OUTIFUOSSR TOQ7

TOMZN TOQ7 Din Rail Dual Power Automatic Transfer Switch User Manual

Brand: OUTIFUOSSR | Model: TOQ7

1. Introduction and Overview

The TOMZN TOQ7 Dual Power Automatic Transfer Switch (ATS) is designed to provide uninterrupted power supply by automatically switching between two power sources. This model is specifically tailored for Photovoltaic (PV) systems, allowing an inverter (Source A) to be the primary power source and the stable utility grid (Source B) to serve as a backup. It ensures a seamless transition in less than 50 milliseconds, preventing power interruptions for sensitive equipment.

Key features include:

- **Ultra-Fast Power Transfer:** Switches power in under 50ms, ensuring no interruption.
- **Solar and Inverter Integration:** Optimized for PV systems, using solar as the main power and grid as backup.
- **CE Certified for Safety:** Meets high safety and quality standards.
- **Compact and Easy Installation:** Mini size, suitable for 35mm Din rail mounting in various panels.
- **Customizable and Versatile:** Adaptable for different residential and commercial setups.

2. Safety Information

Please read all safety instructions carefully before installation and operation. Failure to comply with these instructions may result in electric shock, fire, or serious injury.

- **Professional Installation:** Installation and maintenance should only be performed by qualified electricians.
- **Power Disconnection:** Always disconnect all power sources before performing any installation, wiring, or maintenance.

- **Voltage Compatibility:** Ensure the device's rated voltage (220V-230V) matches your electrical system.
- **Specific Application:** This ATS is designed for PV systems with an inverter as Source A and city power as Source B. It is **not** intended for city power and generator to city power and generator applications.
- **Source B Requirement:** When using this PV type ATS, Source B (utility grid) must be powered on. This is crucial because the voltage from the inverter (Source A) may not always be stable.
- **Safety Shields:** Do not remove safety shields during operation.

3. Product Components and Features

The TOMZN TOQ7 ATS features a robust design for reliable power transfer. Below are key visual components:

Figure 3.1: Overview of the TOMZN TOQ7 ATS. This image displays several units of the automatic transfer switch, highlighting the main components such as the input terminals for Source A (PV Grid-connected) and Source B (City Power), the output terminals for the load, and the manual/auto selector switch.

Figure 3.2: Side view of the ATS. This perspective shows the compact profile of the switch, suitable for Din rail mounting.

Figure 3.3: Load Side Terminals. This image focuses on the output terminals where the electrical load is connected, clearly labeled as 'Load Side'.

Figure 3.4: Safety Shield for Terminals. This close-up view illustrates the transparent safety shield covering the input terminals for Source B, designed to prevent accidental contact and enhance user safety.

- **Source A Input:** Designated for the primary power source, typically a PV inverter system.
- **Source B Input:** Designated for the secondary or backup power source, typically the utility grid (city power).
- **Load Output:** Terminals for connecting the electrical load that requires uninterrupted power.
- **Manual/Auto Selector:** A switch to select between automatic transfer mode and manual operation.
- **Indicator Lights:** Visual indicators for the active power source (A or B).

4. Setup and Installation

The TOMZN TOQ7 ATS is designed for 35mm Din rail installation, making it compatible with standard electrical distribution boxes.

Figure 4.1: 35mm Standard Rail Installation. This image shows the rear of the ATS, demonstrating its compatibility with a 35mm Din rail for direct installation into household lighting distribution boxes or industrial control panels.

4.1. Mounting

1. Ensure all power is disconnected from the electrical panel.
2. Locate a suitable 35mm Din rail within your distribution box.

3. Align the ATS with the Din rail and press firmly until it clicks into place.

4.2. Wiring

WARNING: All wiring must be performed by a qualified electrician in accordance with local and national electrical codes.

1. **Connect Source A:** Connect the output from your PV inverter system to the 'Source A' input terminals of the ATS. Ensure proper polarity (L, N for 2P; R, S, T, N for 3P/4P).
2. **Connect Source B:** Connect the utility grid (city power) to the 'Source B' input terminals of the ATS. Ensure proper polarity. Remember, Source B must be powered on for this PV type ATS to function correctly.
3. **Connect Load:** Connect your electrical load (e.g., household circuits, critical equipment) to the 'Load Side' output terminals of the ATS.
4. Double-check all connections for tightness and correct wiring before restoring power.

5. Operation

The TOMZN TOQ7 ATS offers both automatic and manual operation modes.

5.1. Automatic Mode

Figure 5.1: Automatic Switching Function. This image emphasizes the rapid automatic transfer capability of the ATS, switching power sources in under 50 milliseconds to ensure continuous supply, with a visual representation of a solar power setup.

1. Set the selector switch on the front panel to the 'Auto' position.
2. In this mode, the ATS will automatically prioritize Source A (PV inverter). If Source A fails or its voltage becomes unstable, the switch will automatically transfer the load to Source B (utility grid) within 50 milliseconds.
3. When Source A's power is restored and stable, the ATS will automatically switch the load back to Source A.
4. Indicator lights will show which source is currently supplying power.

5.2. Manual Mode

1. Set the selector switch on the front panel to the 'Manual' position.
2. In manual mode, you can manually select between Source A and Source B by rotating the switch to the desired position.
3. This mode is useful for testing or in situations where manual control is preferred.

6. Maintenance

Regular maintenance helps ensure the longevity and reliable operation of your ATS.

- **Periodic Inspection:** Annually inspect the ATS for any signs of damage, loose connections, or overheating.
- **Cleaning:** Ensure the device is free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquid cleaners.
- **Terminal Check:** Periodically check that all terminal screws are tight.
- **Functionality Test:** Test the automatic transfer function periodically by simulating a power failure on

Source A (if safe to do so).

WARNING: Always disconnect power before performing any maintenance or cleaning.

7. Troubleshooting

If you encounter issues with your TOMZN TOQ7 ATS, refer to the following common troubleshooting steps:

- **No Power to Load:**
  - Check if both Source A and Source B are active.
  - Verify that the ATS is in 'Auto' mode or manually switched to an active source.
  - Inspect all wiring connections for looseness or damage.
- **ATS Not Transferring Automatically:**
  - Ensure the selector switch is firmly in the 'Auto' position.
  - Confirm that Source B (utility grid) is powered on and stable, as it is required for this PV type ATS.
  - Check the stability of Source A (inverter output).
- **Overheating:**
  - Ensure the load does not exceed the rated current of the ATS (63A, 100A, or 125A depending on model).
  - Check for proper ventilation around the device.
  - Inspect for loose connections, which can cause resistance and heat.

If problems persist after attempting these steps, contact a qualified electrician or the manufacturer for assistance.

8. Specifications

Specification	Value
Model Number	TOQ7 PV
Rated Voltage	220V-230V
Rated Working Current	63A, 100A, or 125A (variant dependent)
Switch Time	Less than 50ms
Installation Type	35mm Din Rail
Certification	CE
Type	Mini
Origin	Mainland China
Package Dimensions	0.39 x 0.39 x 0.39 inches
Item Weight	1.76 ounces

9. Warranty and Support

For warranty information, please refer to the documentation provided at the time of purchase or contact your retailer. If you require technical support or have questions not covered in this manual, please reach out to the manufacturer or your authorized dealer.