

ZJchao ZJchaos2tgrzv4ce-12

ZJchao 12V Linear Actuator Instruction Manual

Model: ZJchaos2tgrzv4ce-12

1. INTRODUCTION

This instruction manual provides essential information for the safe and efficient use of your ZJchao 12V Linear Actuator. Please read this manual thoroughly before installation, operation, or maintenance to ensure proper function and to prevent damage or injury. Keep this manual for future reference.

2. PRODUCT FEATURES

- **Robust Protection:** Designed with an internal limit switch and a 12V input voltage, boasting an IP60 grade for dependable operation across various conditions.
- **Durable Construction:** Utilizes advanced powder metallurgy technology in its fuselage, ensuring sturdiness and extending the actuator's lifespan.
- **Compact and Lightweight:** Features a geared motor, making it lightweight and compact for easy integration into tight spaces.
- **Versatile Applications:** Suitable for a wide range of uses, including equipment, industrial automation, agricultural machinery, catering systems, and ventilation services.
- **Efficient Operation:** Offers a 30mm stroke with noise elimination features and short circuit protection, optimizing performance for various applications.

3. SPECIFICATIONS

Parameter	Value
Input Voltage	12V
Stroke Length	30mm
Operating Speed	8mm/s

Parameter	Value
Force	70N
Operating Temperature	0°C - 40°C
Limit Switches	Internal
Work Rate	10%
Inner Tube Material	Aluminium Tube
Screw Type	T Screw
Protection Grade	IP60
Model Number	ZJchaos2tgrzv4ce-12
ASIN	B0DQ4MXRYR

4. SAFETY INFORMATION

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

- Ensure the power supply matches the actuator's voltage (12V DC).
- Do not exceed the rated load capacity (70N).
- Avoid operating the actuator beyond its specified work rate (10%). Continuous operation can lead to overheating and damage.
- Keep hands and clothing clear of moving parts during operation.
- Do not modify the actuator or its internal components.
- Ensure proper ventilation around the actuator during operation.
- Disconnect power before performing any installation, maintenance, or troubleshooting.

5. SETUP AND INSTALLATION

Follow these steps for proper installation of your linear actuator:

1. **Mounting:** Securely attach the actuator to a stable surface using appropriate fasteners through the mounting holes at both ends. Ensure the mounting points can withstand the actuator's maximum force.
2. **Electrical Connection:** Connect the actuator to a 12V DC power source. The actuator typically has two wires (red and black). Connect the red wire to the positive (+) terminal and the black wire to the negative (-) terminal for extension. Reversing the polarity will cause the actuator to retract.



Figure 1: Front view of the ZJchao 12V Linear Actuator, showing its compact design and mounting points.



Figure 2: Close-up of the wiring connections on the ZJchao 12V Linear Actuator, illustrating the red and black power leads.

- 3. Testing:** After installation, apply power to test the extension and retraction. Observe for smooth operation and ensure the internal limit switches stop the actuator at its full stroke.

6. OPERATING INSTRUCTIONS

The ZJchao 12V Linear Actuator is designed for simple operation:

- **Extension:** Apply 12V DC power with correct polarity (red to +, black to -). The actuator rod will extend until it reaches its full 30mm stroke, at which point the internal limit switch will stop it.
- **Retraction:** Reverse the polarity of the 12V DC power supply (red to -, black to +). The actuator rod will retract until it reaches its fully retracted position, where the internal limit switch will stop it.
- **Duty Cycle:** The actuator has a work rate of 10%. This means it should operate for a maximum of 1 minute, followed by a minimum of 9 minutes of rest. Exceeding this duty cycle can lead to overheating and premature failure.

7. MAINTENANCE

Regular maintenance ensures the longevity and reliable performance of your linear actuator:

- **Cleaning:** Keep the actuator rod and housing clean and free from dust, dirt, and debris. Use a soft, dry cloth. Avoid using harsh chemicals or solvents.
- **Inspection:** Periodically inspect the actuator for any signs of wear, damage, or loose connections. Check mounting points for security.
- **Lubrication:** The internal components are pre-lubricated. Do not attempt to lubricate the internal mechanism unless specifically instructed by the manufacturer. Keep the exposed part of the actuator rod clean.
- **Storage:** Store the actuator in a dry, clean environment within the specified operating temperature range when not in use.

8. TROUBLESHOOTING

If you encounter issues with your linear actuator, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Actuator does not move	No power, incorrect wiring, overloaded, internal fault.	Check power supply (12V DC). Verify wiring polarity. Reduce load. Contact support if internal fault is suspected.
Actuator moves intermittently	Loose connections, insufficient power, duty cycle exceeded.	Secure all electrical connections. Ensure stable 12V DC power. Allow actuator to cool down if duty cycle was exceeded.
Unusual noise during operation	Excessive load, foreign object, internal wear.	Reduce load. Inspect for obstructions. If noise persists, contact support.
Actuator overheats	Duty cycle exceeded, excessive load, poor ventilation.	Adhere to the 10% duty cycle. Reduce load. Ensure adequate airflow around the actuator.

9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the product packaging or contact the retailer

from whom you purchased the ZJchao 12V Linear Actuator. Please have your model number (ZJchaos2tgrzv4ce-12) and ASIN (B0DQ4MXRYR) ready when contacting support.