

## PYKFVTGL TOQ5-100PV/2

# PYKFVTGL TOQ5-100PV/2 Dual Power Automatic Transfer Switch User Manual

## 1. INTRODUCTION

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This manual provides essential information for the safe and effective installation, operation, and maintenance of your PYKFVTGL TOQ5-100PV/2 Dual Power Automatic Transfer Switch (ATS). This device is designed to automatically switch between a primary power source (e.g., grid) and a secondary power source (e.g., photovoltaic inverter or generator) to ensure continuous power supply to critical loads. Please read this manual thoroughly before installation and use.

## 2. SAFETY INFORMATION

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Always observe the following safety precautions to prevent injury or damage to the device:

- Installation and maintenance must be performed by qualified personnel only.
- Ensure all power sources are disconnected before performing any wiring or maintenance.
- Use appropriate personal protective equipment (PPE) such as insulated gloves and safety glasses.
- Verify correct wiring and connections before applying power.
- Do not operate the switch if it is damaged or appears to be malfunctioning.
- The device contains live electrical components; avoid direct contact.

## 3. PRODUCT OVERVIEW

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The PYKFVTGL TOQ5-100PV/2 is a single-phase rail-mounted Automatic Transfer Switch designed for reliable power transfer. It features a compact design and robust construction for long-term performance.



**Figure 1:** PYKFVTGL TOQ5-100PV/2 Dual Power Automatic Transfer Switch. This image shows the front and side view of the transfer switch. Key features visible include the 'Source A' and 'Source B' labels indicating the two power inputs, a green selector switch for 'Manual' or 'Auto' operation, and terminal blocks for wiring connections. The top section is labeled 'PV&Inverter' for Source A, and the bottom section is labeled 'City Power' for Source B, indicating typical applications. The device also displays specifications such as Type: TOQ5-100PV/2, Rated working current: 100A, Rated working voltage: 220V AC, Insulation voltage: 690V AC, and Impact-resistant voltage: 8kV.

#### 4. SPECIFICATIONS

Feature	Value
Model Number	TOQ5-100PV/2
Rated Working Current	100A
Rated Working Voltage	220V AC
Insulation Voltage	690V AC
Impact-Resistant Voltage	8kV
Frequency	50/60Hz

Feature	Value
Standard	IEC/EN60947-6-1
Material	Flame-retardant plastic, Silver Contacts
Item Weight	2.2 pounds
Package Dimensions	0.39 x 0.39 x 0.39 inches

## 5. WORKING PRINCIPLE

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The ATS operates on a priority basis. When the main power source (Source B, typically the grid) is active, the switch will connect the loads to Source B. If the main power fails or becomes abnormal, the ATS will automatically transfer the loads to the reserve power source (Source A, typically a photovoltaic inverter or generator), provided Source A is operational. Once the main power is restored and stable, the ATS will automatically switch back to Source B, prioritizing the main power supply.

## 6. INSTALLATION

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The TOQ5-100PV/2 ATS is designed for rail mounting and features a reasonable structure for easy installation. It is equipped with a protective cover for safety.

### Installation Steps:

- Mounting:** Securely mount the ATS onto a standard DIN rail within an appropriate electrical enclosure.
- Wiring Source A (PV&Inverter):** Connect the output of your photovoltaic inverter or generator to the 'Source A' terminals. Ensure correct polarity and secure connections.
- Wiring Source B (City Power):** Connect the main grid power supply to the 'Source B' terminals. Ensure correct polarity and secure connections.
- Load Connections:** Connect your critical loads to the output terminals of the ATS.
- Control Wiring:** Connect any necessary control wiring (e.g., for generator start/stop if applicable) to the designated control terminals (AR AN NC CNO for Source A, BR BN NC CNO for Source B).
- Verification:** Double-check all wiring connections for tightness and correctness according to the wiring diagram (not provided in this manual, refer to product packaging or manufacturer's website for detailed diagrams).
- Protective Cover:** Ensure the protective cover is properly installed after wiring to prevent accidental contact with live parts.

The use of high-quality flame-retardant plastic material ensures good insulation, high temperature resistance, and anti-aging properties, contributing to a safe and reliable installation.

## 7. OPERATION

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The ATS features a selector switch for choosing between 'Manual' and 'Auto' operation.

- Auto Mode:** In 'Auto' position, the switch will automatically transfer between Source A and Source B based on the availability and stability of the main power (Source B). This is the recommended mode for continuous, unattended operation.
- Manual Mode:** In 'Manual' position, the transfer switch can be manually operated. **Note:** For manual

operation, the selector switch must be in the 'Manual' position. This mode is typically used for testing or specific maintenance scenarios. Always exercise caution when operating manually.

## 8. MAINTENANCE

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

- **Visual Inspection:** Periodically inspect the switch for any signs of physical damage, loose connections, or overheating (discoloration).
- **Cleaning:** Keep the device clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquids or abrasive cleaners.
- **Terminal Tightness:** Check and re-tighten all electrical connections annually to prevent arcing and ensure good conductivity.
- **Functionality Test:** Periodically test the automatic transfer function by simulating a main power failure (if safe to do so and with proper precautions).

The silver contacts used in this product greatly improve conductivity and extend the service life of the device, reducing the need for frequent maintenance.

## 9. TROUBLESHOOTING

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

- **No Transfer to Reserve Power:**
  - Check if the reserve power source (Source A) is operational and providing voltage.
  - Ensure the ATS is in 'Auto' mode.
  - Verify that the main power (Source B) has indeed failed or is outside acceptable parameters.
- **No Transfer Back to Main Power:**
  - Confirm that the main power (Source B) has been restored and is stable.
  - Ensure the ATS is in 'Auto' mode.
- **No Power to Loads:**
  - Check both Source A and Source B for power availability.
  - Inspect all wiring connections for looseness or damage.
  - Verify that the ATS is correctly switched to an active source (either automatically or manually).

If issues persist after checking these points, contact a qualified electrician or the manufacturer for assistance.

## 10. WARRANTY AND SUPPORT

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For warranty information, technical support, or service inquiries, please refer to the product packaging or contact your retailer. Keep your purchase receipt as proof of purchase.