ABB KT5300-3

ABB KT5300-3 T5-Tmax Molded Case Circuit Breaker Lug Kit Instruction Manual

Comprehensive guide for the installation and maintenance of the ABB KT5300-3 Lug Kit.

1. Introduction

This manual provides essential information for the safe and correct installation, operation, and maintenance of the ABB KT5300-3 Lug Kit. This kit is specifically designed for use with ABB T5 Series Tmax Molded Case Circuit Breakers, accommodating wire sizes from 250 kcmil to 500 kcmil.
Please read this manual thoroughly before proceeding with any installation or maintenance procedures. Retain this manual for future reference.

2. Safety Information

WARNING: Electrical shock hazard. Only qualified personnel should perform installation and maintenance procedures. Failure to follow these instructions can result in serious injury or death.

- Always disconnect power to the circuit breaker before installing or servicing the lug kit. Verify that the power is off using a suitable voltage tester.
- Use appropriate personal protective equipment (PPE), including insulated gloves and eye protection.
- Ensure all connections are properly torqued to prevent loose connections, which can lead to overheating and fire hazards.
- Adhere to all local and national electrical codes and standards.

3. Product Overview

The ABB KT5300-3 Lug Kit consists of three individual lugs designed for connecting electrical conductors to a T5 Series Tmax Molded Case Circuit Breaker. Each lug is constructed to ensure a secure and reliable electrical connection.
Kit Contents:

- 3 x Lug Terminals (for 250-500 MCM wire)
- Associated mounting hardware (screws, washers)
- 3 x Insulating barriers/covers (white plastic components)

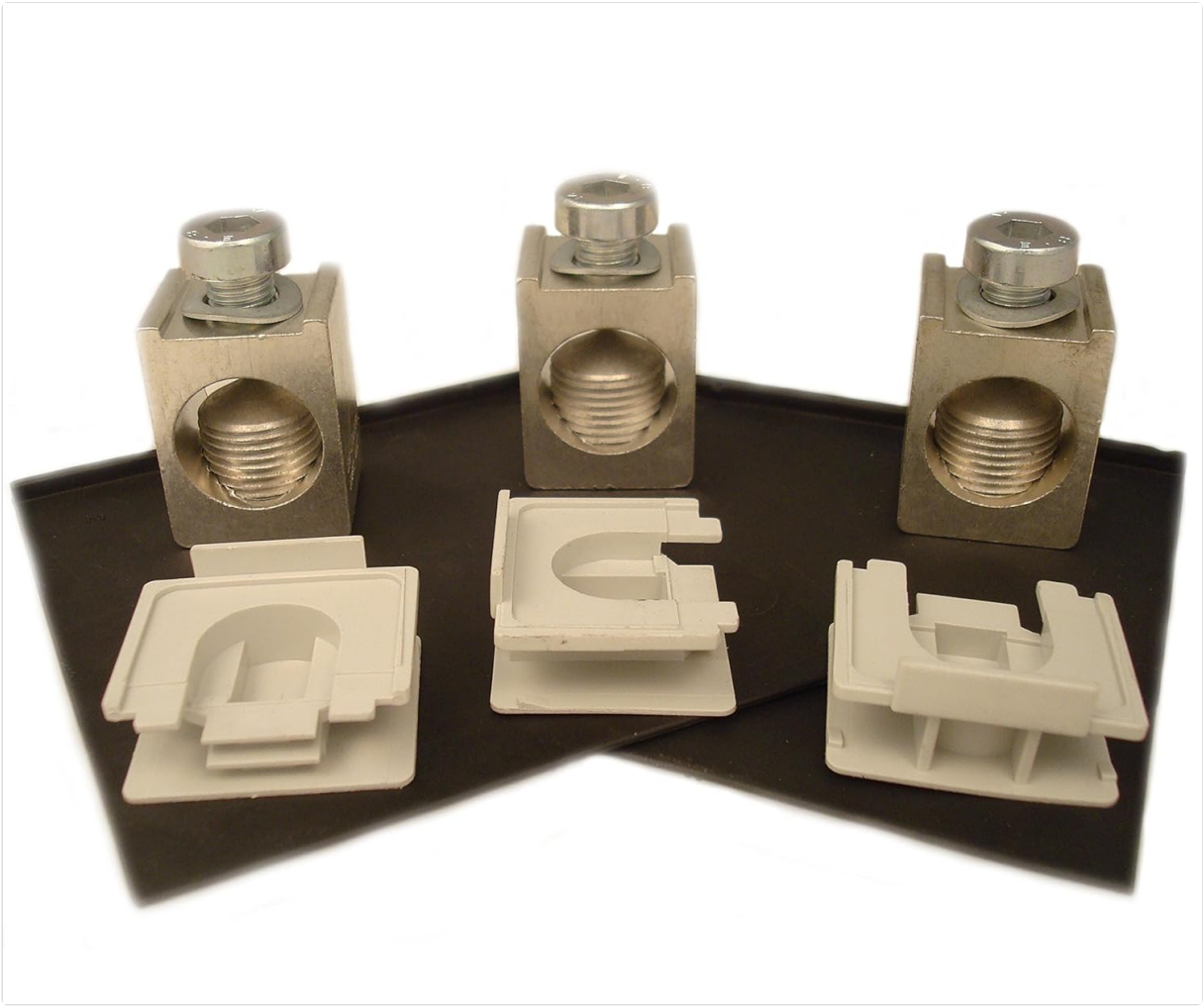


Figure 1: Components of the ABB KT5300-3 Lug Kit. The image displays three metal lug terminals, each with a screw, and three white plastic insulating barriers designed to fit over the connections.

4. Installation Instructions

Follow these steps carefully to install the lug kit onto your ABB T5 Series Tmax circuit breaker.

1. **Prepare the Circuit Breaker:** Ensure the circuit breaker is de-energized and locked out according to safety procedures. Remove any existing covers or accessories that obstruct access to the terminal connections.
2. **Prepare the Conductors:** Strip the insulation from the ends of the 250-500 MCM conductors to the length specified by the circuit breaker or lug manufacturer, typically ensuring full insertion into the lug barrel without exposed conductor beyond the lug.
3. **Attach Lugs to Breaker:** Position each lug terminal onto the corresponding terminal pad of the circuit breaker. Secure the lugs using the provided mounting hardware. Refer to the circuit breaker's manual for specific torque values for these connections.
4. **Insert Conductors:** Insert the stripped end of each conductor fully into the barrel of its respective lug terminal. Ensure no stray strands are present.
5. **Tighten Lug Screws:** Using an appropriate tool, tighten the set screw on each lug terminal to the recommended torque value. This value is crucial for a reliable electrical connection and is typically found on the lug itself or in the lug kit documentation. Overtightening or undertightening can cause damage or create a hazardous connection.
6. **Install Insulating Barriers:** Once all conductors are securely connected and torqued, install the white plastic insulating barriers over the lug connections. These barriers provide protection against

accidental contact with live parts. Ensure they snap securely into place.

7. **Verify Installation:** Double-check all connections for tightness and proper insulation. Ensure no tools or debris are left inside the enclosure.
8. **Restore Power:** Once installation is complete and verified, restore power to the circuit breaker following established safety protocols.

5. Maintenance

Regular inspection of the lug kit and its connections is recommended to ensure continued safe and reliable operation.

- **Periodic Visual Inspection:** Annually, or more frequently in harsh environments, visually inspect the lugs and conductors for signs of overheating (discoloration), corrosion, or physical damage.
- **Connection Tightness:** If signs of overheating are observed, or as part of a routine maintenance schedule, verify the torque of the lug set screws and the lug mounting screws. Always de-energize the circuit before performing this check.
- **Cleanliness:** Keep the area around the circuit breaker and lug connections clean and free of dust and debris.

6. Troubleshooting

This section addresses common issues that may arise during the installation or operation of the lug kit.

- **Conductor will not fit into lug:**
  - Verify the conductor size is within the 250-500 MCM range.
  - Ensure the conductor strands are not splayed or damaged. Re-strip if necessary.
- **Lug feels loose after tightening:**
  - Ensure the lug mounting hardware is correctly installed and torqued to the circuit breaker.
  - Verify the conductor is fully inserted into the lug barrel before tightening the set screw.
  - Re-check the torque value for the set screw.
- **Signs of overheating (discoloration, melting insulation):**
  - Immediately de-energize the circuit.
  - Inspect all connections for proper torque. Loose connections are a primary cause of overheating.
  - Check for proper conductor sizing relative to the load.
  - Consult a qualified electrician for further diagnosis and repair.

7. Specifications

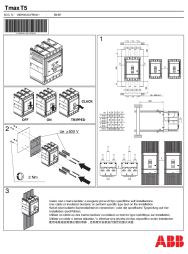
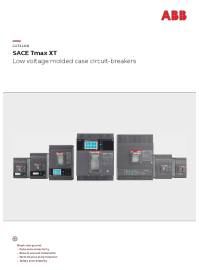
Feature	Specification
Part Number	KT5300-3
Brand	ABB
Compatibility	ABB T5 Series Tmax Molded Case Circuit Breakers

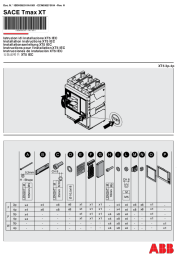
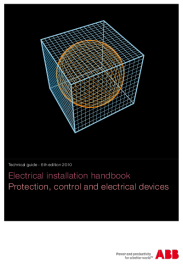
Feature	Specification
Wire Range	250 kcmil - 500 kcmil
Number of Lugs	3 per set
Mounting Type	Breaker (Plug-In Mount)
Number of Poles	3
Package Dimensions	2 x 2 x 2 inches (approximate)

8. Warranty and Support

For information regarding product warranty, technical support, or service, please refer to the official ABB website or contact your authorized ABB distributor. Specific warranty terms and conditions may vary by region and product.
ABB Official Website: www.abb.com

Related Documents - KT5300-3

	ABB Tmax T5 Circuit Breaker Installation and Technical Data Comprehensive technical specifications, dimensional drawings, and installation guidelines for ABB Tmax T5 circuit breakers, including various series like PR221DS.
	ABB TEYF3100 3-Pole 100A Circuit Breaker Data Sheet Technical specifications and details for the ABB TEYF3100, a 3-pole, 100 Amp molded case circuit breaker designed for lighting panel applications. Features include bolt-on mounting, quick-make/quick-break mechanisms, and standard trip functions.
	ABB SACE Tmax XT Catalog: Low Voltage Molded Case Circuit-Breakers Explore the ABB SACE Tmax XT series, a cutting-edge range of low voltage molded case circuit-breakers offering advanced performance, connectivity, ease of use, and robust protection for diverse industrial and commercial applications.

	[ABB SACE® Tmax® XT Molded Case Circuit Breakers: Distributor Migration Guide from Spectra™] This Distributor Migration Guide from ABB provides a comprehensive overview of the SACE® Tmax® XT molded case circuit breakers, detailing their features, applications, and benefits. It guides users on migrating from the retiring Spectra™ series, offers stocking strategies, lists accessories, and explains product ordering structures. Essential for electrical distributors and specifiers.
	[SACE Tmax XT Circuit Breaker Installation Guide] Comprehensive installation instructions and recommended conditions for ABB SACE Tmax XT circuit breakers, covering AC and DC applications, wiring diagrams, dimensional data, and trip test procedures.
	[ABB Electrical Installation Handbook: Protection, Control, and Electrical Devices] Comprehensive technical guide from ABB covering electrical installation, protection, control devices, circuit breakers, switch disconnectors, and relevant standards. Features detailed specifications and coordination tables.