

Shanrya NLQ3-125/2P

Shanrya AC110V 100A Dual Power Automatic Transfer Switch (ATS) User Manual

Model: NLQ3-125/2P

Brand: Shanrya

1. PRODUCT OVERVIEW

This dual power automatic transfer switch (ATS) is designed for seamless power switching between two sources. Made from durable PC and silver materials, it ensures reliable performance. It features a compact structure compatible with standard 35mm rail mounts, making installation and maintenance straightforward. The switch is specifically designed for 50/60Hz AC 110V, 100A emergency power systems, providing users with peace of mind.

Key features include:

- **Automatic Transfer & Reliability:** Provides instant power switching, ensuring stable power supply. During power outages, standby power activates immediately and automatically switches back when normal power resumes.
- **Easy Installation & High Performance:** Compact design fits standard 35mm rail mounts. Easy to install and maintain, ensuring reliable power transmission.
- **Stability & High Temperature Resistance:** Boasts stable performance with self-throwing and self-recovery functions. Constructed from heat-resistant, flame-retardant PC material, it maintains performance even in harsh environments.
- **Durability & Safety:** Silver contacts are treated for anti-aging and anti-interference, ensuring a long lifespan. Excellent insulation and high-temperature resistant design provide safe and reliable use.
- **Versatility & Efficiency:** Supports various applications, providing reliable power supply. It excels in both energy saving and efficiency, making it ideal for homes, factories, laboratories, and farms.



Figure 1: Top-down view of the Shanrya Dual Power Automatic Transfer Switch (ATS).

2. SPECIFICATIONS

Parameter	Value
Product Type	Dual Power Automatic Transfer Switch
Material	PC, Silver
Switch Type	Secondary Power Distribution
Rated Current	100A
Rated Voltage	110VAC
Insulation Voltage	690VAC
Rated Impulse Withstand Voltage	8KV
Electrical Grade	PC Grade Insulation Type

Touch Time	<50ms
Operation Conversion Time	<50ms
Recovery Time	<50ms
Closing Time	<50ms
Frequency	50Hz/60Hz
Standard	IEC60947-6-1

3. INSTALLATION AND SETUP

The Shanrya ATS is designed for easy installation on a standard 35mm DIN rail. Follow these steps for proper setup:

1. **Preparation:** Before installation, ensure the ATS is intact and undamaged.
2. **Mounting:** Securely attach the ATS to a 35mm DIN rail. The compact design allows for straightforward mounting.
3. **Wiring:** Connect the normal power source, standby power source, and load output according to the wiring diagram. Ensure all connections are tight and secure.
4. **Initial Check:** Manually switch the ATS on and off using the operating handle to verify the flexibility of the drive components.
5. **Testing:** Test the generation and interruption conditions at each load stage for both normal and standby power to ensure proper functionality.

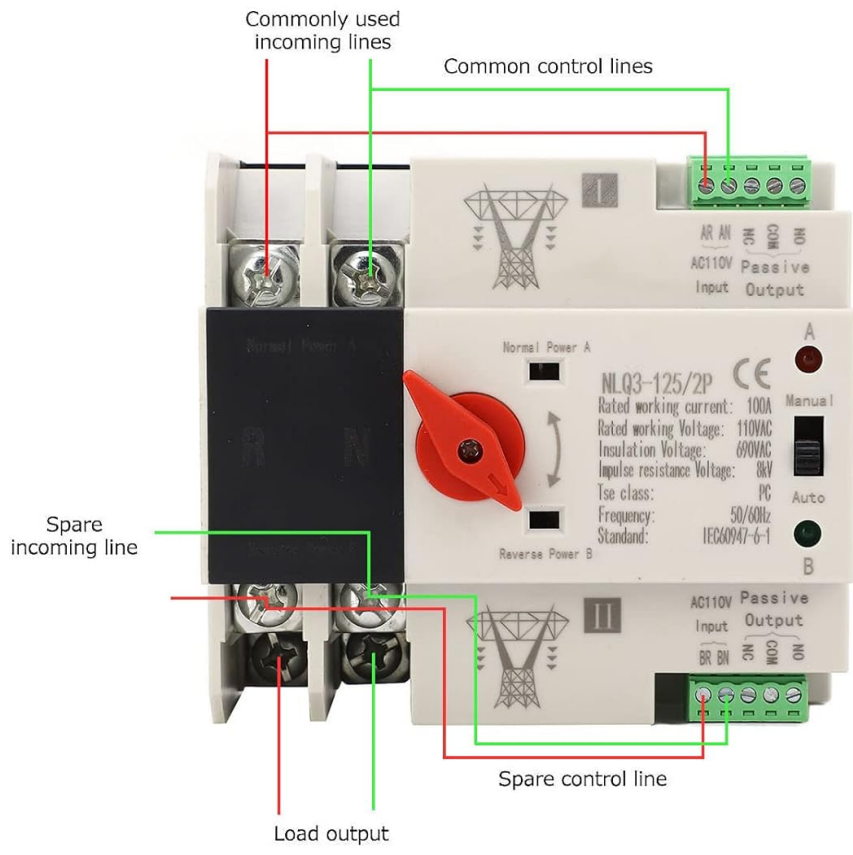


Figure 2: Wiring diagram for the ATS.

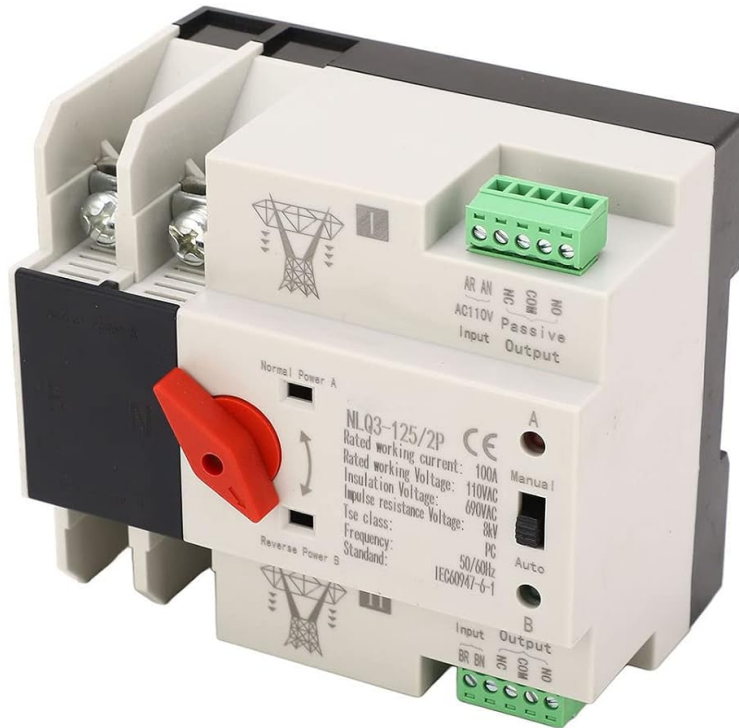


Figure 3: Illustrative image of ATS installation.

4. OPERATING INSTRUCTIONS

The ATS operates automatically to ensure continuous power supply. It can also be operated manually if needed.

4.1 Automatic Mode

In automatic mode, the switch continuously monitors the primary power source. If the primary power fails, the ATS will automatically switch to the standby power source within milliseconds (<50ms). When the primary power is restored, the ATS will automatically switch back to the primary source.

4.2 Manual Mode

The ATS can be manually operated using the red operating handle. This allows for manual selection of the power source (Normal Power A or Reverse Power B) for maintenance or specific operational requirements. Ensure to follow safety procedures when operating manually.



Figure 4: Manual/Auto switch and operating handle.

5. MAINTENANCE

Regular maintenance ensures the longevity and reliable operation of your ATS. Always disconnect power before performing any maintenance.

- **Visual Inspection:** Periodically inspect the switch for any signs of damage, loose connections, or overheating.
- **Cleaning:** Keep the unit clean and free from dust and debris. Use a dry cloth for cleaning.
- **Contact Check:** The silver contacts are designed for anti-aging and anti-interference, contributing to a long lifespan. However, if unusual operation is observed, consult a qualified electrician.

6. TROUBLESHOOTING

If you encounter issues with your ATS, consider the following common troubleshooting steps. For complex problems, consult a qualified electrician.

- **No Power Transfer:**

- Check if both primary and standby power sources are active.
 - Verify all wiring connections are secure and correct according to the diagram.
 - Ensure the switch is set to 'Auto' mode for automatic transfer.
- **Unusual Noises or Odors:** Immediately disconnect power and inspect the unit for any visible damage. Do not attempt to operate if unusual conditions persist.
 - **Intermittent Operation:** Check for stable voltage from both power sources. Ensure environmental conditions (temperature, humidity) are within specified limits.

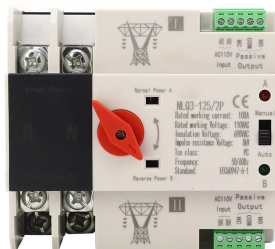
7. IMPORTANT SAFETY INFORMATION

Adhere to the following safety guidelines to prevent injury or damage to the product:

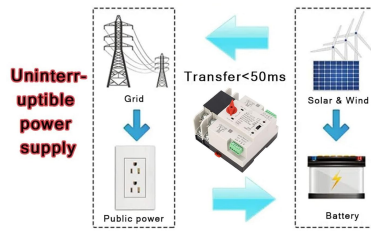
- **Temperature Conditions:** The ambient temperature should not exceed 40°C (104°F) or fall below -5°C (23°F). The 24-hour average temperature must not exceed 35°C (95°F).
- **Altitude:** The installation altitude must not exceed 2000 meters (6562 feet).
- **Humidity:** At a maximum temperature of 40°C (104°F), the relative humidity should not exceed 50%. At a minimum temperature of -5°C (23°F), higher relative humidity may occur (e.g., 90% at 25°C/77°F). Special measures should be taken to prevent condensation on the product surface due to temperature changes.
- **Professional Installation:** Installation and maintenance should only be performed by qualified personnel to ensure safety and proper functionality.
- **Power Disconnection:** Always disconnect all power sources before installing, maintaining, or troubleshooting the ATS.

8. PRODUCT MEDIA

8.1 Product Images



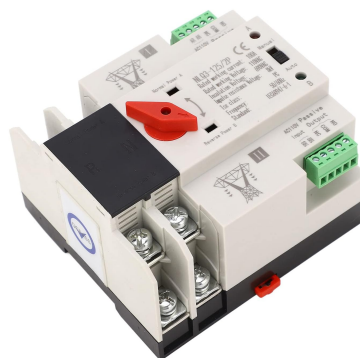
ATS in industrial applications.



Uninterruptible power supply diagram.



Bottom view with mounting mechanism.



Angled view of the ATS.



Front view of the ATS.

8.2 Product Videos

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Video 1: Demonstrates the features and handling of the AC110V 100A Dual Power Automatic Transfer Switch. This video shows the physical product and its components.

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Video 2: Shows the operation and transfer mechanism of a PC Silver ATS Dual Power Automatic Transfer Switch. This video illustrates the switching action between power sources.