

ATUUKOPC TK50D

ATUUKOPC TK50D Series DC Contactor User Manual (DC 24V)

Model: TK50D (DC 24V) | Brand: ATUUKOPC

1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the ATUUKOPC TK50D series DC contactors. This specific guide focuses on the TK50D model with a DC 24V coil. Please read this manual thoroughly before using the product to ensure proper function and to prevent damage or injury.

2. SAFETY INFORMATION

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

- Always follow local electrical codes and regulations.
- Ensure proper grounding of all equipment.
- Do not operate the contactor if it appears damaged.
- Wear appropriate personal protective equipment (PPE) when working with electrical systems.

3. PRODUCT OVERVIEW

The ATUUKOPC TK50D series DC contactor is an electrical switching device designed for high-current DC applications. It is commonly used in charging piles, lift systems, and other industrial equipment requiring reliable DC power control. This sealed contactor ensures durability and consistent performance in various environments. The TK50D model is rated for specific current capacities and operates with a DC 24V coil voltage.



Figure 1: ATUUKOPC TK50D DC Contactor. This image shows the compact design and terminal layout of the contactor.

4. SETUP AND INSTALLATION

Proper installation is crucial for the safe and reliable operation of the DC contactor. Follow these steps carefully:

1. **Mounting:** Securely mount the contactor in a clean, dry, and well-ventilated enclosure. Ensure adequate space for wiring and heat dissipation. Use appropriate fasteners for the mounting holes provided on the contactor.
2. **Wiring Connections:**
 - **Main Power Terminals:** Connect the main DC power lines to the designated power terminals (typically larger terminals). Ensure correct polarity (positive to positive, negative to negative) and use appropriately sized cables for the expected current load.
 - **Coil Control Terminals:** Connect the DC 24V control voltage to the coil terminals (typically smaller terminals). Verify the control voltage matches the contactor's coil rating (DC 24V for this model). Incorrect voltage can damage the coil.
 - **Auxiliary Contacts (if present):** Connect any auxiliary control circuits to the auxiliary contact terminals as required by your system design.
3. **Tighten Connections:** Ensure all terminal screws are tightened to the manufacturer's recommended torque specifications to prevent loose connections, which can cause overheating and arcing.
4. **Verify Wiring:** Before applying power, double-check all wiring connections for correctness, polarity, and security.

Refer to your system's electrical schematic for specific wiring diagrams.

5. OPERATING INSTRUCTIONS

The ATUUKOPC TK50D DC contactor operates by energizing its coil, which creates a magnetic field that pulls the armature, closing the main contacts and establishing a power path. De-energizing the coil releases the armature, opening the contacts and breaking the power path.

- **Energizing the Coil:** Apply the rated DC 24V control voltage to the coil terminals. The contactor should audibly click as the contacts close.
- **De-energizing the Coil:** Remove the DC 24V control voltage from the coil terminals. The contactor should audibly click as the contacts open.
- **Load Management:** Ensure the connected load does not exceed the contactor's rated current capacity to prevent overheating and premature failure.
- **Duty Cycle:** Observe the contactor's specified duty cycle for continuous or intermittent operation to maximize its lifespan.

6. MAINTENANCE

Regular maintenance helps ensure the longevity and reliable performance of your DC contactor. Always disconnect power before performing any maintenance.

- **Visual Inspection:** Periodically inspect the contactor for any signs of physical damage, discoloration, or loose connections. Check for excessive dust or debris accumulation.
- **Terminal Tightness:** Re-check the tightness of all terminal screws annually or as part of a routine maintenance schedule.
- **Cleaning:** Use a dry, lint-free cloth or compressed air to remove dust and debris from the contactor's exterior. Do not use liquid cleaners.
- **Contact Wear:** While sealed, if the contactor shows signs of inconsistent operation, it may indicate internal contact wear. Replacement may be necessary.

7. TROUBLESHOOTING

If the contactor is not functioning as expected, refer to the following troubleshooting guide. Always disconnect power before

investigating issues.

Problem	Possible Cause	Solution
Contactors does not engage (no click)	<ul style="list-style-type: none">No control voltage to coilIncorrect coil voltage (e.g., not DC 24V)Loose coil connectionsDamaged coil	<ul style="list-style-type: none">Check control circuit power supplyVerify control voltage matches contactor ratingTighten coil terminal screwsReplace contactor if coil is damaged
Contactors hums or buzzes loudly	<ul style="list-style-type: none">Low control voltageMechanical obstructionDamaged armature or shading coil (less common in DC)	<ul style="list-style-type: none">Verify control voltage is stable and correctInspect for foreign objectsReplace contactor
Contactors contacts weld or stick	<ul style="list-style-type: none">Overcurrent conditionFrequent switching under heavy loadEnd of operational life	<ul style="list-style-type: none">Check load for short circuits or overloadsReview application for suitabilityReplace contactor

8. SPECIFICATIONS

The following specifications apply to the ATUUKOPC TK50D DC Contactor (DC 24V model):

- Model Series:** TK50D, TK100D, TK200D, TK400D
- Coil Voltage:** DC 24V (for this specific model)
- Application:** Charging piles, lift systems, general DC power control
- Type:** Sealed DC Contactor
- Package Dimensions:** 1.18 x 0.79 x 0.39 inches
- Item Weight:** 1.76 ounces
- Manufacturer:** ATUUKOPC
- Assembly Required:** No
- Number of Pieces:** 1

Note: Specific current ratings for each TKxxD model vary. Refer to product labeling or ATUUKOPC documentation for precise current capacities.

9. WARRANTY AND SUPPORT

For warranty information and technical support, please contact your point of purchase or the manufacturer, ATUUKOPC. Keep your purchase receipt as proof of purchase. Do not attempt to repair the contactor yourself, as this may void the warranty and pose safety risks.