

ABB ESB20-20N-06

ABB ESB20-20N-06 Installation Contactor User Manual

Model: ESB20-20N-06 | Part Number: 1SBE121111R0620

1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the ABB ESB20-20N-06 Installation Contactor. Please read this manual thoroughly before attempting any installation or operation to ensure proper use and prevent potential hazards.

2. SAFETY INFORMATION

WARNING: Electrical shock hazard. Only qualified personnel should install, operate, or service this device. Disconnect all power before working on the contactor or connected equipment.

- Always follow local and national electrical codes and regulations.
- Ensure proper grounding of all equipment.
- Do not operate the contactor if it is damaged or shows signs of wear.
- Use appropriate personal protective equipment (PPE) when working with electrical systems.

3. PRODUCT DESCRIPTION

The ABB ESB20-20N-06 is a compact 2-pole installation contactor designed for various applications, including lighting, heating, ventilation, and motor control. It features a 20A current rating and operates on a 230VAC coil voltage. The contactor is equipped with two normally open (2NO) main contacts and offers an IP20 protection degree.



Figure 1: Front view of the ABB ESB20-20N-06 Installation Contactor. This image displays the main terminals, coil terminals (A1, A2), and product labeling with electrical ratings.



Figure 2: Angled view of the ABB ESB20-20N-06 Installation Contactor. This perspective highlights the compact design and DIN rail mounting capability.

4. SETUP AND INSTALLATION

The ESB20-20N-06 contactor is designed for DIN rail mounting. Ensure the mounting surface is stable and free from vibrations.

4.1 Mounting

1. Ensure power is disconnected from the electrical panel.
2. Hook the top edge of the contactor onto the DIN rail.
3. Press the bottom of the contactor firmly until it clicks into place on the DIN rail.
4. Verify the contactor is securely fastened.

4.2 Wiring

Refer to the wiring diagram on the contactor for correct connections. Use appropriate wire gauges for the rated current.

- Connect the control voltage (230VAC) to terminals A1 and A2 for the coil.
- Connect the incoming power supply to terminals 1 and 3 (main power inputs).
- Connect the load to terminals 2 and 4 (main power outputs).
- Ensure all terminal screws are tightened to the specified torque to prevent loose connections and overheating.

5. OPERATING INSTRUCTIONS

Once properly installed and wired, the contactor operates by applying the rated control voltage to its coil terminals (A1 and A2).

- When 230VAC is applied to A1-A2, the coil energizes, closing the normally open (NO) main contacts (1-2 and 3-4). This allows power to flow to the connected load.

- When the control voltage is removed from A1-A2, the coil de-energizes, opening the main contacts and disconnecting power from the load.
- The contactor is designed for continuous operation within its specified ratings.

6. MAINTENANCE

The ABB ESB20-20N-06 contactor is largely maintenance-free under normal operating conditions. However, periodic checks are recommended.

- **Visual Inspection:** Regularly inspect the contactor for any signs of physical damage, discoloration, or loose connections.
- **Terminal Tightness:** Periodically check and re-tighten terminal screws to ensure secure electrical connections.
- **Cleaning:** If necessary, clean the exterior of the contactor with a dry, lint-free cloth. Do not use solvents or abrasive cleaners.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges.

Note: Do not attempt to open or repair the contactor. Refer any issues to qualified service personnel.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Contactor does not energize (contacts do not close)	No control voltage to A1-A2; Incorrect control voltage; Loose wiring; Damaged coil.	Check control circuit power supply; Verify control voltage matches 230VAC; Inspect and tighten A1-A2 wiring; Replace contactor if coil is damaged.
Contactor hums loudly	Loose mounting; Foreign object in armature; Incorrect voltage.	Ensure secure mounting; Inspect for obstructions (power off); Verify control voltage.
Contactor contacts remain closed (does not de-energize)	Control voltage not removed; Welded contacts.	Check control circuit to ensure voltage is removed from A1-A2; Replace contactor if contacts are welded.

8. SPECIFICATIONS

Parameter	Value
Model	ESB20-20N-06
Part Number	1SBE121111R0620
Brand	ABB
Rated Current (AC-1/AC-7a)	20 Amps
Coil Voltage (Control Voltage)	230 VAC
Number of Poles	2
Contact Configuration	2 Normally Open (2NO)
Rated Impulse Withstand Voltage (Uimp)	6 kV

Parameter	Value
Protection Degree	IP20
Mounting Type	DIN Rail Mount
Dimensions (Approximate)	4.45 x 3.07 x 1.14 inches (113 x 78 x 29 mm)
Weight (Approximate)	5.29 ounces (150 grams)

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official ABB website or contact your local ABB representative. Keep your purchase receipt for warranty claims.

ABB Official Website: www.abb.com

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question