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> Instruction Manual for SQUARE D LX6-D40 020 AC Coil

SQUARE D LX6-D40 020

Instruction Manual

SQUARE D LX6-D40 020 24V 60HZ 20V 50HZ AC COIL

Model: LX6-D40 020 | Brand: SQUARE D

1. INTRODUCTION

This manual provides essential information for the safe and effective use of the SQUARE D LX6-D40 020 AC Coil. It covers product overview, technical specifications, installation, operating principles, maintenance, and troubleshooting. Please read this manual thoroughly before installation and operation to ensure proper function and safety.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury or damage to the product and associated equipment:

- **Electrical Hazard:** Installation and maintenance should only be performed by qualified personnel. Disconnect all power before working on the coil or connected equipment.
- **Voltage Compatibility:** Ensure the supply voltage matches the coil's rated voltage (24V 60Hz or 20V 50Hz) to prevent overheating or malfunction.
- **Proper Installation:** Install the coil securely within its intended contactor or relay assembly. Loose connections can lead to arcing and fire hazards.
- **Environmental Conditions:** Do not expose the coil to excessive moisture, dust, or corrosive environments beyond its specified operating conditions.
- **Original Parts:** Use only genuine SQUARE D components or approved substitutes for repair or replacement.

3. PRODUCT OVERVIEW

The SQUARE D LX6-D40 020 is an AC coil designed for use in specific contactors or relays, providing the electromagnetic force required to actuate the device's contacts. This coil is compatible with both 24V 60Hz and 20V 50Hz AC power supplies, making it versatile for various industrial and commercial applications. Its robust construction ensures reliable performance in demanding environments.

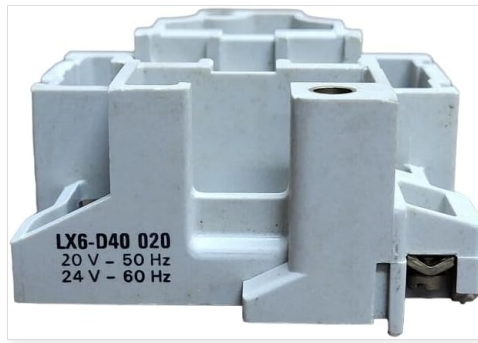


Figure 3.1: Front view of the SQUARE D LX6-D40 020 AC Coil, clearly displaying the model number "LX6-D40 020" and voltage specifications "20 V - 50 Hz" and "24 V - 60 Hz". The coil is light grey in color and appears to be the base or housing for the coil winding.

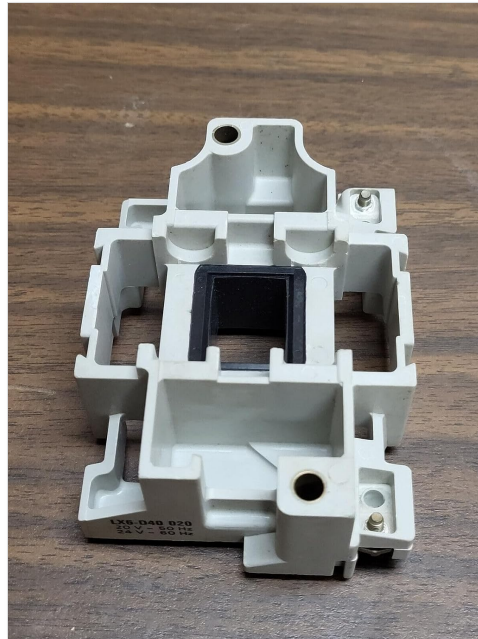


Figure 3.2: Top-down perspective of the SQUARE D LX6-D40 020 AC Coil, revealing its internal cavity designed to house the magnetic core and winding. Various mounting points and structural elements of the light grey housing are visible against a wooden surface.

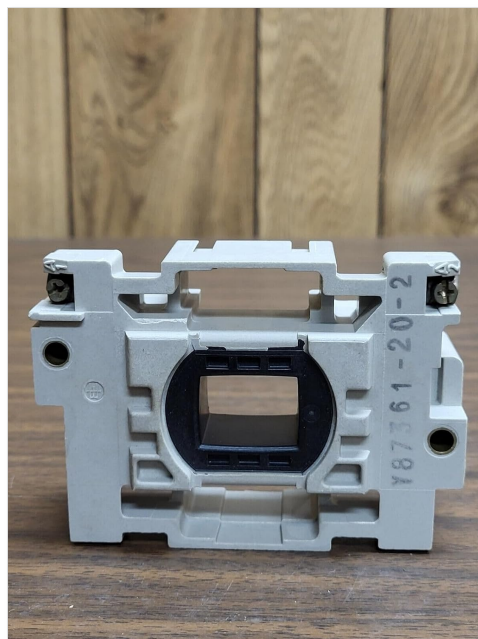


Figure 3.3: Bottom view of the SQUARE D LX6-D40 020 AC Coil, highlighting the electrical connection terminals (screws) on either side and a stamped part number "Y87361-20-2". The central opening for the armature or plunger is clearly visible.

4. TECHNICAL SPECIFICATIONS

Manufacturer	SQUARE D
Model Number	LX6-D40 020
Rated Voltage (60Hz)	24V AC
Rated Voltage (50Hz)	20V AC
Product Dimensions	4 x 3 x 2.5 inches
Color	GREY
Country of Origin	USA

5. SETUP AND INSTALLATION

The LX6-D40 020 AC Coil is designed for straightforward installation into compatible SQUARE D contactors or relays. Follow these general steps:

- 1. Power Disconnection:** Ensure all power to the contactor/relay circuit is completely disconnected and locked out before beginning installation. Verify with a voltage tester.
- 2. Access Coil Compartment:** Depending on the contactor/relay model, you may need to remove covers or unlatch components to access the coil compartment. Refer to the specific contactor/relay manual for detailed instructions.
- 3. Remove Old Coil (if applicable):** If replacing an existing coil, carefully disconnect its wiring and remove it from its housing. Note the orientation.
- 4. Insert New Coil:** Orient the LX6-D40 020 coil correctly and insert it into the designated slot within the contactor/relay. Ensure it seats firmly and securely.
- 5. Wire Connections:** Connect the coil's terminals to the appropriate control circuit wiring. Ensure connections are tight and secure. Observe polarity if specified by the contactor/relay manufacturer (though AC coils typically do not have strict polarity).
- 6. Reassemble:** Reassemble any covers or components removed earlier, ensuring all latches and screws are properly secured.
- 7. Test:** Restore power and test the operation of the contactor/relay to confirm the coil functions correctly.

Note: Always refer to the specific installation instructions provided with the contactor or relay unit for precise wiring diagrams and mounting procedures.

6. OPERATING PRINCIPLES

The LX6-D40 020 AC Coil operates on the principle of electromagnetism. When the specified AC voltage (24V 60Hz or 20V 50Hz) is applied across its terminals, current flows through the coil's windings, generating a magnetic field. This magnetic field attracts a movable armature (plunger) within the contactor or relay, causing it to move. This movement, in turn, actuates the main contacts of the device, either closing normally open contacts or opening normally closed contacts. When the voltage supply to the coil is removed, the magnetic field collapses, and a return spring typically pulls the armature back to its original position, thereby resetting the contactor or relay contacts.

7. MAINTENANCE

The SQUARE D LX6-D40 020 AC Coil is a robust component designed for long-term reliability with minimal maintenance. However, periodic inspection of the overall contactor/relay assembly is recommended:

- **Visual Inspection:** Regularly inspect the coil and its connections for any signs of discoloration, overheating, loose wires, or physical damage.
- **Cleanliness:** Ensure the coil and its housing are free from excessive dust, dirt, or debris, which can impede heat dissipation or interfere with the armature's movement. Use a dry, soft brush or compressed air for cleaning.
- **Connection Integrity:** Periodically check that all electrical connections to the coil terminals are tight and secure.

Caution: Always disconnect power before performing any inspection or cleaning.

8. TROUBLESHOOTING

If the contactor or relay fails to operate as expected, consider the following troubleshooting steps related to the coil:

- **Coil Not Energizing:**
 - Verify that the correct voltage (24V 60Hz or 20V 50Hz) is being supplied to the coil terminals.
 - Check for loose or broken wiring connections to the coil.
 - Inspect the coil for visible signs of damage, such as burnt insulation or swelling. A multimeter can be used to check for continuity across the coil terminals (after disconnecting power). An open circuit indicates a faulty coil.
- **Coil Overheating:**
 - Ensure the supply voltage does not exceed the coil's rated voltage.
 - Check for mechanical binding in the contactor/relay mechanism that might prevent the armature from fully seating, causing excessive current draw.
 - Verify that the ambient temperature is within the operating limits of the device.
- **Noisy Operation (Humming):**
 - A slight hum is normal for AC coils. Excessive noise might indicate a loose armature or shading coil issue within the contactor/relay. Ensure the coil is properly seated.

If troubleshooting does not resolve the issue, consider replacing the coil or consulting a qualified electrician.

9. WARRANTY AND SUPPORT

For information regarding warranty coverage, technical support, or replacement parts for your SQUARE D LX6-D40 020 AC Coil, please contact the original seller or the manufacturer, SQUARE D, directly. Retain your proof of purchase for warranty claims.

For general inquiries or to locate authorized service centers, please visit the official SQUARE D website or refer to the contact information provided with your purchase.

ASK A QUESTION ABOUT THIS MANUAL

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