Idec RH4B-UAC120V

RH4B-UAC120V Power Relay Instruction Manual

Model: RH4B-UAC120V | Brand: Idec

Introduction

This manual provides essential information for the safe and effective use of the Idec RH4B-UAC120V Power Relay. This device is designed for reliable electrical switching applications, featuring a 4PDT contact configuration and operating on a 120VAC coil voltage. Please read this manual thoroughly before installation and operation.

Safety Precautions

Always observe the following safety precautions to prevent electric shock, fire, or damage to the product:

- Ensure power is disconnected before installation, wiring, or maintenance.
- All wiring should be performed by qualified personnel in accordance with local electrical codes.
- Do not exceed the specified voltage and current ratings.
- Avoid installing the relay in environments with excessive moisture, dust, corrosive gases, or vibrations.

Setup and Installation

The RH4B-UAC120V Power Relay is designed for socket mounting. Follow these general steps for installation:

1. **Mounting:** Securely mount the appropriate relay socket (not included) in a stable location, typically on a DIN rail or panel.
2. **Wiring:** Connect the control circuit to the coil terminals and the load circuit to the contact terminals. Refer to the wiring diagram provided with your relay socket or system documentation for specific pin assignments. Ensure all connections are tight and secure.
3. **Insertion:** Carefully insert the RH4B-UAC120V relay into its socket, ensuring all pins align correctly with the socket terminals. Apply gentle, even pressure until the relay is fully seated.
4. **Verification:** Before applying power, double-check all wiring connections for correctness and ensure no loose strands or short circuits are present.

Figure 1: Idec RH4B-UAC120V Power Relay. This image shows the compact design of the relay with its transparent casing, revealing the internal contacts and coil, and the multiple pins for socket connection at the base.

Operating Instructions

The RH4B-UAC120V Power Relay operates automatically based on the presence or absence of voltage across its coil terminals. It functions as a switch to control higher power circuits or to provide isolation between control and load circuits.

- **Coil Activation:** When 120VAC is applied to the relay's coil, an electromagnetic field is generated, causing the internal contacts to switch their state.
- **Contact Switching:** The 4PDT (Four Pole Double Throw) configuration means the relay has four independent sets of contacts, each capable of switching between two positions (normally open to closed, or normally closed to open).
- **Deactivation:** When the 120VAC supply to the coil is removed, the electromagnetic field collapses, and the contacts return to their original (de-energized) state.

Ensure the load connected to the contacts does not exceed the 10 Amps current rating to prevent damage to the relay and connected equipment.

Maintenance

The RH4B-UAC120V Power Relay is designed for long-term reliability with minimal maintenance. However, periodic inspection is recommended to ensure optimal performance and longevity.

- **Visual Inspection:** Regularly check the relay and its socket for any signs of physical damage, discoloration, or loose connections.
- **Environmental Check:** Ensure the operating environment remains within specified conditions (temperature, humidity, absence of corrosive substances).
- **Cleaning:** If dust or debris accumulates, gently clean the exterior of the relay and socket using a soft, dry cloth. Do not use solvents or abrasive cleaners.
- **Contact Life:** Relays have a finite number of switching cycles. If the relay is used in a high-frequency switching application, consider periodic replacement based on manufacturer's recommendations or observed performance degradation.

Troubleshooting

If the RH4B-UAC120V Power Relay does not function as expected, consider the following common issues and solutions:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Relay does not energize (contacts do not switch)	• No power to coil terminals. • Incorrect coil voltage (not 120VAC). • Loose or incorrect wiring. • Damaged coil.	• Verify 120VAC supply to coil terminals. • Check power source voltage. • Inspect and correct wiring connections. • Replace relay if coil is damaged.
Contacts do not switch reliably or chatter	• Overload on contacts. • Excessive wear on contacts. • Coil voltage fluctuations.	• Ensure load current is within 10A rating. • Replace relay if contacts are worn. • Stabilize coil power supply.
Relay overheats	• Overvoltage applied to coil. • Overcurrent through contacts. • Poor ventilation.	• Verify coil voltage is 120VAC. • Reduce load current or use a higher-rated relay. • Ensure adequate airflow around the relay.

If problems persist, consult a qualified electrician or contact Idec technical support.

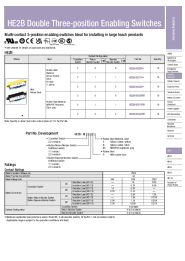
Specifications

Attribute	Value
Model Number	RH4B-UAC120V
Brand	Idec
Contact Type	4PDT (Four Pole Double Throw)
Current Rating	10 Amps
Coil Voltage	120 Volts AC
Operation Mode	Automatic
Manufacturer	IDEC
Dimensions (Approximate)	27.5 x 41 x 42 mm

Warranty and Support

For information regarding warranty coverage, technical support, or service, please refer to the official Idec website or contact your authorized Idec distributor. Keep your purchase receipt as proof of purchase.
Idec Official Website: https://us.idec.com/

Related Documents - RH4B-UAC120V

	IDEC RU Series Universal Relays: Features, Specifications, and Applications A comprehensive guide to IDEC RU Series universal miniature relays, detailing their features, technical specifications, electrical life curves, dimensions, part numbers, applicable sockets, and safety precautions for industrial automation.
	IDEC YW Series Switches & Pilot Lights - Comprehensive Product Catalog Explore the IDEC YW Series of Ø22 and Ø30 switches and pilot lights, including emergency stop switches, pushbuttons, selector switches, key selector switches, and pilot lights. View specifications, part numbers, dimensions, and accessories.
	IDEC Relay Selection Guide A comprehensive guide to selecting IDEC relays, covering various series like RV8H, RJ, RH, RU, RR, RL, RY, RF, and RSC solid-state relays. It details specifications, features, and cross-references for industrial applications.
	IDEC RF1V Force Guided Relays & SF1V Relay Sockets | Safety Circuit Components Explore IDEC's RF1V Force Guided Relays and SF1V Relay Sockets, designed for flexible and reliable safety circuit construction. Features include EN50205 compliance, fast response, and shock resistance.
	IDEC SmartRelay FL1F: IIoT-Ready Compact Programmable Relay Discover the IDEC SmartRelay FL1F, a versatile and compact IIoT-ready programmable relay designed for efficient automation, control, and remote monitoring. This document details its features, extensive I/O capabilities, communication protocols (Modbus TCP, MQTT), web server functionality, and comprehensive technical specifications.
	IDEC Enabling Switches: HE2B, HE3B, HE5B, HE6B, HE2G, HE1G-L Series - Product Catalog & Specifications Comprehensive guide to IDEC's HE series 3-position enabling switches, including HE2B, HE3B, HE5B, HE6B, HE2G, and HE1G-L models. Features detailed specifications, safety precautions, operating instructions, and wiring diagrams for industrial applications.