

## VEVOR OK648-A

# VEVOR 12V Linear Actuator Instruction Manual

Model: OK648-A

### 1. PRODUCT OVERVIEW

This manual provides essential information for the safe and efficient operation of your VEVOR 12V Linear Actuator, Model OK648-A. This device is designed to provide linear motion for various applications, offering a robust 3000N (660 lbs) actuation force and a 20-inch (500mm) stroke length. Its IP65 rating ensures protection against dust and water ingress, making it suitable for outdoor environments.



The image above displays the VEVOR 12V Linear Actuator along with its included mounting brackets and other accessories. The actuator features a durable aluminum alloy tube and an electroplated iron head for reliable performance.

# VEVOR LINEAR ACTUATOR SERIES

Applicable scenarios vary accordingly by models

## Parameters

Applicable scenarios vary accordingly by models



|                      |   |   |  |   |
|----------------------|---|---|--|---|
| Actuation Force      | 1000N   | 1500N   | <u>3000N</u>   | 6000N   |
| Travel Speed         | 14mm/s  | 5mm/s   | 5mm/s  | 5mm/s   |
| IP Classification    | IP54  | IP54  | IP65   | IP44  |
| Applicable Scenarios | Skylight Control /<br>Electric Lifting Desk   | TV / Sofa Lifting   | Outdoor Solar<br>Panel Mount   | Automatic Door<br>/ Electric Bed  |
|                      |  |  |  |  |

The VEVOR Linear Actuator series offers various models with different actuation forces, travel speeds, and IP classifications, suitable for applications such as skylight control, TV/sofa lifting, outdoor solar panel mounts, and automatic doors/electric beds. This specific model (OK648-A) is rated for 3000N force and IP65 protection.

## 2. KEY FEATURES

- **Superior IP65 Protection:** Provides excellent resistance to dust and water, suitable for harsh environments.
- **High Output Force:** Delivers 3000N (660 lbs) of force, ideal for demanding tasks in agriculture, construction, and industrial automation.
- **Extended Movement Range:** Features a 20-inch (500mm) stroke length for applications requiring significant linear travel.
- **Quiet Operation:** Operates at a noise level below 60 dB, making it suitable for various environments from furniture to mechanical equipment.
- **Durable Construction:** Built with an aluminum alloy tube and electroplated iron head for longevity and stable performance.

# IP65 PROTECTION CLASS

Adapt to harsh environments  
with high humidity



warning: The waterproof of the linear actuator is limited.  
Water droplets are strictly prohibited from entering the interior of the motor, as it may result in motor burnout.

This image illustrates the IP65 protection class of the linear actuator, demonstrating its ability to withstand splashes and high humidity. It is designed to adapt to challenging environmental conditions.

# STRONG LOAD-BEARING SAFE & STABLE

Precise motion ensures high-efficiency operation



The components highlighted here, including the aluminum alloy tube, electroplated iron head, and waterproof cap covers, contribute to the actuator's strong load-bearing capacity and stable, precise motion.

## 3. SETUP AND INSTALLATION

### 3.1 Components Included

- 1 x VEVOR 12V Linear Actuator (Model OK648-A)
- 2 x Mounting Brackets
- 2 x Screw Rods
- 2 x R-Type Pins
- 1 x Waterproof Cap Covers

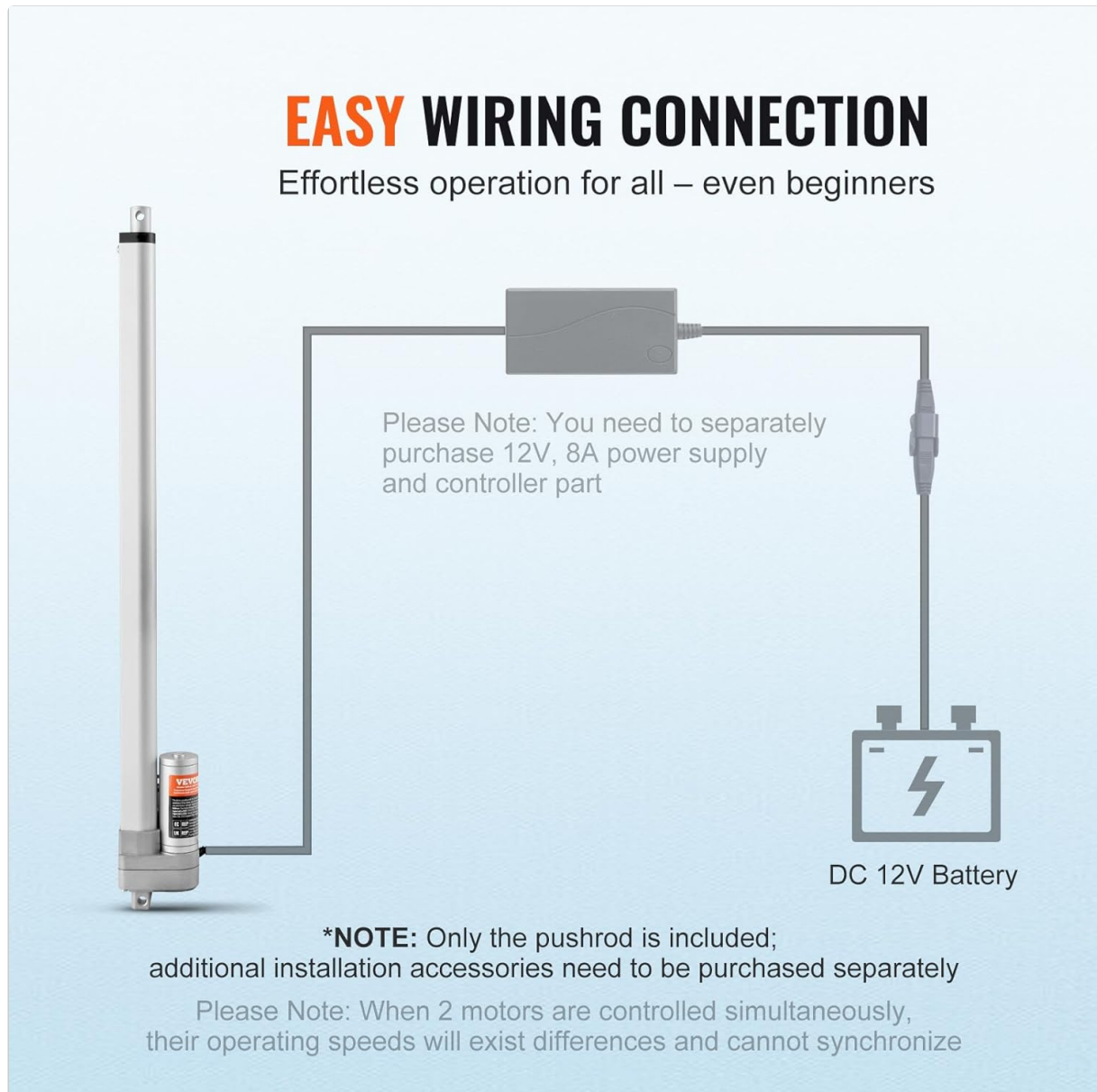
### 3.2 Mounting the Actuator

Securely attach the linear actuator to your desired application using the provided mounting brackets. Ensure that the mounting points are stable and can support the actuator's weight and the load it will be moving. Proper alignment is crucial for smooth operation and to prevent premature wear.

### 3.3 Wiring Connection



The actuator requires a DC12V power supply. Connect the actuator's wires to a compatible 12V power source and a controller (not included). The controller will manage the extension and retraction of the actuator. Ensure all connections are secure and insulated to prevent short circuits.



This diagram illustrates a basic wiring connection for the linear actuator to a DC 12V battery. Please note that a 12V, 8A power supply and a separate controller part must be purchased separately. Only the pushrod is included with the actuator.

**Important Note:** When controlling two motors simultaneously, their operating speeds may differ and they cannot be synchronized without specialized control systems.

## 4. OPERATING INSTRUCTIONS

Once properly installed and wired, the linear actuator can be operated via a compatible 12V controller. The controller typically has buttons or switches to initiate extension and retraction. Apply power to the actuator through the controller to move the rod in the desired direction.

- Ensure the power supply is DC12V.
- Do not exceed the maximum load capacity of 3000N (660 lbs).
- Avoid continuous operation for extended periods to prevent overheating. Refer to the 25% duty cycle specification.



This image shows the linear actuator installed within a wooden cabinet, demonstrating a typical application where the actuator provides controlled linear movement for opening or closing a lid or panel.

## 5. MAINTENANCE

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Regular maintenance ensures the longevity and optimal performance of your linear actuator.

- **Cleaning:** Keep the actuator rod and housing clean from dust, dirt, and debris. Use a soft, damp cloth for cleaning.
- **Inspection:** Periodically inspect the actuator for any signs of damage, wear, or loose connections. Check the mounting brackets for security.
- **Lubrication:** The internal components are pre-lubricated. Avoid disassembling the unit for lubrication unless performed by a qualified technician.
- **Environmental Protection:** While IP65 rated, avoid submerging the actuator in water. The waterproof capability is limited to splashes and dust.

## 6. TROUBLESHOOTING

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If you encounter issues with your linear actuator, refer to the following troubleshooting guide:

- **Actuator Not Moving:**

- Check power supply: Ensure it is DC12V and providing sufficient current (at least 6A).
- Check wiring: Verify all connections are secure and correctly wired to the controller.
- Check controller: Ensure the controller is functioning correctly.
- Overload: The actuator may be overloaded. Reduce the load if it exceeds 3000N.

- **Slow Movement:**

- Low voltage/current: Ensure the power supply is adequate.
- Excessive load: The load might be close to the maximum capacity, causing slower movement.

- **Unusual Noise:**

- Check for obstructions: Ensure nothing is impeding the movement of the rod.
- Loose mounting: Tighten all mounting bolts.

- **Actuator Stops Mid-Stroke:**

- Overheating: Allow the actuator to cool down. Respect the duty cycle.
- Internal limit switch: The actuator has built-in limit switches. Ensure it's not hitting an obstruction before reaching its full stroke.

If problems persist, contact VEVOR customer support for assistance.

## 7. TECHNICAL SPECIFICATIONS

| Specification                  | Value  |
|--------------------------------|--|
| Item Model Number              | OK648-A  |
| Rated Voltage                  | DC12V  |
| Maximum Load / Actuation Force | 3000N (660 lbs)                                |
| Travel Speed                   | 5 mm/s (0.19 inch/s)                           |
| Stroke Length                  | 500 mm (20 inches)                             |
| Protection Class               | IP65   |
| Noise Level                    | ≤60dB  |
| Rated Current                  | <6A  |
| Main Material                  | Aluminum Alloy                                 |
| Net Weight                     | 1.73 kg (3.81 lbs) (including all accessories) |
| Product Dimensions (Retracted) | 670 x 77 x 40 mm (26.37 x 3.03 x 1.57 inches)  |
| Product Dimensions (Extended)  | 1170 mm (46.37 inches)                         |
| Duty Cycle                     | 25%  |





## Specifications

|                              |   |
|------------------------------|---|
| Item Model Number            | OK648-A   |
| Rated Voltage                | 12V   |
| Maximum Load/Actuation Force | 3000N / 660lbs  |
| Travel Speed                 | 5mm/s   |
| Stroke Length                | 20inch / 500mm  |
| Protection Class             | IP65  |
| Noise Level                  | ≤60dB   |
| Rated Current                | <6A   |
| Main Material                | Aluminum Alloy  |
| Net Weight                   | 3.81lbs / 1.73kg<br>(including all accessories)   |
| Product Dimensions           | 26.37 x 3.03 x 1.57inch<br>670 x 77 x 40mm  |
| Accessories                  | 2 x Mounting Brackets<br>2 x Screw Rods<br>2 x R-Type Pins<br>1 x Waterproof Cap Covers |

This image provides a visual representation of the actuator's dimensions and a summary of its key technical specifications, including model number, voltage, load capacity, speed, stroke length, and protection class.

## 8. SAFETY INFORMATION

Please read and adhere to the following safety guidelines to prevent injury or damage to the product:

- Always ensure the power supply matches the actuator's rated voltage (DC12V).
- Do not exceed the maximum rated load. Overloading can damage the motor and internal components.
- Keep hands, clothing, and other objects clear of the moving parts of the actuator during operation.
- Disconnect power before performing any maintenance, installation, or troubleshooting.
- Do not modify the actuator. Unauthorized modifications can lead to malfunction and void the warranty.
- Ensure proper ventilation around the motor to prevent overheating, especially during continuous operation.
- This product is not intended for use in life-support systems or other applications where malfunction could result in severe injury or property damage.

## 9. WARRANTY AND SUPPORT

VEVOR products are designed for reliability and performance. For warranty information, technical support, or any questions regarding your VEVOR 12V Linear Actuator, please refer to the official VEVOR website or contact their customer service department. Keep your purchase receipt for warranty claims.

### Related Documents - OK648-A

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|---|--|
|    | <p><a href="#">VEVOR Linear Actuator OK648/OK648-A: User Manual &amp; Specifications</a></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><a href="#">VEVOR Linear Actuator OK648 User Manual - Specifications &amp; Safety Guide</a></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><a href="#">VEVOR Linear Actuator OK648/OK648-A: User Manual, Specifications, and Safety</a></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 <a href="https://vevor.com/support">vevor.com/support</a>.</p> |
|  | <p><a href="#">VEVOR OK648 Linear Actuator: User Manual, Specifications, and Safety Guide</a></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><a href="#">VEVOR OK648-A Linear Actuator User Manual and Specifications</a></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>  |



Linear Actuator  
Model: OK648-A

[VEVOR OK648-A Linear Actuator User Manual and Specifications](#)

Detailed user manual and specifications for the VEVOR OK648-A Linear Actuator, including safety instructions, product parameters, drawings, and usage scenarios.