

QLWAHK TOQ3-63/4P

QLWAHK TOQ3-63/4P Automatic Transfer Switch 63A User Manual

Model: TOQ3-63/4P | Brand: QLWAHK

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of your QLWAHK TOQ3-63/4P Automatic Transfer Switch (ATS). The ATS is designed to automatically switch between a normal power source and a reserve power source, ensuring continuous power supply to critical loads.

Please read this manual thoroughly before installation and operation, and retain it for future reference. Proper understanding and adherence to these instructions are crucial for optimal performance and safety.

2. SAFETY INFORMATION

WARNING: Electrical shock hazard. Installation and maintenance should only be performed by qualified electrical personnel. Failure to follow these instructions may result in serious injury or death.

- Always disconnect all power sources before installing, servicing, or removing the device.
- Verify that the voltage and current ratings of the ATS match your application requirements.
- Ensure all wiring connections are secure and comply with local and national electrical codes.
- The 63A model of this ATS includes built-in overcurrent and short-circuit protection.
- Do not attempt to repair or modify the ATS. Contact qualified service personnel for assistance.

3. PRODUCT OVERVIEW

The QLWAHK TOQ3-63/4P is a terminal-type automatic transfer device suitable for 3-phase 4-wire or 1-phase 1-wire dual power grids. It operates on AC 50/60Hz and is designed for rated currents up to 63A. The device automatically switches between power sources to maintain continuity of supply.



Figure 3.1: Front view of the QLWAHK TOQ3-63/4P Automatic Transfer Switch. It shows the main body, the red manual/auto selector switch, and terminal blocks for connections.

Key features include:

- Automatic and Manual operation modes.
- Fast power conversion (typically less than 4 seconds).
- Integrated overcurrent and short-circuit protection (for 63A model).
- Compliance with IEC60947-6-1 standard and CE certification.

4. SPECIFICATIONS

Parameter	Value
Model Number	TOQ3-63/4P
Rated Current (Ie)	63A
Rated Voltage (L+N)	220V AC
Rated Frequency	50/60Hz

Parameter	Value
Rated Insulation Voltage (Ui)	AC400V
Rated Impulse Withstand Voltage (Uimp)	4kV
Utilization Category	AC-33iB
ATSE Class	CB
Rated Short-Circuit Making Capacity (Icm)	7.65kA
Rated Short-Circuit Breaking Capacity (Icn)	5kA
Switching Time	<4 seconds
Standard Compliance	IEC60947-6-1
Certification	CE

5. INSTALLATION AND WIRING

IMPORTANT: Ensure all power is disconnected at the main breaker before proceeding with installation. Incorrect wiring can cause damage to the device, property, or lead to personal injury.

5.1 Mounting

Mount the ATS securely in a suitable electrical enclosure, ensuring adequate ventilation and clearance for wiring. Use appropriate fasteners for the mounting surface.

5.2 Wiring Connections

The TOQ3-63/4P ATS is designed for 4-pole connections (L1, L2, L3, N). Refer to the wiring diagram below for proper connection of the common power supply, backup power, and load.

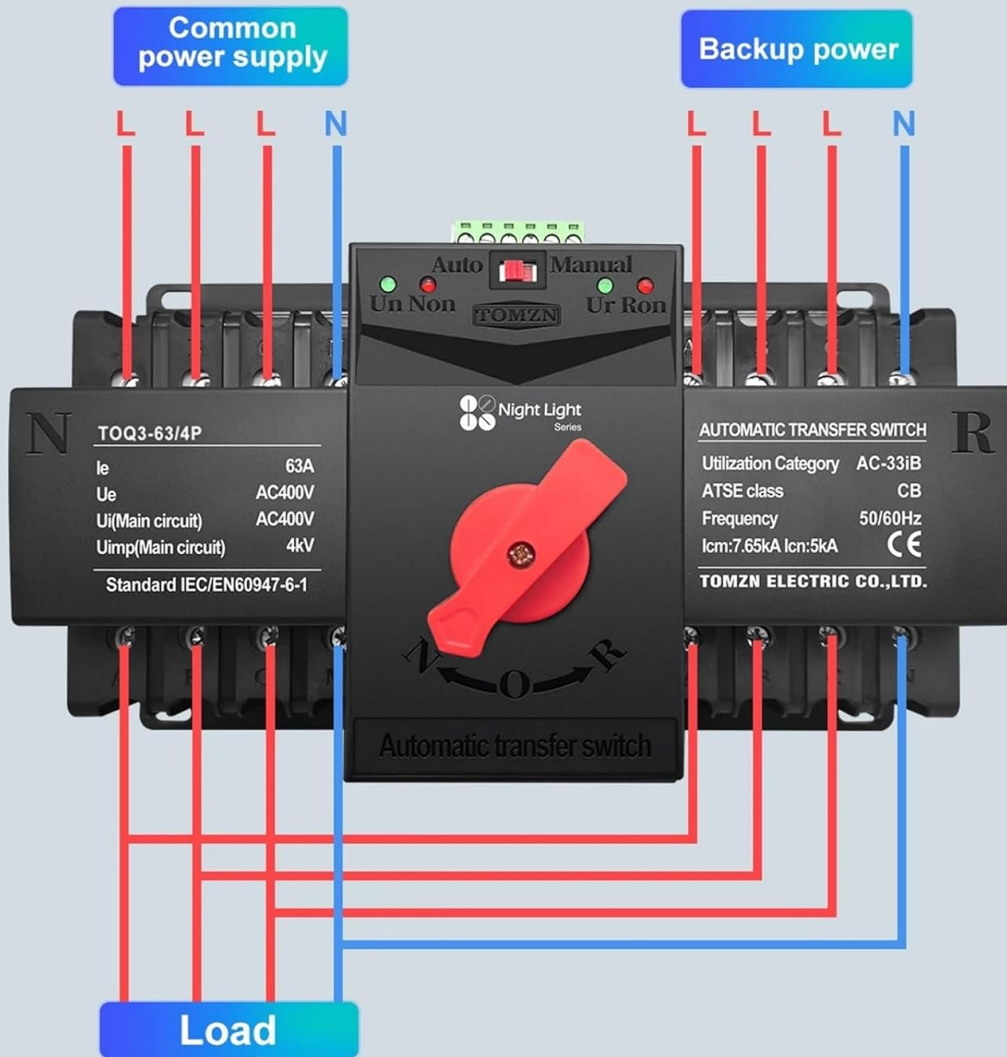


Figure 5.1: Wiring diagram for the QLWAHK TOQ3-63/4P ATS. It illustrates connections for Common Power Supply (L1, L2, L3, N), Backup Power (L1, L2, L3, N), and Load (L1, L2, L3, N).

- **Common Power Supply:** Connect the main utility power lines (L1, L2, L3, N) to the designated terminals on the 'N' (Normal) side of the ATS.
- **Backup Power:** Connect the generator or alternative power source lines (L1, L2, L3, N) to the designated terminals on the 'R' (Reserve) side of the ATS.
- **Load:** Connect the load circuits (L1, L2, L3, N) that require continuous power to the output terminals of the ATS.
- Ensure all connections are tight and secure to prevent loose contacts and overheating.

6. OPERATION

The QLWAHK TOQ3-63/4P ATS offers both automatic and manual operation modes. The switch prioritizes the Normal power source.

6.1 Automatic Mode

To enable automatic operation, set the selector switch to the "Auto" position. In this mode, the ATS will automatically transfer power based on the availability of the normal and reserve power sources.

- If the Normal power source is available, the ATS will connect to the Normal power.

- If the Normal power source fails (e.g., loss of voltage or phase on Phase A), and the Reserve power source is available, the ATS will automatically switch to the Reserve power.
- When Normal power is restored, the ATS will automatically switch back to the Normal power source.
- The power supply to the load will be interrupted for less than 4 seconds during the transfer process.



Figure 6.1: Diagram illustrating the automatic power conversion process between Main Power and Backup Power, highlighting the extremely fast conversion.

6.2 Manual Mode

To operate the ATS manually, set the selector switch to the "Manual" position. In this mode, you must manually switch the direction of power supply using the selector switch. This mode is typically used for testing or specific maintenance scenarios.

Note: This ATS is designed to transfer between existing power sources and does not control the activation or deactivation of a generator.

7. MAINTENANCE

The QLWAHK TOQ3-63/4P ATS is designed for reliable operation with minimal maintenance. However, periodic checks are recommended to ensure continued performance and safety.

- **Visual Inspection:** Periodically inspect the ATS for any signs of physical damage, loose

connections, or discoloration due to overheating.

- **Cleaning:** Keep the device clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquid cleaners.
- **Professional Inspection:** It is recommended to have the ATS inspected by a qualified electrician at least once a year to verify proper operation and connection integrity.

8. TROUBLESHOOTING

If the ATS is not functioning as expected, consider the following basic troubleshooting steps:

- **No Power Transfer:**
 - Check if both Normal and Reserve power sources are active and providing correct voltage.
 - Ensure the ATS is set to "Auto" mode for automatic transfer.
 - Verify all wiring connections are secure.
- **Indicators Not Lighting:**
 - Confirm that power is supplied to the ATS.
 - Check for any tripped circuit breakers upstream.
- **Unusual Noises or Odors:**
 - Immediately disconnect power to the unit.
 - Do not attempt to operate the device. Contact a qualified electrician for inspection.

For issues not resolved by these steps, or if you are unsure about any procedure, consult a qualified electrician or contact QLWAHK customer support.

9. WARRANTY AND SUPPORT

Specific warranty information for the QLWAHK TOQ3-63/4P Automatic Transfer Switch is not provided in this manual. For details regarding warranty coverage, terms, and conditions, please refer to the product packaging, purchase documentation, or contact your retailer or QLWAHK customer service directly.

For technical support or inquiries, please reach out to the manufacturer or your authorized distributor.

10. COMPLIANCE AND CERTIFICATIONS

This QLWAHK TOQ3-63/4P Automatic Transfer Switch complies with the following standards and certifications:

- **Standard:** IEC60947-6-1
- **Certification:** CE

These certifications ensure the product meets essential health, safety, and environmental protection requirements for products sold within the European Economic Area (EEA).