Idec RJ2S-CL-D12

RJ2S-CL-D12 Electromechanical Relay User Manual

Model: RJ2S-CL-D12 | Brand: Idec

1. Product Overview

The Idec RJ2S-CL-D12 is an 8A DPDT (Double Pole Double Throw) electromechanical relay designed for general purpose switching applications. It operates on a 12VDC coil voltage and features a compact design suitable for various industrial electrical control systems. This relay is typically used for switching higher power circuits with a low power control signal, providing isolation between control and load circuits.

Figure 1: Idec RJ2S-CL-D12 Electromechanical Relay. This image shows the compact, transparent yellow casing of the relay, revealing the internal coil and contacts, with the pin base visible at the bottom.

2. Safety Information

Always observe the following safety precautions when installing, operating, or maintaining the relay:

- Ensure all power is disconnected before installation or maintenance to prevent electric shock.
- Installation should only be performed by qualified personnel.
- Verify correct voltage and current ratings before connecting the relay to a circuit.
- Do not exceed the specified current or voltage ratings of the relay.
- Protect the relay from moisture, dust, and extreme temperatures.
- Use appropriate wiring and connectors for the specified current load.

3. Setup and Installation

The RJ2S-CL-D12 relay is designed for socket mounting. Follow these steps for proper installation:

1. **Power Disconnection:** Before beginning, ensure that all power to the circuit where the relay will be installed is

completely disconnected and locked out.

2. **Socket Selection:** Use a compatible relay socket (e.g., Idec SY4S-05 or similar) that matches the relay's pin configuration.
3. **Mounting the Socket:** Securely mount the relay socket to a DIN rail or panel using appropriate fasteners.
4. **Wiring the Socket:** Connect the control voltage (12VDC) to the coil terminals of the socket. Refer to the socket's wiring diagram for correct polarity. Connect the load circuit wires to the appropriate contact terminals (common, normally open, normally closed) as required by your application. The DPDT configuration provides two independent sets of contacts.
5. **Inserting the Relay:** Carefully align the relay pins with the corresponding holes in the socket. Gently push the relay into the socket until it is fully seated. Do not force the relay, as this may bend or damage the pins.
6. **Verification:** Double-check all wiring connections for correctness and security before restoring power.

4. Operating Instructions

The RJ2S-CL-D12 relay operates by energizing its coil, which then actuates the internal contacts to switch the connected load circuits.

- **Coil Activation:** When 12VDC is applied across the coil terminals, an electromagnetic field is generated, pulling the armature and changing the state of the contacts.
- **Contact Switching:**
  - Normally Open (NO) contacts will close.
  - Normally Closed (NC) contacts will open.
- **Deactivation:** When the 12VDC supply to the coil is removed, the electromagnetic field collapses, and the contacts return to their original (de-energized) state.
- **Indicator:** Many compatible sockets or the relay itself may feature an LED indicator to show when the coil is energized.

5. Maintenance

Electromechanical relays like the RJ2S-CL-D12 are generally low-maintenance devices. However, periodic inspection can help ensure reliable operation.

- **Visual Inspection:** Periodically inspect the relay and its socket for any signs of physical damage, discoloration (indicating overheating), or loose connections.
- **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 Wear:** While not typically user-serviceable, excessive arcing or frequent switching of high inductive loads can lead to contact wear over time. If erratic behavior or failure to switch is observed, consider replacing the relay.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges to prevent premature failure.

6. Troubleshooting

If the RJ2S-CL-D12 relay is not functioning as expected, consider the following troubleshooting steps:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Relay coil does not energize (no click, no indicator light)	• No 12VDC power to coil terminals. • Incorrect coil voltage (e.g., AC instead of DC, or wrong DC voltage). • Loose or incorrect wiring to coil. • Damaged coil.	• Verify 12VDC supply at coil terminals with a multimeter. • Ensure correct voltage and polarity are applied. • Check all coil wiring connections. • Replace relay if coil is confirmed damaged.
Relay energizes but load does not switch	• Incorrect wiring of load contacts. • Open circuit in load path. • Load current exceeds relay contact rating. • Damaged contacts.	• Review wiring diagram and verify load connections. • Check continuity of load circuit. • Ensure load current is within 8A rating. • Replace relay if contacts are damaged.
Relay buzzes or chatters	• Insufficient or fluctuating coil voltage. • Incorrect coil voltage type (e.g., AC ripple on DC).	• Verify stable 12VDC supply to the coil. • Ensure power supply is clean DC.

7. Specifications

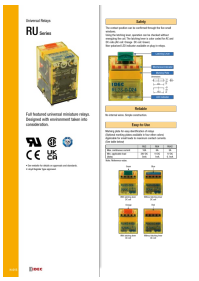
Attribute	Value
Model Number	RJ2S-CL-D12
Brand	Idec
Contact Type	DPDT (Double Pole Double Throw)
Coil Voltage	12VDC
Current Rating	8 Amps
Coil Resistance	271 Ohms
Dimensions (Approx.)	28.8 x 12.7 x 33 mm
Operation Mode	Automatic
Manufacturer	IDEC

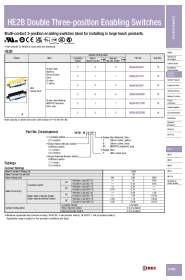
8. Warranty and Support

Specific warranty terms and conditions for the Idec RJ2S-CL-D12 relay are not provided in this manual. For detailed warranty information, technical support, or service inquiries, please contact Idec Corporation directly or refer to their official website.

You may also contact the authorized distributor or seller from whom you purchased the product for assistance.

Related Documents - RJ2S-CL-D12

	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 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 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 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.