

Taida ZHT012-6R5A

Taida ZHT012-6R5A Electrical Slip Ring User Manual

Model: ZHT012-6R5A

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and efficient installation, operation, and maintenance of the Taida ZHT012-6R5A Electrical Slip Ring. Please read this manual thoroughly before using the product to ensure proper function and to prevent damage or injury.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent personal injury or damage to the slip ring and connected equipment.

- Ensure all power is disconnected before installation, maintenance, or troubleshooting.
- Only qualified personnel should perform installation and wiring.
- Verify correct voltage and current ratings before connecting the slip ring to any power source.
- Avoid exposing the slip ring to excessive moisture, dust, or extreme temperatures beyond its specified operating range.
- Do not attempt to disassemble or modify the slip ring, as this may void the warranty and cause malfunction.

3. PRODUCT OVERVIEW

The Taida ZHT012-6R5A is a compact electrical slip ring designed for transmitting power and signals from a stationary to a rotating platform. It features 6 channels and is suitable for various industrial and commercial applications requiring continuous rotation while maintaining electrical connections.



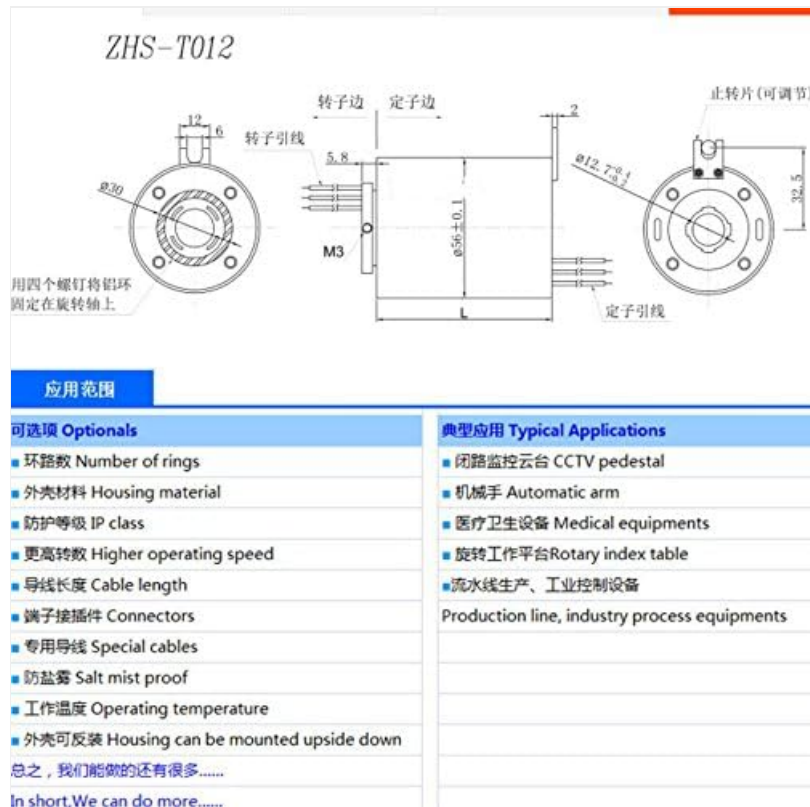
This image displays the Taida ZHT012-6R5A electrical slip ring, a compact cylindrical device with multiple colored wires extending from both ends. The body of the slip ring is black, featuring product labels with model number ZHT012-6*5A and other technical markings. The wires are typically used for power and signal transmission.

4. SPECIFICATIONS

The following table details the technical specifications for the ZHT012-6R5A Electrical Slip Ring:

Parameter	Value
Model Number	ZHT012-6R5A
Number of Channels	6
Rated Current	5 A / road (customizable)
Rated Voltage	240VAC / DC
Operating Speed	0-250 rpm (customizable)
Inner Diameter	12mm
Contact Material	Precious metal
Shell Material	Aluminum alloy
Dynamic Resistance	Minimum 1mΩ
Electrical Noise	<10mΩ, 50mA, 5RPM
Wire Size	AWG16 silver plated Teflon
Compressive Strength	500VDC @ 50Hz, 10s
Wire Length	Standard 250 mm

Parameter	Value
Insulation Strength	500mΩ @ 500VDC, 10s
Protection Class	IP54
Operating Temperature	-20 °C ~ + 60 °C (recommended)
Operating Humidity	10% -85% RH
Earthquake Level	MIL-STD-810E
Item Weight	15.8 ounces
Package Dimensions	1.97 x 1.57 x 1.18 inches



This image provides a technical diagram of a similar ZHS-T012 slip ring, showing its dimensions (e.g., outer diameter 30mm, inner diameter 12mm, length, mounting holes) and wire lead lengths. Below the diagram, a table lists optional features and typical applications, including CCTV pedestals, mechanical arms, medical equipment, rotary index tables, and production line equipment.

5. SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance and longevity of the slip ring. Follow these steps carefully:

- Mounting:** Securely mount the stationary part of the slip ring to the non-rotating structure using appropriate fasteners. Ensure the mounting surface is flat and stable. The rotating part should be attached to the rotating shaft or component, ensuring concentricity and proper alignment to prevent undue stress on the slip ring.
- Wiring:** Connect the wires according to your application's electrical schematic. The slip ring features 6 color-coded wires for power and signal transmission. Refer to the wire size (AWG16) and ensure all connections are secure and insulated to prevent short circuits.

3. **Cable Management:** Ensure that the wires are routed in a way that prevents tangling, pinching, or excessive bending during rotation. Allow sufficient slack for movement without strain.
4. **Environmental Considerations:** Install the slip ring in an environment that adheres to its specified operating temperature and humidity ranges. Protect it from direct exposure to liquids, corrosive gases, and excessive vibrations.



A close-up view of the Taida ZHT012-6R5A electrical slip ring, highlighting the multi-colored wires (red, yellow, blue, white, brown, black) neatly bundled and exiting the central bore. This view emphasizes the wiring connections for power and signal transmission.

6. OPERATING INSTRUCTIONS

Once installed and wired correctly, the slip ring operates automatically to transmit electrical signals and power across a rotating interface. No specific user interaction is required during operation beyond ensuring the connected systems are functioning as intended.

- **Power On:** Apply power to the connected system. The slip ring will begin transmitting power and signals as soon as the rotating mechanism starts moving.
- **Rotation Speed:** Ensure the rotation speed of your application remains within the specified 0-250 rpm range to maintain optimal performance and prevent premature wear.
- **Monitoring:** Periodically monitor the performance of the connected devices to ensure stable power and signal transmission.

7. MAINTENANCE

The Taida ZHT012-6R5A slip ring is designed for minimal maintenance. However, periodic checks can help ensure its longevity and reliable operation.

- **Visual Inspection:** Regularly inspect the slip ring for any signs of physical damage, loose connections, or excessive wear on the housing or wires.
- **Cleaning:** If necessary, gently clean the exterior of the slip ring with a dry, soft cloth. Do not use harsh chemicals or abrasive materials. Ensure no dust or debris accumulates around the rotating parts.
- **Environmental Check:** Confirm that the operating environment continues to meet the specified conditions (temperature, humidity, absence of corrosive elements).
- **Wiring Integrity:** Check wire insulation for any cracks or fraying, and ensure all connections remain tight.

8. TROUBLESHOOTING

If you encounter issues with the slip ring, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
No power/signal transmission	Loose or incorrect wiring Power supply issue Damaged slip ring	Check all wire connections for tightness and correct polarity. Verify power supply is active. Inspect slip ring for visible damage; replace if necessary.
Intermittent signal/power	Excessive vibration Contamination Worn contacts	Ensure stable mounting. Clean exterior of slip ring. If contacts are worn, replacement may be required.
Unusual noise during rotation	Misalignment Bearing wear Foreign object	Check for proper alignment during installation. Inspect for any foreign objects. If bearings are worn, the unit may need replacement.
Overheating	Overcurrent High ambient temperature Excessive friction	Verify current draw is within specifications. Ensure operating temperature is within range. Check for smooth rotation.

9. WARRANTY AND SUPPORT

No specific warranty information is provided for this product in the available documentation. For technical support or inquiries regarding warranty, please contact your point of purchase or the manufacturer, Taida, directly.