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UNGMUQDD UNGMUQDD

UNGMUQDD 4TM Refrigerator Thermal Overload Protector Relay User Manual

Model: UNGMUQDD

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the UNGMUQDD 4TM Refrigerator Thermal Overload Protector Relay. This component is designed to protect refrigerator compressors from overheating due to excessive current draw, ensuring the longevity and safe operation of your appliance. Please read this manual thoroughly before installation and use.

Product Overview and Components

The 4TM Thermal Overload Protector Relay is a critical safety device for refrigerator compressors. It is designed to interrupt the electrical circuit to the compressor if it detects an overload condition, preventing damage to the compressor motor.



Figure 1: Front and back view of the 4TM Thermal Overload Protector Relay. The white unit shows the internal bimetallic strip mechanism, while the black unit shows the external casing and terminal connections.



Figure 2: A collection of 4TM Thermal Overload Protector Relays, illustrating their compact design and the standard terminal configuration for various refrigerator compressor models.

Key Features:

- Thermal protection for refrigerator compressors.
- Available in various voltage and horsepower ratings (110V/120V or 220V, 1/12HP to 1/2HP).
- Compact and durable design.
- Easy to install as a replacement part.

Setup and Installation

Safety First: Before attempting any installation or replacement, ensure the refrigerator is completely disconnected from the power supply. Failure to do so can result in electric shock or serious injury.

1. **Identify the Old Relay:** Locate the existing thermal overload protector relay on your refrigerator's compressor. It is typically attached to the side of the compressor.
2. **Disconnect Wiring:** Carefully disconnect any wires connected to the old relay. Note their positions for re-

connection.

3. **Remove Old Relay:** Gently pull or unclip the old relay from the compressor. It may be held in place by a clip or simply slide off.
4. **Verify Compatibility:** Compare the new UNGMUQDD 4TM relay with the old one to ensure it matches in terms of size, terminal configuration, and voltage/horsepower rating.
5. **Install New Relay:** Slide or clip the new relay onto the compressor's terminal pins. Ensure it is securely seated.
6. **Reconnect Wiring:** Reconnect the wires to the new relay in the same positions as they were on the old one. Ensure all connections are firm.
7. **Test:** Once the relay is securely installed and wired, restore power to the refrigerator and observe its operation. The compressor should start normally.

If you are unsure about any step, it is recommended to consult a qualified appliance technician.

Operating Principles

The 4TM Thermal Overload Protector Relay operates on a bimetallic strip principle. When the compressor draws excessive current, indicating an overload or fault condition, the bimetallic strip inside the relay heats up and bends, opening the electrical contacts and interrupting power to the compressor. This prevents the compressor motor from overheating and sustaining permanent damage. Once the compressor cools down and the bimetallic strip returns to its original shape, the contacts close, and the compressor can restart. This cycle repeats if the overload condition persists.

Maintenance

The UNGMUQDD 4TM Thermal Overload Protector Relay is a sealed unit and requires no routine maintenance. However, regular inspection of the relay and its connections is recommended during any refrigerator servicing.

- **Visual Inspection:** Periodically check the relay for any signs of physical damage, such as cracks, burns, or loose terminals.
- **Connection Integrity:** Ensure that all electrical connections to the relay are clean, tight, and free from corrosion.
- **Cleanliness:** Keep the area around the compressor and relay free from dust and debris to ensure proper heat dissipation.

If the relay shows signs of damage or frequent tripping, it should be replaced.

Troubleshooting

This section addresses common issues related to the thermal overload protector relay.

Problem	Possible Cause	Solution
Compressor cycles on and off rapidly (short cycling)	Overload relay tripping due to compressor issues, low voltage, or faulty relay.	• Check refrigerator's power supply for stable voltage. • Inspect compressor for signs of overheating or mechanical issues. • Test the relay for continuity when cold and hot. Replace if faulty.

Problem	Possible Cause	Solution
Refrigerator not cooling, compressor not running	Faulty overload relay (stuck open) or compressor failure.	• Verify power to the refrigerator. • Check if the relay is properly seated and connections are secure. • Test the relay for continuity. If it shows open circuit when cold, replace it. • If relay is functional, compressor may be faulty.
Burning smell from compressor area	Overheated relay or compressor.	• Immediately disconnect power. • Inspect relay and compressor for visible damage or burn marks. • Replace the relay if it shows signs of burning. Consult a technician if compressor is damaged.

Always disconnect power before performing any troubleshooting or repairs.

Specifications

Attribute	Value
Brand	UNGMUQDD
Model Number	UNGMUQDD
Voltage Options	110V/120V, 220V
Horsepower Range	1/12HP, 1/10HP, 1/8HP, 1/7HP, 1/6HP, 1/5HP, 1/4HP, 1/3HP, 1/2HP, 3/8HP
Operation Mode	Automatic
Coil Voltage (for 110V/120V variant)	120 Volts
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	3.49 ounces
Country of Origin	China

Warranty and Support

Specific warranty information and direct support contact details are not provided within this manual. For warranty claims, technical support, or further assistance, please refer to the product packaging or contact the manufacturer, UNGMUQDD, directly through their official channels or the retailer from whom the product was purchased.

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