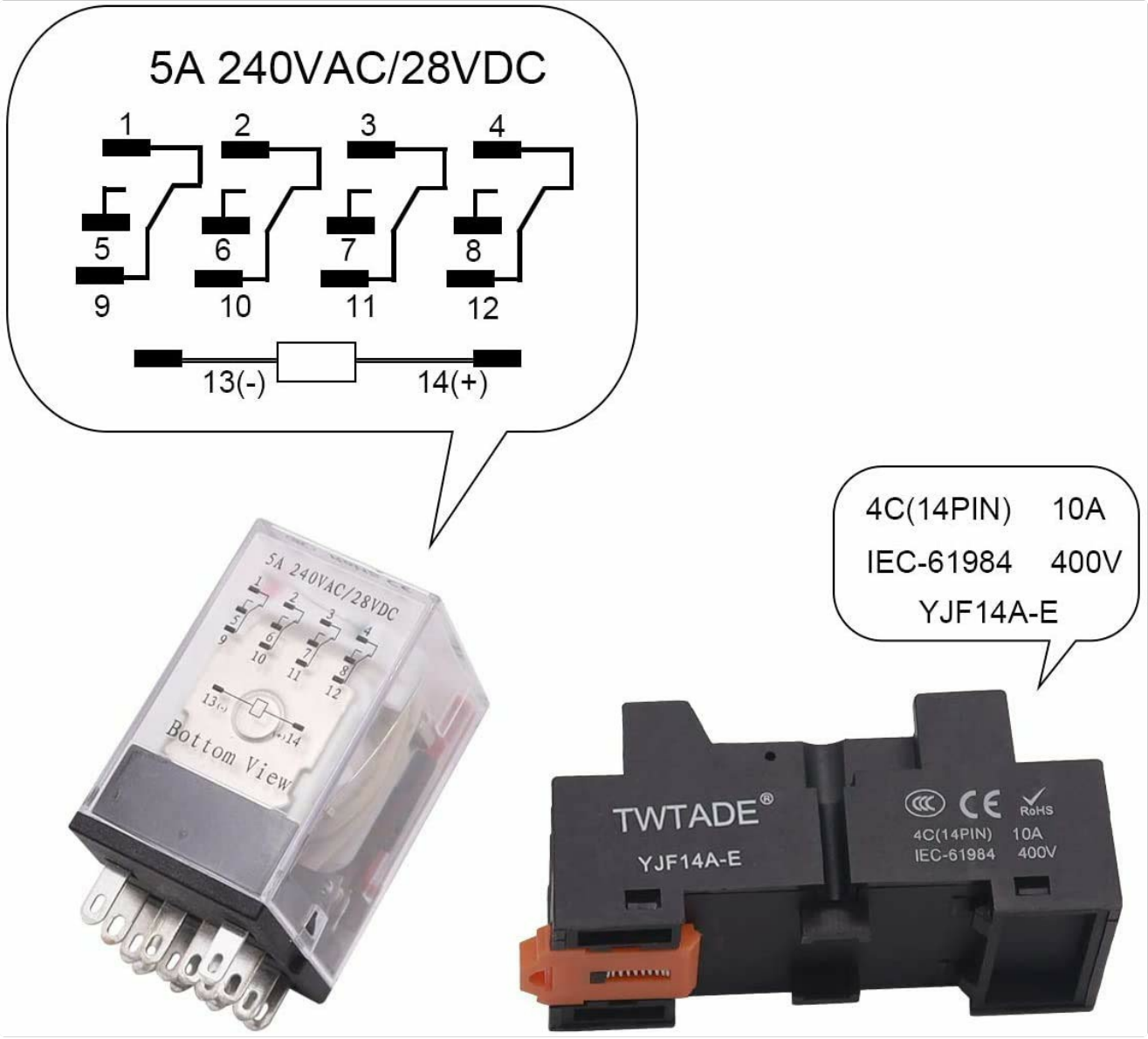


Figure 3: Relay Pinout and Wiring Diagram (Bottom View).
Coil terminals are 13(-) and 14(+). Contact ratings are 5A 240VAC/28VDC.

6. Operating Instructions

The TWTADE DC 12V Electromagnetic Power Relay operates by energizing its coil, which then actuates the internal contacts to switch connected load circuits.

- **Coil Activation:** When a DC 12V power supply is applied to terminals 13(-) and 14(+) of the relay coil, the coil energizes.
- **Contact Switching:** Upon coil energization, the Normally Open (NO) contacts close, and the Normally Closed

(NC) contacts open. When power is removed from the coil, the contacts return to their original state.

- **LED Indicator:** The integrated LED indicator provides visual feedback on the coil's status. For this DC 12V model, the LED will illuminate green when the coil is energized, indicating the relay is active.



Figure 4: LED Indicator for Coil Status (Green for DC Coil).



Figure 5: Key features of the TWTADE relay, highlighting its transparent shell, silver alloy contacts, and LED indicator.

7. Maintenance

The TWTADE DC 12V Electromagnetic Power Relay is designed for reliable operation with minimal maintenance. However, periodic checks can help ensure longevity and optimal performance:

- **Visual Inspection:** Regularly inspect the relay and socket for any signs of physical damage, discoloration, or loose connections.
- **Cleanliness:** Keep the relay and its surroundings free from dust and debris, which can interfere with contact operation or heat dissipation. Use a soft, dry cloth for cleaning.
- **Connection Integrity:** Periodically check that all wire connections to the socket terminals are tight and secure.
- **Contact Wear:** In high-cycle applications, monitor for signs of contact wear. If the relay exhibits inconsistent switching or excessive arcing, replacement may be necessary.

8. Troubleshooting

If you encounter issues with your TWTADE DC 12V Electromagnetic Power Relay, consider the following troubleshooting steps:

- **Relay Not Activating:**
  - Check if DC 12V is correctly applied to coil terminals 13(-) and 14(+).
  - Verify the power supply for the coil is functional.
  - Ensure the relay is fully seated in its socket.
  - Check for any loose or incorrect wiring connections.
- **Load Not Switching:**
  - Confirm the relay coil is activating (LED indicator should be green).
  - Check the wiring to the load contacts (NO/NC) for correctness and continuity.
  - Ensure the load voltage and current do not exceed the relay's contact ratings (5A 240VAC/28VDC).
  - Inspect the load device itself for faults.
- **Intermittent Operation:**
  - Check for loose connections at the socket or within the control circuit.
  - Ensure stable power supply to the coil.
  - Environmental factors like vibration or extreme temperatures might affect performance.

If the problem persists after performing these checks, it may indicate a faulty relay or a more complex issue within your control system. Consider consulting a qualified technician.

9. Warranty and Support

Information regarding specific warranty terms and direct support channels for the TWTADE DC 12V Electromagnetic Power Relay is not available in the provided product details. For warranty claims, technical assistance, or further inquiries, please refer to the documentation provided with your purchase or contact the manufacturer, TWTADE, directly through their official support channels.

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