

VEVOR OK648-1500N

VEVOR Linear Actuator 1500 N, DC 12 V, 300 mm User Manual

Model: OK648-1500N

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your VEVOR Linear Actuator. Please read this manual thoroughly before installation and use, and retain it for future reference.

The VEVOR Linear Actuator is designed for precise motion control, offering stable operation and high output force. It is suitable for various applications requiring exact positioning, such as automated systems, furniture adjustments, and mechanical equipment.



Image 1.1: VEVOR Linear Actuator with included accessories.

2. SAFETY INFORMATION

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

- **Electrical Safety:** Ensure the power supply matches the actuator's rated voltage (DC 12V). Disconnect power before performing any installation, maintenance, or troubleshooting.
- **Overload Protection:** Do not exceed the maximum load capacity of 1500 N (330 lbs). Overloading can damage the motor and internal components.
- **Environmental Protection:** The actuator has an IP54 protection rating, meaning it is protected against dust ingress and splashing water. **Warning: Water must not penetrate inside the motor.** Avoid submerging the unit or exposing it to heavy rain.
- **Moving Parts:** Keep hands, clothing, and other objects clear of moving parts during operation to prevent pinching or entanglement.
- **Installation:** Securely mount the actuator using appropriate hardware and ensure stable support for the application.
- **Children and Pets:** Keep the actuator and its operating area out of reach of children and pets.



Specifications			
Item Model Number	OK648-1500N	Rated Current	<5A
Rated Voltage	12V	Main Material	Aluminum Alloy
Maximum Load/Actuation Force	1500N	Net Weight	2.6lbs / 1.18kg (including all accessories)
Travel Speed	5mm/s	Product Dimensions	16.73 x 2.95 x 1.57inch 425 x 75 x 40mm
Stroke Length	12inch / 300mm	Accessories 2 x Mounting Brackets 2 x Screw Rods 2 x R-Type Pins	
Protection Class	IP54		
Noise Level	≤60dB		

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Image 2.1: The IP54 protection class indicates resistance to dust and splashes, but not full waterproofing.

3. PACKAGE CONTENTS

Verify that all components are present and undamaged upon unpacking:

- 1 x VEVOR Linear Actuator (Model: OK648-1500N)
- 2 x Mounting Brackets
- 2 x Screw Rods
- 2 x R-Type Pins
- 1 x User Manual

4. SPECIFICATIONS

The following table details the technical specifications for the VEVOR Linear Actuator Model OK648-1500N:

Specification	Value
Item Model Number	OK648-1500N
Rated Voltage	DC 12V
Maximum Load / Actuation Force	1500 N (330 lbs)
Travel Speed	5 mm/s (0.19 inch/s)
Stroke Length	300 mm (12 inches)
Retracted Length	425 mm (16.73 inches)
Extended Length	725 mm (28.73 inches)

Specification	Value
Protection Class	IP54
Noise Level	≤ 60 dB
Rated Current	≤ 5 Amp
Main Material	Aluminum Alloy
Net Weight	1.18 kg (2.6 lbs)
Product Dimensions (L x W x H)	425 x 75 x 40 mm (16.73 x 2.95 x 1.57 inches)
Duty Cycle	25%



Image 4.1: Visual representation of the actuator's dimensions and detailed specifications.

5. SETUP AND INSTALLATION

Follow these steps for proper installation of your linear actuator:

5.1 Mounting the Actuator

- 1. Identify Mounting Points:** Determine the optimal mounting locations on your application for the actuator. Ensure the mounting surface is strong enough to support the actuator and the load.
- 2. Attach Brackets:** Secure the two mounting brackets to your application using appropriate fasteners (not included). The brackets should be aligned to allow for the full stroke length of the actuator.
- 3. Connect Actuator:** Insert the ends of the linear actuator into the mounting brackets. Secure them using the provided screw rods and R-type pins. Ensure the pins are fully inserted and secured.

5.2 Wiring Connection

The actuator requires a DC 12V power supply and a controller (both sold separately) for operation. The wiring

is straightforward:

- Connect the actuator's two wires to your DC 12V power source via a suitable controller.
- Reversing the polarity of the DC 12V input will reverse the direction of the actuator's movement (extend or retract).
- **Note:** You need to separately purchase a 12V, 8A power supply and a controller.
- **Important:** If controlling two motors simultaneously, their operating speeds may differ and they cannot be synchronized without specialized control systems.



Image 5.1: Basic wiring diagram for the linear actuator.

6. OPERATING INSTRUCTIONS

Once installed and wired, the linear actuator can be operated using a compatible controller:

- **Extension:** Apply DC 12V power with one polarity to extend the actuator rod.
- **Retraction:** Reverse the polarity of the DC 12V power to retract the actuator rod.
- **Automatic Stop:** The actuator features built-in limit switches that automatically stop the movement when the rod reaches its fully extended or fully retracted position. This prevents over-extension or over-retraction and protects the motor.
- **Duty Cycle:** The actuator has a duty cycle of 25%. This means it should operate for no more than 25% of the time within a given period (e.g., 15 minutes of operation followed by 45 minutes of rest in an hour) to prevent overheating and ensure longevity.



Image 6.1: Example of the linear actuator in an application, extending to lift a lid.

7. MAINTENANCE

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

- **Cleaning:** Periodically clean the exterior of the actuator with a dry or slightly damp cloth. Do not use harsh chemicals or abrasive cleaners.
- **Inspection:** Regularly inspect the actuator for any signs of wear, damage, or loose connections. Check the mounting points and pins for security.
- **Lubrication:** The internal components are pre-lubricated. Avoid disassembling the unit for lubrication unless performed by a qualified technician.
- **Environmental Protection:** Ensure the actuator is not exposed to conditions beyond its IP54 rating. Protect it from excessive moisture, dust, and extreme temperatures.

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 supply Incorrect wiring Overload Damaged motor/controller	Check power connection and voltage. Verify wiring polarity. Reduce load to within specifications. Contact VEVOR support if motor/controller is suspected to be faulty.
Actuator moves slowly or with difficulty	Insufficient power Excessive load Friction/obstruction Low voltage	Ensure adequate power supply (12V, 8A recommended). Reduce load. Check for obstructions or binding in the application. Verify power source voltage.
Unusual noise during operation	Mechanical issue Internal damage Misalignment	Stop operation immediately. Inspect for loose parts or damage. Ensure proper alignment of the actuator with the load. If noise persists, contact support.
Actuator stops prematurely	Limit switch activated Overload protection Intermittent power	Check if the actuator reached its stroke limit. Reduce load. Ensure power supply is stable.



9. WARRANTY AND SUPPORT



VEVOR products are designed for durability and performance. For specific warranty details, please refer to the warranty information provided at the time of purchase or contact VEVOR customer service directly.

If you require technical assistance, have questions about installation, or need to report a defect, please contact VEVOR customer support. VEVOR offers attentive 24/7 support to assist you.

You can typically find contact information on the VEVOR official website or through your purchase platform.

Related Documents - OK648-1500N

	<p>VEVOR Linear Actuator OK648/OK648-A: User Manual & Specifications</p> <p>Comprehensive guide for VEVOR Linear Actuators (OK648, OK648-A) covering technical specifications, safety, installation, and usage. VEVOR offers tough tools at competitive prices.</p>
	<p>VEVOR Linear Actuator OK648 User Manual - Specifications & Safety Guide</p> <p>Comprehensive user manual for the VEVOR Linear Actuator, model OK648. Includes specifications, safety instructions, installation guidance, and operational details for safe and effective use.</p>

	<p>VEVOR OK648 Linear Actuator: User Manual, Specifications, and Safety Guide</p> <p>Comprehensive user manual and technical specifications for the VEVOR OK648 Linear Actuator. Includes safety instructions, product parameters, dimensions, force application examples, and manufacturer details. Optimized for search engines.</p>
	<p>VEVOR Linear Actuator OK648/OK648-A: User Manual, Specifications, and Safety</p> <p>Comprehensive guide for VEVOR Linear Actuator models OK648 and OK648-A, covering technical specifications, installation, safety precautions, and warranty information. Find support at vevor.com/support.</p>
	<p>VEVOR Linear Actuator OK648 User Manual and Specifications</p> <p>This document provides technical specifications, safety guidelines, precautions, and product parameters for the VEVOR Linear Actuator, Model OK648. Includes information on disposal, FCC compliance, and accessories.</p>
	<p>VEVOR OK648-A Linear Actuator User Manual and Specifications</p> <p>Comprehensive user manual and technical specifications for the VEVOR OK648-A Linear Actuator, covering installation, safety, parameters, and usage scenarios. Includes important warnings and product details.</p>