

ABB SACE T1N 100

ABB SACE T1N 100 Circuit Breaker User Manual

Model: SACE T1N 100

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the ABB SACE T1N 100 Circuit Breaker. Please read this manual thoroughly before attempting any procedures to ensure proper handling and to prevent potential hazards.



Figure 1: Front-side view of the ABB SACE T1N 100 Circuit Breaker.

2. SAFETY INFORMATION

Always adhere to local and national electrical codes and safety regulations. Installation and maintenance should only be performed by qualified and authorized personnel.

- **Disconnect Power:** Ensure all power sources are disconnected and locked out before installing, servicing, or inspecting the circuit breaker.
- **Personal Protective Equipment (PPE):** Always wear appropriate PPE, including safety glasses, insulated gloves, and arc-flash protection, when working with electrical equipment.
- **Proper Tools:** Use only insulated tools designed for electrical work.
- **Environmental Conditions:** Do not install or operate the circuit breaker in environments exceeding its specified operating conditions (e.g., temperature, humidity).
- **Proposition 65 Warning:** This product may expose you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

3. SETUP AND INSTALLATION

3.1 Mounting

The ABB SACE T1N 100 Circuit Breaker is designed for plug-in mounting. Ensure the mounting surface is stable and capable of supporting the device's weight. For proper heat dissipation and electrical isolation, the installation of an insulating barrier between the circuit breaker and the base plate is required if mounted on a flat non-insulated metal surface.

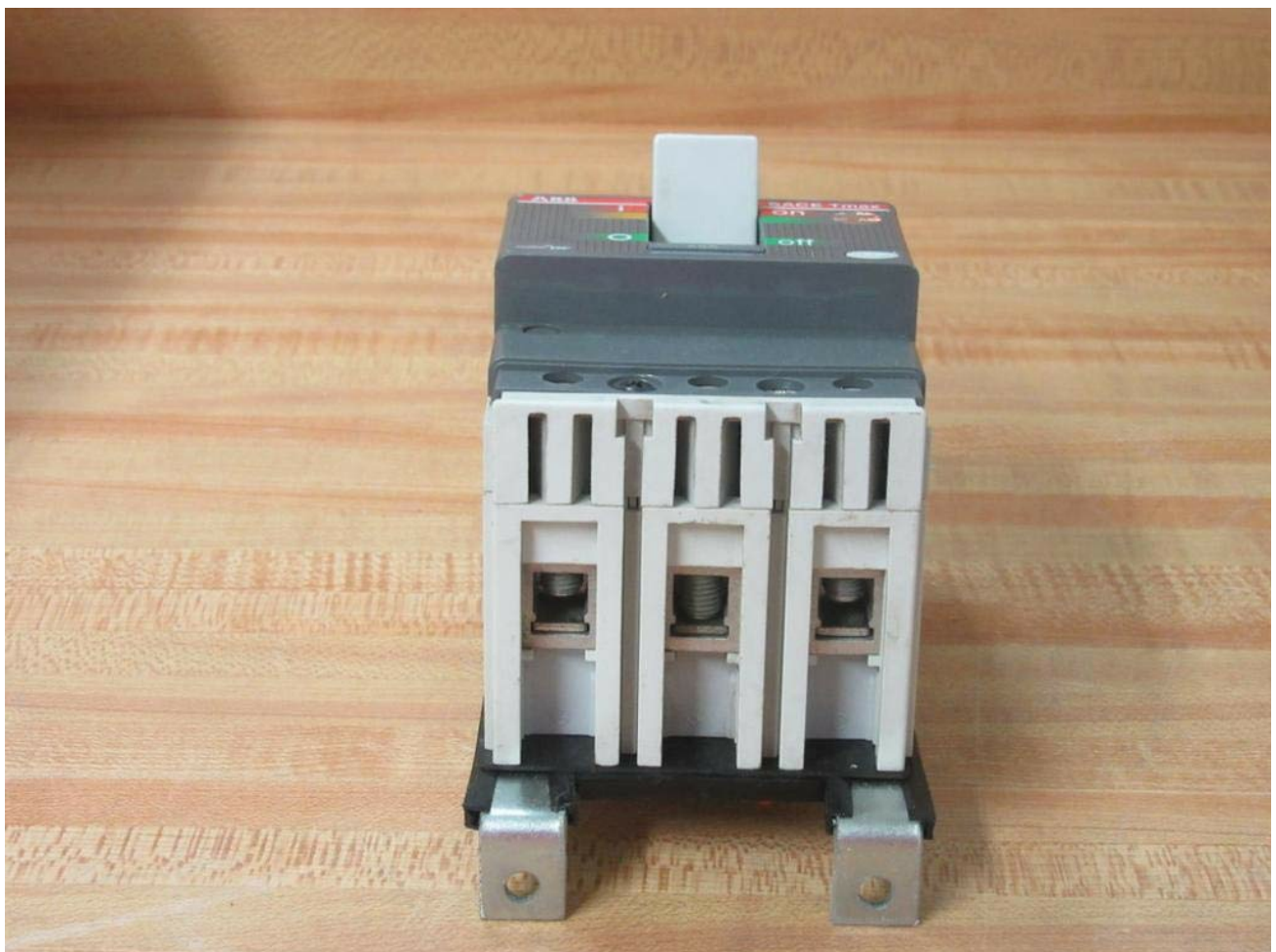


Figure 2: Side view illustrating the mounting points of the circuit breaker.

3.2 Wiring

Connect the circuit breaker to the electrical system according to the wiring diagrams and specifications provided on the product label and in relevant electrical codes. This is a 3-pole unit. Ensure correct polarity and phase connections.

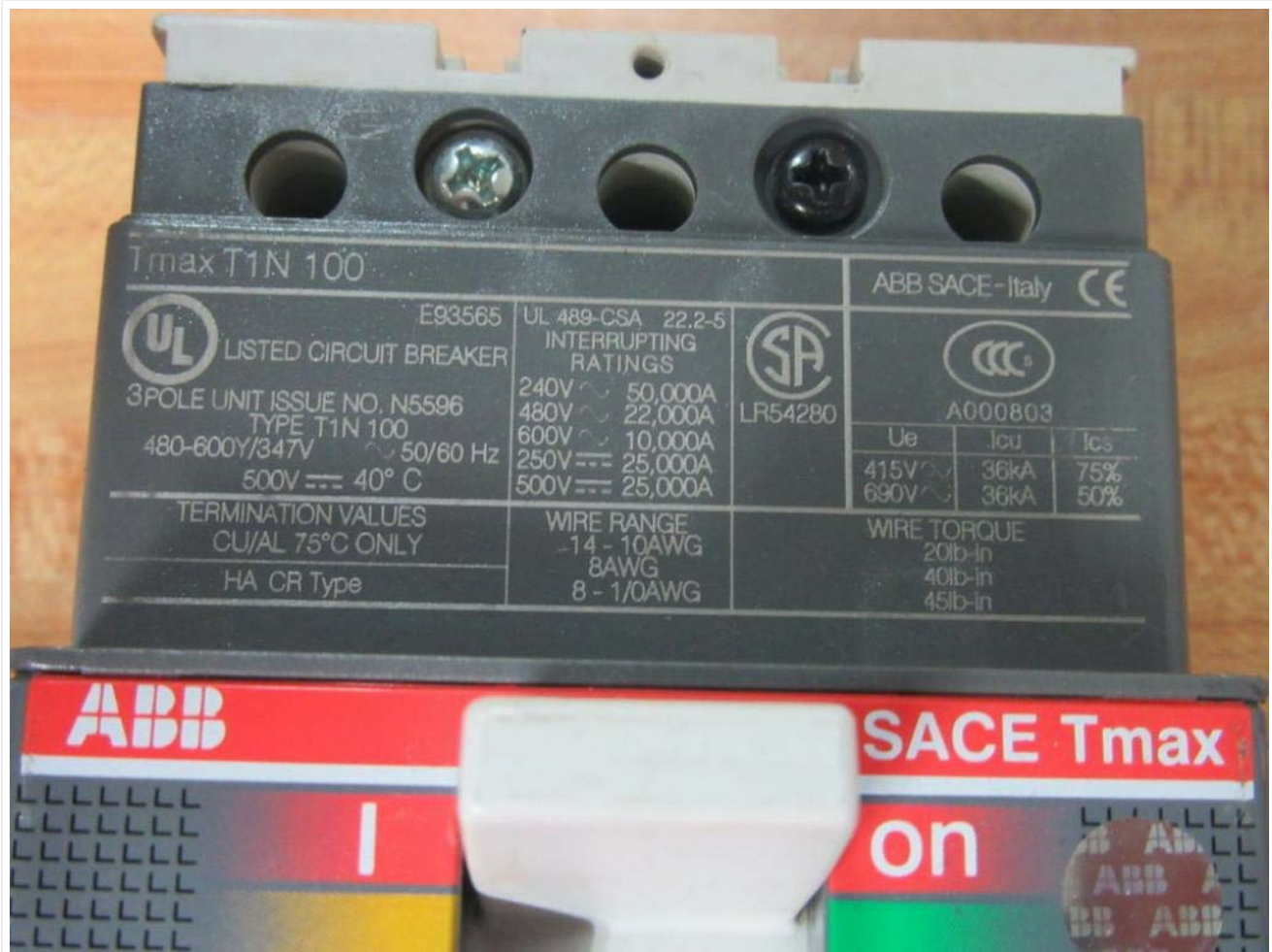


Figure 3: Product label detailing wiring specifications, including wire range and torque values.

- **Wire Range:** 14-1/0 AWG (for 62 lb-in torque).
- **Wire Torque:** 62 lb-in.
- **Termination Values:** CU/AL 75°C only.

Refer to the product label for specific DC wiring diagrams. For instance, the label indicates configurations for 2 poles 250VDC and 3 poles 251 to 600VDC ungrounded systems. The reference number BE91081356 is also present on the label for documentation purposes.

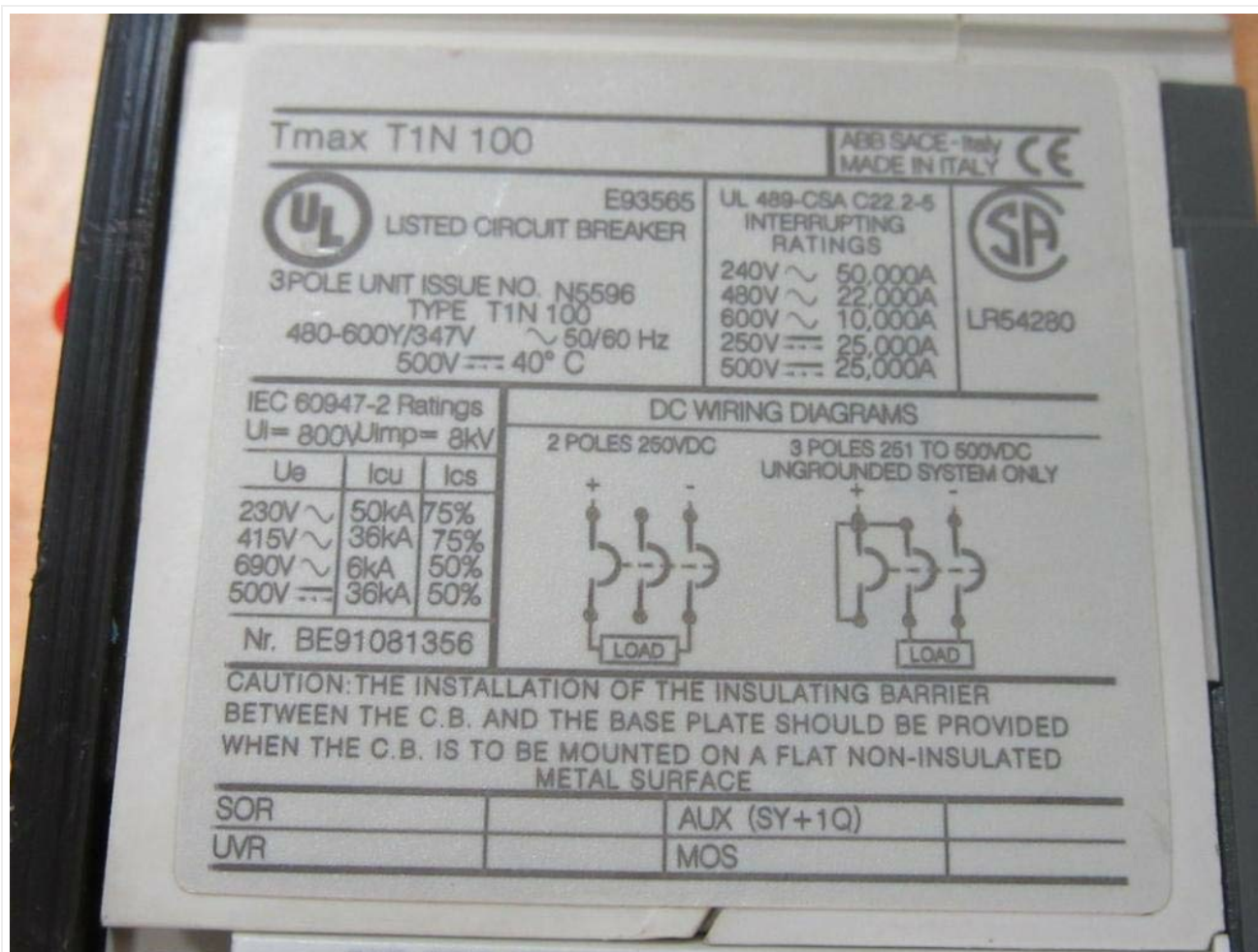


Figure 4: Product label displaying DC wiring diagrams and additional technical data.

4. OPERATING INSTRUCTIONS

4.1 Basic Operation

The circuit breaker features a toggle switch for manual operation. To turn the circuit breaker ON, push the toggle switch to the 'ON' position. To turn it OFF, push the toggle switch to the 'OFF' position. In the event of an overload or short circuit, the breaker will trip automatically, moving the toggle to an intermediate position.



Figure 5: Front view of the circuit breaker with the toggle switch in the 'ON' position.

4.2 Testing

Some models may include a 'TEST' button. If present, pressing this button simulates an overload condition to verify the tripping mechanism. Always follow manufacturer guidelines for testing frequency and procedures.

5. MAINTENANCE

Regular inspection and maintenance are crucial for the longevity and reliable operation of the circuit breaker. Perform visual inspections periodically to check for any signs of damage, discoloration, or loose connections.

- **Cleaning:** Keep the circuit breaker free from dust, dirt, and moisture. Use a dry, lint-free cloth for cleaning. Do not use solvents or abrasive cleaners.
- **Connection Checks:** Periodically check terminal connections for tightness. Loose connections can lead to overheating and potential failure.
- **Environmental Control:** Ensure the operating environment remains within specified temperature and humidity ranges.



Figure 6: Bottom view of the circuit breaker, illustrating terminal access for wiring and inspection.

6. TROUBLESHOOTING

If the circuit breaker trips frequently or fails to operate correctly, consider the following:

- **Frequent Tripping:** This may indicate an overload or a short circuit in the protected circuit. Investigate the connected load and wiring for faults.
- **Failure to Reset:** If the breaker does not reset after tripping, ensure the fault condition has been cleared. If the issue persists, the breaker may be damaged and require replacement.
- **Overheating:** Check for loose connections, incorrect wire gauge, or excessive load.

For complex issues, consult a qualified electrician or contact ABB technical support.

7. TECHNICAL SPECIFICATIONS

The following table outlines the key technical specifications for the ABB SACE T1N 100 Circuit Breaker:

Specification	Value
Model Number	SACE T1N 100
Poles	3
Type	T1N 100

Specification	Value
Rated Insulation Voltage (Ui)	800V
Rated Impulse Withstand Voltage (Uimp)	8kV
DC Voltage (VDC)	500V @ 40°C
AC Voltage (Volts)	480-600Y/347V~ 50/60Hz
Wire Leads	5
Wire Range	14-1/0 AWG
Wire Torque	62 lb-in
Product Dimensions	5 x 4 x 3 inches
Weight	2.31 Pounds
Current Rating	30 Amps (as per product specifications, note: T1N 100 indicates 100A frame size)
Circuit Breaker Type	Standard
Mounting Type	Plug-In Mount

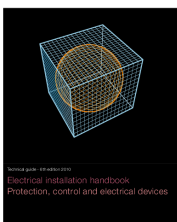
Note: Interruption ratings (e.g., 240V~ 50,000A, 480V~ 22,000A, 600V~ 10,000A) are detailed on the product label. Always refer to the physical product label for the most accurate and up-to-date specifications.

8. WARRANTY AND SUPPORT

For information regarding product warranty, technical support, or service, please contact ABB directly or refer to the official ABB website. Keep your purchase receipt and product model number handy when seeking support.

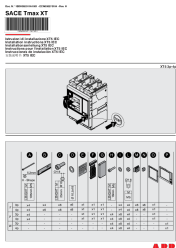




Visit the official ABB store for additional product information and resources: [ABB Store on Amazon](#).

Related Documents - SACE T1N 100



[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.

	<p>SACE Tmax XT Circuit Breaker Installation Guide</p> <p>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.</p>
	<p>ABB SACE Tmax XT Catalog: Low Voltage Molded Case Circuit-Breakers</p> <p>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.</p>
	<p>ABB Emax Low Voltage Air Circuit Breakers Technical Catalog</p> <p>Explore the technical catalog for ABB's Emax series of low voltage air circuit breakers. This document details features, models, installation, protection relays, accessories, applications, dimensions, circuit diagrams, and ordering codes for the Emax line, emphasizing innovation, performance, and reliability.</p>
	<p>ABB SACE® Tmax® XT Molded Case Circuit Breakers: Distributor Migration Guide from Spectra™</p> <p>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.</p>
	<p>ABB TEYF3100 3-Pole 100A Circuit Breaker Data Sheet</p> <p>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.</p>