HFFFXRCY CAE40M5N

HFFFXRCY CAE40M5N Control Relay User Manual

Model: CAE40M5N | Brand: HFFFXRCY

1. Product Overview

The HFFFXRCY CAE40M5N is a robust control relay designed for industrial electrical applications. This device features a 220V AC coil and four normally open (4NO) contacts, making it suitable for controlling various circuits where a switching action is required upon coil energization. Its reliable operation ensures efficient control in automation and power distribution systems.

2. Safety Information

WARNING: Electrical shock hazard. Installation and maintenance should only be performed by qualified personnel.

- Always disconnect power before installing, wiring, or servicing the relay.
- Ensure all wiring complies with local and national electrical codes.
- Verify the coil voltage and contact ratings match your application requirements.
- Do not operate the relay in environments exceeding its specified temperature or humidity limits.
- Use appropriate personal protective equipment (PPE) when working with electrical systems.

3. Product Description and Features

The CAE40M5N control relay is engineered for reliable performance in demanding industrial settings. Key features include:

- **Model:** CAE40M5N
- **Coil Voltage:** AC220V
- **Contact Configuration:** 4 Normally Open (4NO) contacts
- **High Insulation Voltage:** Rated for Ui 690V

- **Rated Thermal Current:** Ith 10A
- **Compliance:** Meets IEC 60947-5-1 and GB 14048.5 standards

Figure 1: Front view of the HFFFXRCY CAE40M5N control relay, showing the 'CAE40' designation, 'EasyPact TVS' branding, and the terminal markings for four normally open contacts (13 NO, 23 NO, 33 NO, 43 NO, 14 NO, 24 NO, 34 NO, 44 NO). The coil voltage input is also visible at the top.

Figure 2: Rear view of the HFFFXRCY CAE40M5N control relay, displaying detailed specifications on a label. This includes the model variant 'CAE40...N', compliance standards (IEC 60947-5-1, GB 14048.5), rated thermal current (Ith: 10A), rated insulation voltage (Ui: 690V), and a schematic diagram for the normally open contacts and coil terminals (A1, A2). The 'Made in China' origin is also indicated.

4. Setup and Installation

Proper installation is crucial for the safe and reliable operation of the CAE40M5N control relay. Follow these general guidelines:

1. **Mounting:** Securely mount the relay in a suitable enclosure or panel using appropriate fasteners. Ensure adequate ventilation to prevent overheating.
2. **Wiring the Coil (A1, A2):** Connect the AC220V power supply to the coil terminals A1 and A2. Observe proper polarity if applicable, though for AC coils, it is generally not critical.
3. **Wiring the Contacts (NO):** The relay features four normally open (NO) contacts. Each NO contact has two terminals (e.g., 13 NO and 14 NO). Connect the load circuit to these terminals. When the coil is energized, the NO contacts will close, completing the circuit.
4. **Verification:** After wiring, double-check all connections for tightness and correctness. Ensure no bare wires are exposed.
5. **Power On:** Restore power to the circuit and test the relay's operation.

Consult a qualified electrician if you are unsure about any installation steps.

5. Operating Instructions

The CAE40M5N control relay operates based on the energization of its coil:

- **De-energized State:** When the AC220V coil is not energized, all four normally open (NO) contacts remain open. No current flows through the load circuits connected to these contacts.
- **Energized State:** When the AC220V coil is energized, an electromagnetic field is created, causing the armature to move. This action closes all four normally open (NO) contacts, allowing current to flow through the connected load circuits.
- **Control:** The relay acts as an intermediary switch, allowing a low-power control signal (to the coil) to switch a higher-power load circuit.

6. Maintenance

The CAE40M5N control relay is designed for minimal maintenance. However, periodic checks can help ensure its longevity and reliable operation:

- **Visual Inspection:** Regularly inspect the relay for any signs of physical damage, discoloration, or loose connections.
- **Cleaning:** If necessary, gently clean the exterior of the relay with a dry, soft cloth. Do not use solvents or abrasive cleaners. Ensure no dust or debris accumulates around the terminals.
- **Terminal Tightness:** Periodically check that all terminal screws are securely tightened. Loose connections can lead to overheating and poor performance.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges.

7. Troubleshooting

If the CAE40M5N control relay is not functioning as expected, consider the following troubleshooting steps:

- **Relay Not Actuating:**
  - Verify that the AC220V coil voltage is present at terminals A1 and A2.
  - Check for loose or incorrect wiring to the coil.
  - Ensure the control circuit providing power to the coil is functioning correctly.
- **Load Not Switching:**
  - Confirm the relay coil is energized and the contacts are visibly closing (if possible).
  - Check the wiring to the load circuit and the NO contacts (e.g., 13-14, 23-24).
  - Ensure the load itself is functional and not drawing excessive current that could damage the contacts.
  - Verify that the load current does not exceed the relay's rated thermal current (Ith 10A).
- **Overheating:**
  - Check if the load current exceeds the relay's rating.
  - Ensure adequate ventilation around the relay.
  - Verify terminal connections are tight to prevent resistive heating.

If issues persist, contact a qualified technician or the manufacturer for assistance.

8. Specifications

Parameter	Value
Model	CAE40M5N
Brand	HFFFXRCY
Coil Voltage	AC220V
Contact Configuration	4 Normally Open (4NO)
Rated Insulation Voltage (Ui)	690V
Rated Thermal Current (Ith)	10A
Standards	IEC 60947-5-1, GB 14048.5
Approximate Package Dimensions (L x W x H)	0.39 x 0.39 x 0.39 inches
Approximate Item Weight	1.76 ounces
Manufacturer	HFFFXRCY

9. Warranty and Support

For information regarding warranty coverage, technical support, or service for your HFFFXRCY CAE40M5N Control Relay, please refer to the purchase documentation or contact your retailer. Keep your proof of purchase for any warranty claims.