A-Track Linear Actuators

Warner Electric
The industry leading brands in power transmission are on the same team

Altra Industrial Motion provides single-source convenience and world-class service

Altra Industrial Motion is a global company committed to carrying on the legacy of its powerful line-up of industry leading brands in clutch/brake components, special purpose clutch assemblies, speed reducers, gear drives and more for a wide variety of industrial applications. We provide innovative power transmission solutions based on:

- Extensive application knowledge
- Largest array of products
- Award-winning design advantages
- Proven product performance

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Within the Warner Electric Interactive eCATALOG, you can start your search for basic components, such as clutches or brakes, and then quickly refine your search from hundreds of possibilities to one that meets your specific power transmission requirements for NEMA, input/output configurations and other factors. You can also download specifications and PDF pages or submit an RFQ for any of your selections.
A-Track...

Electromechanical Linear Actuator Systems

Warner Electric has many years of experience in providing linear actuators for a variety of applications on a wide range of mobile applications such as combines, school buses, industrial sweepers; as well as in factory applications such as lift tables, die handling racks, diverters and vent positioning.

A-Track actuators are ideally suited for intermittent duty cycle applications requiring lift/lower, push/pull, positioning, sorting, opening or adjusting on both in-plant or mobile applications. The first generation of general purpose actuators were developed for remote push button control of accessory drives on garden tractors and automated farm equipment.

You will find proven design concepts incorporated on all of the A-Track industrial actuators presented in this catalog.

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A-Track | Design Features

A-Track actuators are available in load ranges from 25 to 1300 pounds, stroke lengths from 2 to 24 inches and operating voltages of 12 and 24 volt DC and 115 and 230 volt AC. Individual models offer additional features to meet a variety of design needs.

**Actuator 1 Series**
The A-Track Model 1 Series is a compact, light capacity design with load capacities of 25, 50, 100 and 165 pounds. Available in 12 and 24 volt DC with built-in end-of-stroke limit switches with stroke lengths of 2 to 12 inches. A potentiometer to provide positional feedback is available as an option.

**Actuator 2 Series**
The A-Track Model 2 Series is a well-protected mid-range actuator for use in mobile applications or where potential moisture or ambient contamination issues exist. Available in 4 to 24 inch stroke with load capacities of 330 and 500 pounds. 12 and 24 DC motors are available as standard.

**Actuator 5 Acme Series**
The A-Track Model 5 Acme Series is a mid-range actuator for use in indoor applications or where AC power is available. Available in 4 to 24 inch stroke with load capacities of 330 and 500 pounds. 115 and 230 volt single phase AC motors are available as standard.

**Actuator 5 Ball Screw Series**
The A-Track Model 5 Ball Screw Series is a heavy-duty actuator for use in indoor applications or where AC power is available. Available in 4 to 24 inch stroke with load capacities of 500, 1000 and 1300 pounds. 115 and 230 volt single phase AC motors are available as standard.

**Actuator 10 Series**
The A-Track Model 10 Series is a well-protected heavy-duty actuator for use in mobile equipment or where potential moisture or ambient contamination issues exist. Available in 12 and 24 volt DC motors with load ratings of 500, 750 and 1000 pounds.

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**Dependable Operation**

**Compact design**
An A-Track with a four inch stroke can provide up to 1300 pounds of force capacity in a package length of under 16 inches. The A-Track 1 Series can provide up to 165 pound load capacities in a six inch stroke unit in a package length of under 12 inches.

**Maintenance-free**
Units are lubricated for life during assembly. There are no adjustments or maintenance required for units after they have left the factory. Consistent performance is provided for the entire life of the actuator.

**Equal capacity in both directions**
A-Track linear actuators can push-and-pull or lift-and-lower loads ranging from one pound to 1300 pounds up to 24 inches with equal capacity in both directions of travel.

**Efficient operation**
A-Track linear actuators consist of an electric motor combined with a high efficiency gear train and lead screw. This direct conversion of electrical to mechanical energy results in effective, economic linear movement. Units are completely self-contained and require minimal installation hardware or wiring.

**Superb load holding power**
A-Track linear actuators operate loads in both tension and compression equally well. They will hold a load stationary without power in either direction. Static load holding capability will always exceed the dynamic load moving capability.
Rugged and reliable
A-Track linear actuators incorporate strong, high quality components and design to assure trouble free service. Rugged spur gearing, industrial quality lubricants and high performance motors combine to provide maximum performance and value for the product user. Units are gasketed and sealed for operation in industrial and mobile applications. Stainless steel or aluminum extension tubes prevent corrosion. Thermal overload switches are included for motor protection (except size 1).

Energy efficient
Electric control provides clean, smooth linear motion without fluids, plumbing or other expensive components. A-Track linear actuators require power only when in motion. No power is required to hold loads stationary.

Lead screw drive system
A-Track 1 and 2 models feature Acme Screws which will not backdrive when the power is off. A-Track 10 series actuators are equipped with highly efficient and accurate Warner Electric ball bearing screws. A load holding brake keeps the load in position when power is off. A-Track 5 models are available with either Acme or Ball Screw drives.

Overload protection
Motors used on A-Track linear actuator sizes 2, 5 and 10 incorporate thermal switches in their windings to shut the actuator motor off in case of overheating. Reset is automatic after the motor has cooled. A standard overload clutch slips if the load is too great or at the end of stroke.

Note: Clutch is not incorporated in A-Track 1 due to size constraints.

Versatile
With their compact size, Warner Electric linear actuators can be located in confined areas, yet move loads from 25 to 1300 pounds. Their static load holding ability ensures that a load will remain in position when power is turned off. Gearing ratios create speeds that range from 1/2 to over 2 inches per second. Standard models are mounted using two parallel pins and require only simple wiring and switches. They are self-contained, lubricated for life, and designed for use where rugged and durable performance is required for almost any lift-and-lower or push-and-pull application.

Gaskets and Seals
The motor and gear housing are completely gasketed with wires sealed to protect internal components from dirt, dust and moisture. AC units have seals appropriate for most indoor industrial applications. DC units have seals and O-rings appropriate for mobile applications or for indoor applications with high ambient moisture or contamination.
Ball Screw Driven Actuators...
designed for industrial and commercial applications requiring high load capacities.

- Overload clutch protects gearing and motor from excessive loads
- Load holding brake keeps loads stationary with power off
- Thermal overload in motors protects from excessive duty cycle
- Metal spur gears offer strength and durability
- Stainless steel extension tube protects against corrosion
- Dual seal and O-rings provide protection from external contaminants
- Sealed housing and motor protects wiring and internal components
- Ball bearing screws provide high efficiency motion
- Clevis mount for simple pin-to-pin mounting
- Load holding brake keeps loads stationary with power off
- Ball bearing screws provide high efficiency motion
- Stainless steel extension tube protects against corrosion
- Dual seal and O-rings provide protection from external contaminants
- Sealed housing and motor protects wiring and internal components
- Metal spur gears offer strength and durability
Acme Screw Driven Actuators...
designed for light to moderate duty applications.

- Clevis mount for simple pin-to-pin mounting
- Sealed housing and motor protect wiring and internal components
- Optional potentiometer provides positional feedback
- Overload clutch protects gears and motor from excessive loads
- Stainless steel extension tube protects against corrosion
- Wipers and O-rings provide double protection from contaminants
- Spring set anti-coast load holding brake
- Thermal overload in motors protects from excessive duty cycle
- Metal spur gears offer strength and durability
- End of travel limit switches provide automatic shut-off (Optional)
**Chute Control**
By extending or retracting the actuator, the gate controls the amount or mix of solid materials.

**Advantages**
- Remote operation without excessive plumbing
- Load holding with power off maintains chute setting without power required
- Optional feedback pot allows for accurate determination of gate/chute opening position

**Diverter Valve**
By extending or retracting the actuator, the diverter valve adjusts the direction of flow of solids, liquid materials or air flow.

**Advantages**
- Optional feedback allows for accurate positioning within the chute
- Seals and O-rings protect against material contamination
- Load holding with power off holds flow rate positions without providing constant power

**Ventilation Window**
A simple push button switch and an A-Track linear actuator eliminates the use of hard to manage, long hand crank window opening devices.

**Advantages**
- Remote control of position
- Easy to retrofit onto existing windows
- Holds position with power off

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**Advantages**
- Remote operation without excessive plumbing
- Load holding with power off maintains chute setting without power required
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By extending or retracting the actuator, the diverter valve adjusts the direction of flow of solids, liquid materials or air flow.

**Advantages**
- Optional feedback allows for accurate positioning within the chute
- Seals and O-rings protect against material contamination
- Load holding with power off holds flow rate positions without providing constant power

**Combination**
Positioning of unload auger spout can be easily achieved using simple push button control from the vehicle cab.

**Advantages**
- 12 volt DC units are powered directly from the vehicle electrical system
- DC units are sealed and gasketed for exposure to outdoor applications
- Electric actuators avoid potential leaks and loss of performance of hydraulic plumbing
- Load holding capability holds the load stationary with no power applied

**Barrel Lift**
An A-Track actuator can provide a simple and inexpensive solution for heavy or unstable load material handling. Actuators control the barrel position to allow for control of material flow.

**Advantages**
- Load holding with power off
- Simple and inexpensive positioning control
Mower Deck
Actuators provide lift capability of large mower decks to make cleaning, maintenance or replacement of blades simple and easy.

Advantages
• DC units are sealed and gasketed for exposure to outdoor applications
• Electric actuators avoid potential leaks and loss of performance of hydraulic plumbing
• Load holding capability keeps the load safely in position during maintenance operations

Sprayer Control
The actuator controls the position of the valve for a spray nozzle.

Advantages
• Holds the load when power is off so that valve stays in position
• DC units can be powered directly off of the battery for mobile equipment
• Actuator can be positioned to accurately position the control valve
• DC units include seals and O-rings appropriate for outdoor usage

Elevator Platform Lift
Material height can be adjusted directly to the best working height using the actuator. Lift table can operate directly (as shown below) or through a scissor lift.

Advantages
• Actuator holds load with the power off; static load holding capability is higher than move capability
• Overload clutch prevents damage due to excess weight
• Stop position can be varied at any point along the stroke of the unit

Wheelchair Platform
The actuator raises and lowers the platform to allow van access for those in wheelchairs. The battery powered system can provide for push button control for position control.

Advantages
• No pumps, air or hydraulic plumbing needed since the unit can operate off of the van battery
• If power is off, the actuator holds the load stationary
• Overload clutch protects the unit from a jammed platform or too much weight on the platform
A-Track Selection

Selection Procedure

Step 1 – Determine Load and Stroke length requirements
Use the Quick Selection guide on page 9 to identify the model family that will provide the load capacity and stroke length needed for your application.

Step 2 – Identify motor type and voltage
Select AC or DC motor and motor voltage from Quick Selection Guide.

Step 3 – Confirm Speed and Current draw requirements
Using the charts provided with each model family, confirm that unit speed and current draw is appropriate for the system design.

Step 4 – Confirm the application Duty Cycle
At full load capacity, actuators have a 25% duty cycle. Duty cycle is the amount of ‘on-time’ compared to cooling time. A unit that runs for 15 seconds should be off for 45 seconds.

Unit Restrictions
Side loading and shock loads must be considered in actuator applications. Side loading and cantilevered mounting should be eliminated through proper machine design. Side loading will dramatically reduce unit life. While actuators can withstand limited shock loads, it is recommended that shock loading be avoided wherever possible. (see page 21)

Step 5 – Unit Options
A-Track 1 units include end-of-travel limit switches as a standard feature. For all other units, limit switches are an option that can be factory installed. *For positional feedback, a 10K ohm potentiometer can be factory installed. The changing potentiometer value can provide unit movement feedback for units that are not visible to the machine operator.

*Limit switches are only available at the maximum load for each model.
# Quick Selection Guide

<table>
<thead>
<tr>
<th>Model</th>
<th>A-Track 1</th>
<th>A-Track 2</th>
<th>A-Track 5</th>
<th>A-Track 10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Lead Screw</strong></td>
<td>Acme Screw</td>
<td>Acme Screw</td>
<td>Acme Screw</td>
<td>Ball Screw</td>
</tr>
<tr>
<td><strong>Load Capacity (lbs.)</strong></td>
<td>25, 50, 100, 165</td>
<td>330, 500</td>
<td>330, 500</td>
<td>500, 1000, 1300</td>
</tr>
<tr>
<td><strong>Stroke Length (inches)</strong></td>
<td>2, 4, 6, 8, 10, 12</td>
<td>4, 8, 12, 18, 24</td>
<td>4, 8, 12, 18, 24</td>
<td>4, 8, 12, 18, 24</td>
</tr>
<tr>
<td><strong>Input Voltage</strong></td>
<td>12VDC</td>
<td>12VDC</td>
<td>115VAC</td>
<td>115VAC</td>
</tr>
<tr>
<td><strong>Limit Switches</strong></td>
<td>Standard (20:1 only)* (500 lb.)</td>
<td>(20:1 only)* (500 lb.)</td>
<td>(20:1 only)* (1300 lb.)</td>
<td>(20:1 only)* (1000 lb.)</td>
</tr>
<tr>
<td><strong>Feedback Potentiometer</strong></td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>

*20:1 ratio provides the maximum load capacity for each size unit.
The A-Track 1 family of units are completely self-contained and sealed to allow for use in small spaces without sacrificing power or capability. The load and length capabilities provide solutions for a diverse range of intermittent duty applications.

Functionally, the A-Track 1 actuators are easily interchanged with comparable size hydraulic or pneumatic cylinders on intermittent duty applications. The actuator provides consistent, repeatable performance even for applications with operating conditions including temperature extremes, high humidity, or significant dust.

### Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>25 pounds</th>
<th>50 pounds</th>
<th>100 pounds</th>
<th>165 pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Capacity</td>
<td>25</td>
<td>50</td>
<td>100</td>
<td>165</td>
</tr>
<tr>
<td>Speed at Full Load</td>
<td>1.75</td>
<td>0.85</td>
<td>0.45</td>
<td>0.25</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>12 or 24 volt DC for all models (36 volt optional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Static Load Capacity</td>
<td>300 pounds for all models</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke Length</td>
<td>2, 4, 6, 8, 10 and 12 inches for all models</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clevis Ends</td>
<td>6.4 mm diameter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duty Cycle</td>
<td>25% for all models</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation Temperature Range</td>
<td>-15°F to +150°F for all models</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limit Switch</td>
<td>Fixed end of stroke limit switches standard for all units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potentiometer</td>
<td>10K, 10 turn pot optional on all units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restraining Torque</td>
<td>20 inch pounds for all units</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Typical Applications

Light load and short distance applications such as:

- Valve and vent adjustments
- Light weight tilt or lift positioning
- Vise and clamp operations

### Features

- An Acme Screw drive delivers as much as 165 pounds of force at a minimum extension rate of 0.25 inches per second
- The aluminum zinc alloy housing resists corrosion and provides protection from dirt, dust and humidity
- The A-Track 1 has a temperature operating range of -15°F to +150°F
- Standard stroke lengths of 2, 4, 6, 8, 10, 12 inches are available
- Internal limit switches automatically shut off the unit at end of stroke
- Optional potentiometer can provide positional location feedback
### Performance Curves

#### Current vs Load

![Current vs Load graph]

#### Speed vs Load

![Speed vs Load graph]

### Dimensions

<table>
<thead>
<tr>
<th>Stroke Length</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retracted Length (without POT sensor)</td>
<td>6.22</td>
<td>8.23</td>
<td>10.24</td>
<td>12.24</td>
<td>14.25</td>
<td>16.26</td>
</tr>
<tr>
<td>Retracted Length (with POT sensor)</td>
<td>7.56</td>
<td>9.57</td>
<td>11.57</td>
<td>13.58</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### With Limit Switches and Potentiometer

![With Limit Switches and Potentiometer diagram]

### With Limit Switch

![With Limit Switch diagram]
A-Track 2

DC Motor Acme Screw
Up to 500 lbs. Load
Up to .98 in./sec. Speed

Features
- Sealed and gasketed for mobile or outdoor applications
- Overload clutch
- 4, 8, 12, 18 and 24 inch stroke lengths
- 12 or 24 volt DC motors
- Acme screw drive
- Thermal overload included in motor

Typical Applications
- Gate and valve positioning
- Tailgate lifts
- Mobile equipment spout positioning control

General Purpose DC Actuator
The A-Track 2 incorporates an Acme screw drive system that provides a strong value for moderate duty applications. The A-Track 2 includes lubrication for the life of the unit, which when combined with robust seal and o-ring design creates a maintenance free design even when used in applications with high humidity or dust.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>330 pounds</th>
<th>500 pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Capacity</td>
<td>330 lbs</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Speed at Full Load</td>
<td>0.98 in/sec</td>
<td>0.51 in/sec</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>12 or 24 volt for all models</td>
<td></td>
</tr>
<tr>
<td>Static Load Capacity</td>
<td>1000 lbs for all models</td>
<td></td>
</tr>
<tr>
<td>Stroke Length</td>
<td>4, 8, 12, 18 and 24 inches for all models</td>
<td></td>
</tr>
<tr>
<td>Clevis Ends</td>
<td>13 mm diameter</td>
<td></td>
</tr>
<tr>
<td>Duty Cycle</td>
<td>25% for all models</td>
<td></td>
</tr>
<tr>
<td>Operation Temperature Range</td>
<td>-15°F to +150°F for all models</td>
<td></td>
</tr>
<tr>
<td>Limit Switch</td>
<td>Optional adjustable travel limit switches (20:1 only) (500 lb.)</td>
<td></td>
</tr>
<tr>
<td>Potentiometer</td>
<td>Optional feedback potentiometer</td>
<td></td>
</tr>
<tr>
<td>Restraining Torque</td>
<td>100 inch pounds</td>
<td></td>
</tr>
<tr>
<td>Thermal Overload</td>
<td>Thermal overload included in all motors</td>
<td></td>
</tr>
</tbody>
</table>

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### Performance Curves

**Current vs Load**

![Graph showing current vs load for different capacities.](image)

**Speed vs Load**

![Graph showing speed vs load for different capacities.](image)

### Dimensions

<table>
<thead>
<tr>
<th>With Limit Switches</th>
<th>Stroke</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>12</th>
<th>18</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-Track 2</td>
<td>A</td>
<td>13.31</td>
<td>338</td>
<td>15.31</td>
<td>389</td>
<td>17.13</td>
<td>435</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>4.01</td>
<td>102</td>
<td>6.02</td>
<td>153</td>
<td>7.99</td>
<td>203</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Without Limit Switches</th>
<th>Stroke</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>12</th>
<th>18</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-Track 2</td>
<td>A</td>
<td>10.3</td>
<td>262</td>
<td>12.32</td>
<td>313</td>
<td>14.33</td>
<td>364</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>4.01</td>
<td>102</td>
<td>6.02</td>
<td>153</td>
<td>7.99</td>
<td>203</td>
</tr>
</tbody>
</table>

---

**Dimensions with Limit Switches**

**Dimensions without Limit Switches**

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**Performance Curves**

- **0** to **330** POUND CAPACITY
- **500** POUND CAPACITY

<table>
<thead>
<tr>
<th>Load (Pounds)</th>
<th>12 VDC (amps)</th>
<th>Speed (inches per second)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>5.1 (130)</td>
</tr>
<tr>
<td>120</td>
<td>2.2 (55.9)</td>
<td>2.5 (63.5)</td>
</tr>
<tr>
<td>240</td>
<td>4.2 (107)</td>
<td>4.0 (100)</td>
</tr>
<tr>
<td>360</td>
<td>6.4 (163.5)</td>
<td>0.96 (24.5)</td>
</tr>
</tbody>
</table>

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**Warner Electric**

800-234-3369
## A-Track 5 Acme

**AC Motor Acme Screw**
**Up to 500 lbs. Load**
**Up to .98 in./sec. Speed**

### Features
- 330 and 500 pound load capacity
- 115 volt AC (60hz) and 230 volt AC (50hz) motors available
- 4, 8, 12, 18 and 24 inch strokes
- Acme screw drive train
- Overload clutch
- Lubricated for life
- Capacitor included with motor

### Typical Applications
- Ergonomic lift tables
- Conveyor diverters
- Bin/tank cover lifts

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The A-Track 5 Acme actuator provides a general purpose Acme screw drive AC actuator with load capacities of 330 and 500 pounds for use in moderate duty interior applications.

---

### Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>330 pounds</th>
<th>500 pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Capacity</td>
<td>330 pounds</td>
<td>500 pounds</td>
</tr>
<tr>
<td>Speed at Full Load</td>
<td>0.98 in/sec</td>
<td>0.55 in/sec</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>115 VAC (60hz) and 230 VAC (50hz) for both models</td>
<td></td>
</tr>
<tr>
<td>Static Load Capacity</td>
<td>1000 pounds for all models</td>
<td></td>
</tr>
<tr>
<td>Stroke Length</td>
<td>4, 8, 12, 18 and 24 inches for all models</td>
<td></td>
</tr>
<tr>
<td>Clevis Ends</td>
<td>13 mm diameter</td>
<td></td>
</tr>
<tr>
<td>Duty Cycle</td>
<td>25% for all models</td>
<td></td>
</tr>
<tr>
<td>Operation Temperature Range</td>
<td>-15º F to +150º F for all models</td>
<td></td>
</tr>
<tr>
<td>Limit Switch</td>
<td>Optional adjustable travel limit switches (20:1 only) (500 lb.)</td>
<td></td>
</tr>
<tr>
<td>Potentiometer</td>
<td>Optional feedback potentiometer</td>
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</tr>
<tr>
<td>Restraining Torque</td>
<td>100 inch pounds</td>
<td></td>
</tr>
<tr>
<td>Thermal Overload</td>
<td>Thermal overload included in all motors</td>
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</tr>
</tbody>
</table>
A-Track 5 Acme

Performance Curves

Current vs Load

Speed vs Load

Dimensions

With Limit Switches

<table>
<thead>
<tr>
<th>Stroke</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>12</th>
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<tr>
<td>A-Track 5 Acme</td>
<td>in</td>
<td>mm</td>
<td>in</td>
<td>mm</td>
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<td>506</td>
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<td></td>
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</tr>
<tr>
<td>B</td>
<td>4.01</td>
<td>102</td>
<td>6.02</td>
<td>153</td>
<td>7.99</td>
<td>203</td>
</tr>
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</table>

Without Limit Switches

<table>
<thead>
<tr>
<th>Stroke</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>12</th>
<th>18</th>
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<tbody>
<tr>
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<td>in</td>
<td>mm</td>
<td>in</td>
<td>mm</td>
<td>in</td>
<td>mm</td>
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<tr>
<td>B</td>
<td>4.01</td>
<td>102</td>
<td>6.02</td>
<td>153</td>
<td>7.99</td>
<td>203</td>
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<td></td>
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</tbody>
</table>
A-Track 5 Ball Screw

AC Motor Ball Screw
Up to 1300 lbs. Load
Up to 1.89 in./sec. Speed

The A-Track 5 Ball Screw is a ball screw drive linear actuator for industrial and commercial applications. The unit provides load capacity up to 1300 pounds with either 110 volt or 220 volt AC motors. The Model 5 allows for stroke lengths of 4 to 24 inches of travel for in plant or protected applications.

### Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>500 pounds</th>
<th>1000 pounds</th>
<th>1300 pounds</th>
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</thead>
<tbody>
<tr>
<td>Load Capacity</td>
<td>500 lbs</td>
<td>1000 lbs</td>
<td>1300 lbs</td>
</tr>
<tr>
<td>Speed at Full Load</td>
<td>1.89 in/sec</td>
<td>0.98 in/sec</td>
<td>0.47 in/sec</td>
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<tr>
<td>Input Voltage</td>
<td>115 VAC (60Hz) / 230 VAC (50Hz)</td>
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<td></td>
</tr>
<tr>
<td>Static Load Capacity</td>
<td>3050 lbs for all models</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke Length</td>
<td>4, 8, 12, 18 and 24 inches</td>
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<td></td>
</tr>
<tr>
<td>Clevis Ends</td>
<td>13 mm diameter</td>
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</tr>
<tr>
<td>Duty Cycle</td>
<td>25% for all models</td>
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<tr>
<td>Operation Temperature Range</td>
<td>-15º F to +150º F for all models</td>
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<td></td>
</tr>
<tr>
<td>Limit Switch</td>
<td>Optional for all models (20:1 only) (1300 lbs.)</td>
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</tr>
<tr>
<td>Potentiometer</td>
<td>Optional for all models</td>
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</tr>
<tr>
<td>Restraining Torque</td>
<td>100 in. lbs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal Overload</td>
<td>Overload clutch and motor thermal overload</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Typical Applications

- Ergonomic lift tables
- Conveyor diverters
- Bin or tank cover lifts
- Die transfer carts
A-Track 5 Ball Screw

Performance Curves

Current vs Load

Speed vs Load

Dimensions

With Limit Switches

<table>
<thead>
<tr>
<th>Stroke</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>12</th>
<th>18</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>17.95</td>
<td>19.92</td>
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<td>25.91</td>
<td>31.89</td>
<td>37.87</td>
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<td>6.02</td>
<td>7.99</td>
<td>12.00</td>
<td>17.99</td>
<td>24.01</td>
</tr>
</tbody>
</table>

Without Limit Switches

<table>
<thead>
<tr>
<th>Stroke</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>12</th>
<th>18</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>14.96</td>
<td>16.97</td>
<td>18.94</td>
<td>22.95</td>
<td>28.94</td>
<td>34.92</td>
</tr>
<tr>
<td>B</td>
<td>4.01</td>
<td>6.02</td>
<td>7.99</td>
<td>12.00</td>
<td>17.99</td>
<td>24.01</td>
</tr>
</tbody>
</table>

Warner Electric  800-234-3369
A-Track 10

DC Motor Ball Screw
Up to 1000 lbs. Load
Up to 1.35 in./sec. Speed

The A-Track 10 actuator is a DC motor driven, ball screw design actuator suitable for applications requiring maximum load capacity. The A-Track 10 incorporates seals and o-rings to provide protection when used in outdoor, mobile or ambient contamination environments. This unit includes a load holding brake to provide stationary load holding while still providing the efficiency of a ball screw design actuator. The Model 10 provides load capacities up to 1000 pounds with stroke lengths to 24 inches.

Typical Applications
- Heavy duty platform lifts
- Deck and implement lifts for tractors and mobile applications
- Wheelchair and scooter lifts
- Bin and tank cover lifts

Features
- Protective seals and O-ring design
- Efficient ball screw drive system
- Load holding brake
- Overload clutch
- 4 to 24 inch stroke lengths
- 500 to 1000 pound load capacities
- Thermal overload incorporated into the motor

Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>500 pounds</th>
<th>750 pounds</th>
<th>1000 pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Capacity</td>
<td>500 lbs</td>
<td>750 lbs</td>
<td>1000 lbs</td>
</tr>
<tr>
<td>Speed at Full Load</td>
<td>1.35 in/sec</td>
<td>0.85 in/sec</td>
<td>0.51 in/sec</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>12 or 24 volt DC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Static Load Capacity</td>
<td>3000 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke Length</td>
<td>4, 8, 12, 18 and 24 inches for all models</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clevis Ends</td>
<td>.51 in. / 13mm</td>
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<td></td>
</tr>
<tr>
<td>Duty Cycle</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation Temperature Range</td>
<td>-15º F to +150º F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limit Switch</td>
<td>Optional for all models (20:1 only) (1000 lbs.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potentiometer</td>
<td>Optional for all models</td>
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</tr>
<tr>
<td>Restraining Torque</td>
<td>100 in. lbs.</td>
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<td></td>
</tr>
<tr>
<td>Thermal Overload</td>
<td>Overload clutch and motor thermal overload for all models</td>
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</table>
A-Track 10

Performance Curves

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**Current vs Load**

<table>
<thead>
<tr>
<th>Stroke</th>
<th>4 in</th>
<th>6 in</th>
<th>8 in</th>
<th>12 in</th>
<th>18 in</th>
<th>24 in</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>14.88</td>
<td>16.89</td>
<td>19.88</td>
<td>22.83</td>
<td>31.89</td>
<td>37.87</td>
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<tr>
<td>B</td>
<td>3.86</td>
<td>5.90</td>
<td>7.91</td>
<td>11.89</td>
<td>17.99</td>
<td>24.01</td>
</tr>
</tbody>
</table>

---

**Speed vs Load**

---

**Dimensions**

With Limit Switches

<table>
<thead>
<tr>
<th>Stroke</th>
<th>4 in</th>
<th>6 in</th>
<th>8 in</th>
<th>12 in</th>
<th>18 in</th>
<th>24 in</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>11.89</td>
<td>13.90</td>
<td>15.90</td>
<td>19.88</td>
<td>28.94</td>
<td>34.92</td>
</tr>
<tr>
<td>B</td>
<td>3.86</td>
<td>5.90</td>
<td>7.91</td>
<td>11.89</td>
<td>17.99</td>
<td>24.01</td>
</tr>
</tbody>
</table>

---

Without Limit Switches

<table>
<thead>
<tr>
<th>Stroke</th>
<th>4 in</th>
<th>6 in</th>
<th>8 in</th>
<th>12 in</th>
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<td>11.89</td>
<td>13.90</td>
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<td>5.90</td>
<td>7.91</td>
<td>11.89</td>
<td>17.99</td>
<td>24.01</td>
</tr>
</tbody>
</table>

---

Warner Electric  800-234-3369
A-Track Configurator

Actuator Part Number Configurator

**Actuator Model No.**
- 01 = A-Track 1
- 02 = A-Track 2
- 05 = A-Track 5
- 10 = A-Track 10

**Motor Voltage**
- D012 = 12 volt DC
- D024 = 24 volt DC
- D036 = 36 volt DC
- A115 = 115 volt AC
- A230 = 230 volt AC

**Load Capacity**
- 0025 = 25 pounds
- 0050 = 50 pounds
- 0100 = 100 pounds
- 0165 = 165 pounds
- 0330 = 330 pounds
- 0500 = 500 pounds
- 0550 = 550 pounds
- 0750 = 750 pounds
- 1000 = 1000 pounds
- 1300 = 1300 pounds

*Not all load ratings are standard for all units. Consult catalog for details.*

**Screw Type**
- A = Acme Screw
- B = Ball Screw

**Limit Switch Options**
- L = Limit switches included
- N = No Limit switches
- S = Special Limit switches included

**Potentiometer**
- P = With Potentiometer
- N = No Potentiometer
- S = Special Potentiometer option

**Stroke Length (inches)**
- 02 = 2 inches
- 04 = 4 inches
- 06 = 6 inches
- 08 = 8 inches
- 10 = 10 inches
- 12 = 12 inches
- 18 = 18 inches
- 24 = 24 inches

*Not all stroke lengths are standard on all units. Consult unit page for details.*

**Modifications=0000**
Modified products may have designations assigned by the factory for 1000, 2000 or 3000 series modifications. For standard product, leave blank.

**Example:**
01  – D012  – 0025  – A 02  – L  P  0000
A-Track Mounting

Warner Electric linear actuators are quickly and easily mounted by slipping pins through the holes at each end of the unit and into the brackets on the machine frame and load to be moved.

.51 in. diameter solid pins provide maximum holding capability. Use of a retaining ring or cotter pin on each end will prevent the solid pin from falling out of the mounting bracket (it is best to avoid roll pins and spring pins).

Mounting pins must be parallel to each other as shown above. Pins which are not parallel can cause excess vibration or binding.

Loads should act along the axis of the actuator. Off-center loads may cause binding and lead to premature unit failure.

Ensure that mounting pins are supported at both ends. Cantilevered mounting is unacceptable. Failure to provide proper support will shorten unit life.

Do not attempt to mount A-Track actuators by the cover tube. The tube is not designed to support the forces required for tube mounting.

The actuator mounting supports must be capable of withstanding the load and torque developed when the unit extends or retracts. Restraining torque values are also provided with the details on each unit.

A-Track 1
Torque created 20 inch pounds

All others
Torque created 100 inch pounds
A-Track Glossary

Axial load
A load along the axis of the actuator screw (see figure 1).

Back drive
Force applied on a ball bearing nut that causes rotational torque to reverse direction. A force sufficient to cause a unit to reverse direction.

Cantilevered mount
A mounting where the mounting pin is not supported on both sides. Cantilevered mounts are common causes of failure (see figure 2).

Clevis mount
A U-shaped metal piece that has the ends drilled to accept a pin or bolt (see figure 3).

Compression load
Compression loading will press on the unit (see figure 4).

Cover tube
The outer tube or cover that encloses the screw and extension tube for an actuator.

Current vs. load
The load on the motor is measured by amperes (current). Current draw will increase as load increases.

Cycle
Movement from a fully retracted to fully extended position and back to fully retracted.

Duty cycle
The amount of ‘on-time’ vs total time. A 25% duty cycle means that a unit operates for 10 seconds out of 40 seconds, or 4 seconds out of 16 seconds.

Eccentric load
An off-center load which may cause binding and shorten actuator life (see figure 5).

End play
The amount of backlash or movement between the extension tube and the body of the actuator.

Extension rate
The rate of speed at which the actuator extends or retracts. This will vary based on loading (impact of load on speed is greater on DC units than on AC units).

Efficiency
Ratio of input power to output power.

Extended length
The overall length of the actuator from the center of the rear clevis to the center of the extension tube pin hole when the unit is at full extension (see figure 6).
Load
The force, measured in pounds, that is applied as an axial load on the actuator.

Load holding
The ability of the actuator to hold a load stationary when power is off.

Peak load
The maximum dynamic load that will be applied to the actuator, or that the actuator is capable of moving.

Pin mount
The use of a dowel or pin through the hole in the clevis mount (on the rear of an actuator) or the extension tube (on the front of an actuator) (see figure 7).

Radial load
A load applied to the side of the extension tube or across the body of the actuator. Normally radial loading will have a negative impact on unit life (see figure 8).

Restraining torque
The torque required to prevent torque within the unit from causing rotation on the body or extension tube of the unit (see figure 9).

Retracted length
The overall length of the actuator from the center of the rear clevis to the center of the extension tube pin hole when the unit is at full retracted position (see figure 10).

Side load
See radial loading (see figure 8).

Static load
The maximum non-operating (or non-moving) load. Static load is the load holding capability of an actuator.

Tension load
A load that will tend to pull on the unit (see figure 11).

Thermal overload
A switch within the motor that will open if the motor exceeds a predetermined heat level.
A-Track Application Data Form

Mail or Fax to:

Warner Electric
Application Engineering
449 Gardner Street, South Beloit, Il 61080

FAX: 815-389-6678
Phone: 800-825-9050

Date ________________________________

Company ______________________________________

Address ______________________________________

City __________________ State ______ Zip ____________

Name ______________________________________

Title ______________________________________ Phone (___) _____________________________

Basic Application

Load _____ lbs. Environment ___ clean ___ damp
Side Load _____ lbs. ___ oil splash ___ outdoors
Speed ___ Inches per second
Duty Cycle ____ % of running time vs. still time Power available ___ VAC
Stroke ____ Inches ___ VDC
Life ____ Inches Quantity ___

Drawing of Application

---