ALTRA INDUSTRIAL MOTION

Electric Actuators and Actuator Controls

Warner® Linear

An Altra Industrial Motion Company

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eCatalog at warnerlinear.com

Selecting the right product for your application is fast and easy with these useful features...

- Utilize specification filters to instantly narrow your search
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- Request a customized part by entering changes to various standard specification values
- Submit an RFQ to a local distributor from a list provided or search for the local Warner Linear Area Sales Manager
- View your cart to check part selections, edit your profile, change your password, and view saved carts
- Search for a specific part number
- Data provided in both Imperial and Metric
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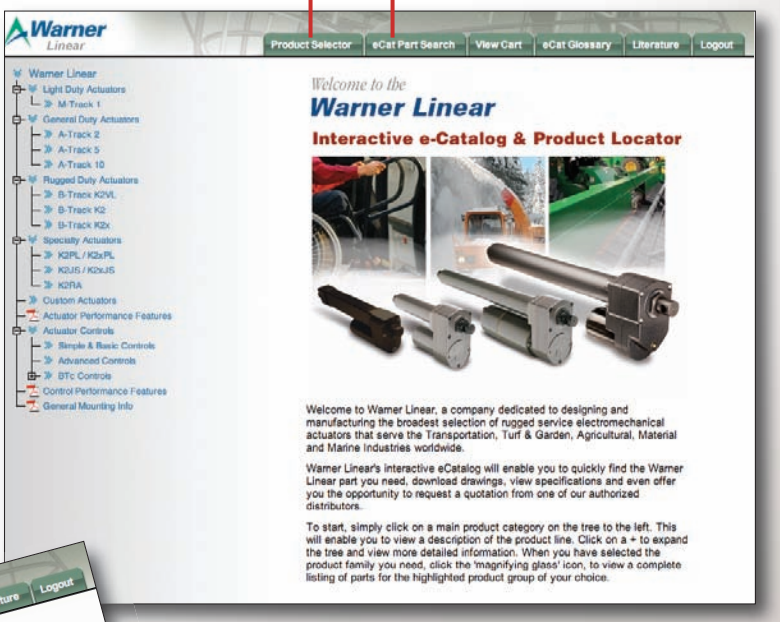
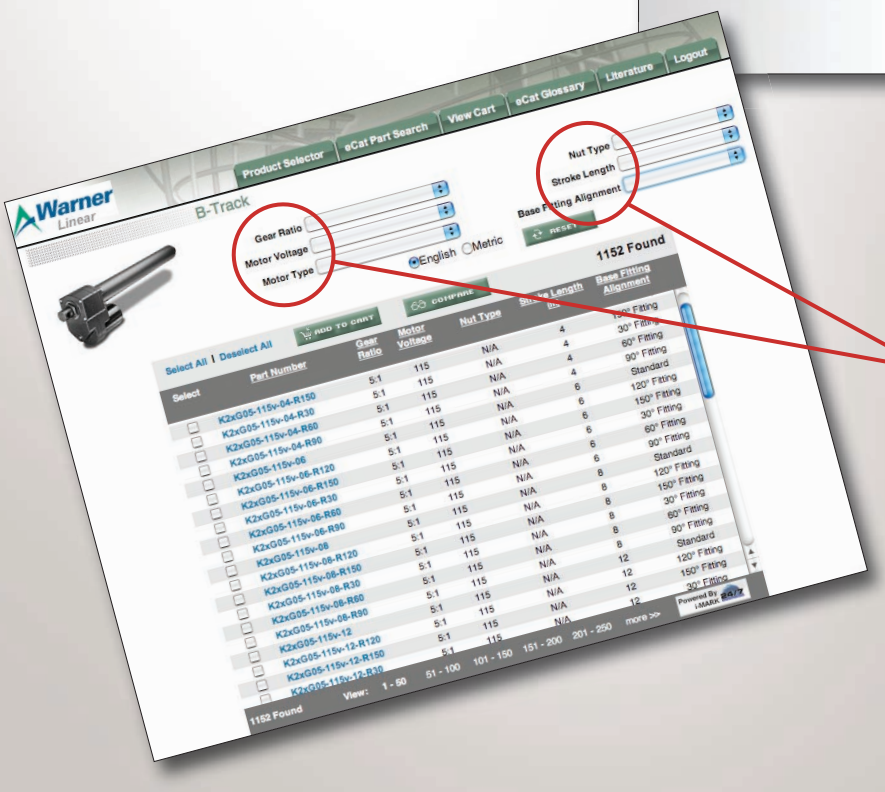
Click on the Product Selector tab to start your search

You can also search by entering a product part number or description





Refine your search criteria with specification filters including:

- Gear Ratio
- Motor Voltage
- Motor Type
- Nut Type
- Stroke Length
- Base Fitting Alignment

Warner Linear...
Customer Focused, Quality Driven

Products designed and manufactured for reliable, long-lasting performance

Quality Processes

Warner Linear is dedicated to designing and manufacturing "Best-in-class" electromechanical actuators and controls.

We subscribe to a standard of quality derived from the Altra Business System (ABS), a series of progressive manufacturing methods designed to continuously improve production within our flexible work cell environment.

Our quality starts in product design. It is demonstrated in the attention given to design details and the refinement of prototypes. It is apparent in our fast response to requests for quotes, and our strict adherence to deadlines in every stage of the work flow.

Design and Testing

Our application engineers and design specialists work closely with our customers to define both lab and field testing requirements.

Our solid model design capabilities, computer assisted testing, and manufacturing floor pre-shipment cycle test, all provide assurance that your Warner Linear actuators will meet or exceed your expectations (for application and technical service call 1-800-825-9050).

Our linear actuator testing capabilities include dual load life cycling stands, low and high pressure wash down test tanks, lift test stands and thermal shock submersion. Our test service providers add material analysis, noise and vibration evaluation capabilities.

Custom Solutions

We recognize how critical our actuators are to the overall performance of your equipment. Working closely with your engineering and development staff, we strive for an early understanding of how you want your linear actuator to perform.

Building a direct communication line from our engineer to your engineer provides a number of significant benefits.

- A teaming of creative resources.
- Joint understanding of our actuator capabilities and how they can be tailored to your application.
- An understanding of the lowest cost solution to meet your actuator requirements.
- Providing a complete solution that includes controls as required.

Contents

Linear actuators to meet your specific requirements

Warner Linear offers a full line of standard electric actuators, each specifically designed to meet the needs of light-duty, general-duty, or rugged-duty applications. All are engineered for maintenance-free, long-life service, providing maximum value for our customers.

QUICK SELECTION GUIDE

Light Duty

M-Track 1

Compact, completely self-contained and sealed to allow for use in small spaces without sacrificing power or capability.

Drive Type:
Acme Screw

Load Capacity & Speed (lbs. @ in./sec.):
25 @ 1.75
50 @ 0.85
100 @ 0.45
165 @ 0.25

Stand. Stroke Length (in.):
2, 4, 6, 8, 10, 12

Input Voltage (vdc):
12, 24

Typical Applications:
Throttle Control
Air Vent Opening
Remote Window Operation
Remote Mirror Positioning
Gate Opening
Shutter Control

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General Duty

B-Track K2VL

Intended for severe service requirements and loads up to 600 lbs. Lowest priced model in the B-Track family.

Drive Type:
Hybrid Acme

Load Capacity & Speed (lbs. @ in./sec.):
200 @ 2.0
300 @ 1.0
600 @ 0.5

Stand. Stroke Length (in.):
2 to 12 in 2" increments

Input Voltage (vdc):
12, 24

Typical Applications:
Fertilizer Gate Control
Mower Decks
Gate Openers
Scooter & Cycle Lifts
Pull Behind Implement Lifts

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Actuator Controls

Simple extend/retract switch boxes

- SBC-DC
- SBC-AC

Basic controls and digital electronic options

- Adjustable stroke limits
- Fixed electronic stroke limits – ESL
- QS Quick Stop bi-directional current limit control
- Position feedback options – potentiometer or digital outputs

Microprocessor based controls (available for special needs)

- Signal Follower Function
- Programming pendant
- Adjustable position and current limit options
- Remote mounting capable

Rugged Duty

B-Track K2

Uses a patented straight line load transfer offering high load capability in a small package size. Bronze or Delrin® nut options available for high impact load applications (up to 1,500 lbs.).

Drive Type:
Hybrid Acme

Load Capacity & Speed (lbs. @ in./sec.):
300 @ 2.0
600 @ 1.0
1200 @ 0.5
1500 @ 0.35

Stand. Stroke Length (in.):
2 to 24 in 2" increments

Input Voltage (vdc):
12, 24, 48, 90

Typical Applications:
Residential Mower Decks
Gate & Valve Operation
Snow Blowers
Spouts & Chutes
Engine Lifts
Tables
Wagon Lifts
Combine Concaves

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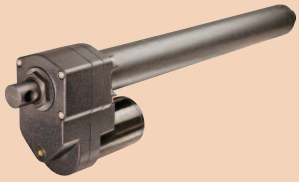

B-Track K2x

Completely sealed, designed for tough, high load applications. Able to perform in harsh environments providing years of trouble-free service.

Drive Type:
Ball Screw & Ball Nut

Load Capacity & Speed (lbs. @ in./sec.):
600 @ 2.0
1200 @ 1.0
2200 @ 0.5
2800 @ 0.25

Stand. Stroke Length (in.):
2 to 24 in 2" increments

Input Voltage (vdc):
12, 24, 48, 90

Typical Applications:
Paving Outriggers
Commercial Mower Decks
Spray Booms
ATV Dump Box Lifts
Boat Engine Lifts
Hydraulic Cylinder Replacement
Construction Equipment
Hood Lifts

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B-Track K2AC

Uses a patented straight line load transfer offering high load capability in a small package size. Bronze or Delrin® nut options available for high impact load applications (up to 1,500 lbs.).

Drive Type:
Hybrid Acme

Load Capacity & Speed (lbs. @ in./sec.):
500 @ 2.0
1000 @ 1.0
1500 @ 0.33

Stand. Stroke Length (in.):
4 to 24 in 2" increments

Input Voltage (vac):
115, 230

Typical Applications:
Engine Lifts
Tables
Indoor Applications
Machine Tools
Egg Rotation

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B-Track K2xAC

Completely sealed, designed for tough, high load applications. Able to perform in harsh environments providing years of trouble-free service.

Drive Type:
Ball Screw & Ball Nut

Load Capacity & Speed (lbs. @ in./sec.):
500 @ 2.0
1000 @ 1.0
1500 @ 0.5
2200 @ 0.33

Stand. Stroke Length (in.):
4 to 24 in 2" increments

Input Voltage (vac):
115, 230

Typical Applications:
Indoor Applications
Machine Tools
HVAC
Hood Lifts
Tables

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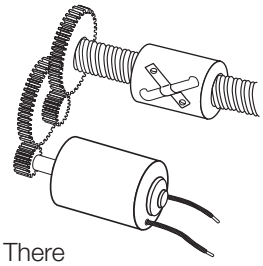
Performance Features

Warner Linear Actuators are available for a wide variety of applications.

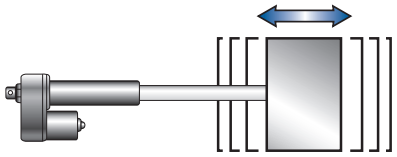
- Golf Cart Height Adjust
- Mower Blade Lift
- Solar Panel Adjust
- 55 Gallon Drum Lift
- Fire Engine Valve Adjust
- Automated Dumpster
- Scissor Lift Table
- Round Baler Cover Lift
- Walk Behind Floor Washer
- Bulldozer Engine Cover
- Air Foil Adjust
- Construction Sign Positioning
- Forage Harvester Spout Positioning
- Combine Spout Positioning
- Adjustable Height Work Table
- Conveyor Lateral Guide Positioning
- Street Sweeper Bristle Lift
- RV/Bus Compartment Extension

Dependable Operation



Compact design
A Warner Linear actuator with a two inch stroke can provide up to 2800 pounds of force capacity in a compact package.

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.

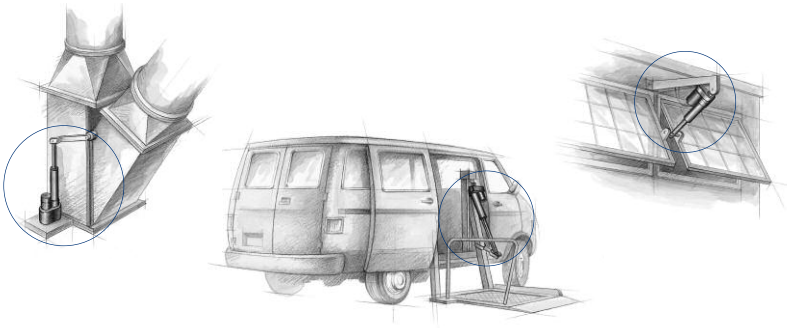


Equal capacity in both directions
Warner Linear actuators can push-and-pull or lift-and-lower loads ranging from one pound to over 2800 pounds up to 24 inches with equal capacity in both directions of travel.

Efficient operation
Warner 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
Warner 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.

Advantages
- No hydraulic pumps, hoses, valves, or leaks
- Holds load when power is off
- Overload clutches prevent damage due to excess weight
- Simple to install and use
- Easily adaptable for position control
- Integrated sensors provide electrical position signals



Rugged and reliable

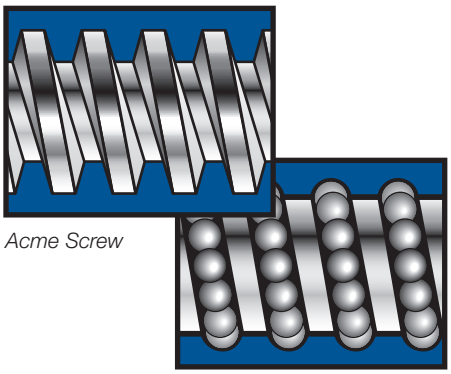
Warner Linear actuators incorporate high strength, high quality components and are designed to assure trouble-free service. Rugged spur gearing, industrial quality synthetic lubricants and high performance motors combine to provide maximum capability and value for the end user. Units are gasketed and sealed for operation in industrial and mobile outdoor applications. Thermal overload switches are included for motor protection; and high performance corrosion protection features are standard.

Energy efficient

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

Lead screw drive systems

Warner Linear actuators use either acme, hybrid rolled, or highly efficient ball bearing screws. Models which use acme or hybrid rolled screws with bronze or plastic nuts will not backdrive when power is off. A bi-directional load holding brake is a standard feature on all ball bearing units and holds loads in position when power is off.



Acme Screw

Ball Screw

Overload protection

Motors incorporate thermal switches in their windings to shut the actuator motor off in case of overheating or high overcurrent. Reset is automatic after the motor has cooled. A standard overload clutch detents if the load is excessive or reaches end of stroke.

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

Versatile

With their compact size, Warner Linear actuators can be located in confined areas, and move loads from 0 to 2800 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 0.3 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.

Available customized features

- Direct drive manual override
- Mounting and end fitting variations
- DC Motor voltage variations
- AC and DC motor options
- Motor lead wire connectors
- End of stroke limit switches – fixed or adjustable
- Position feedback outputs (0-10vdc scaled) – potentiometer and digital

Also available

- Basic switch box controls
- Integrated electronic position controls

M-Track Features

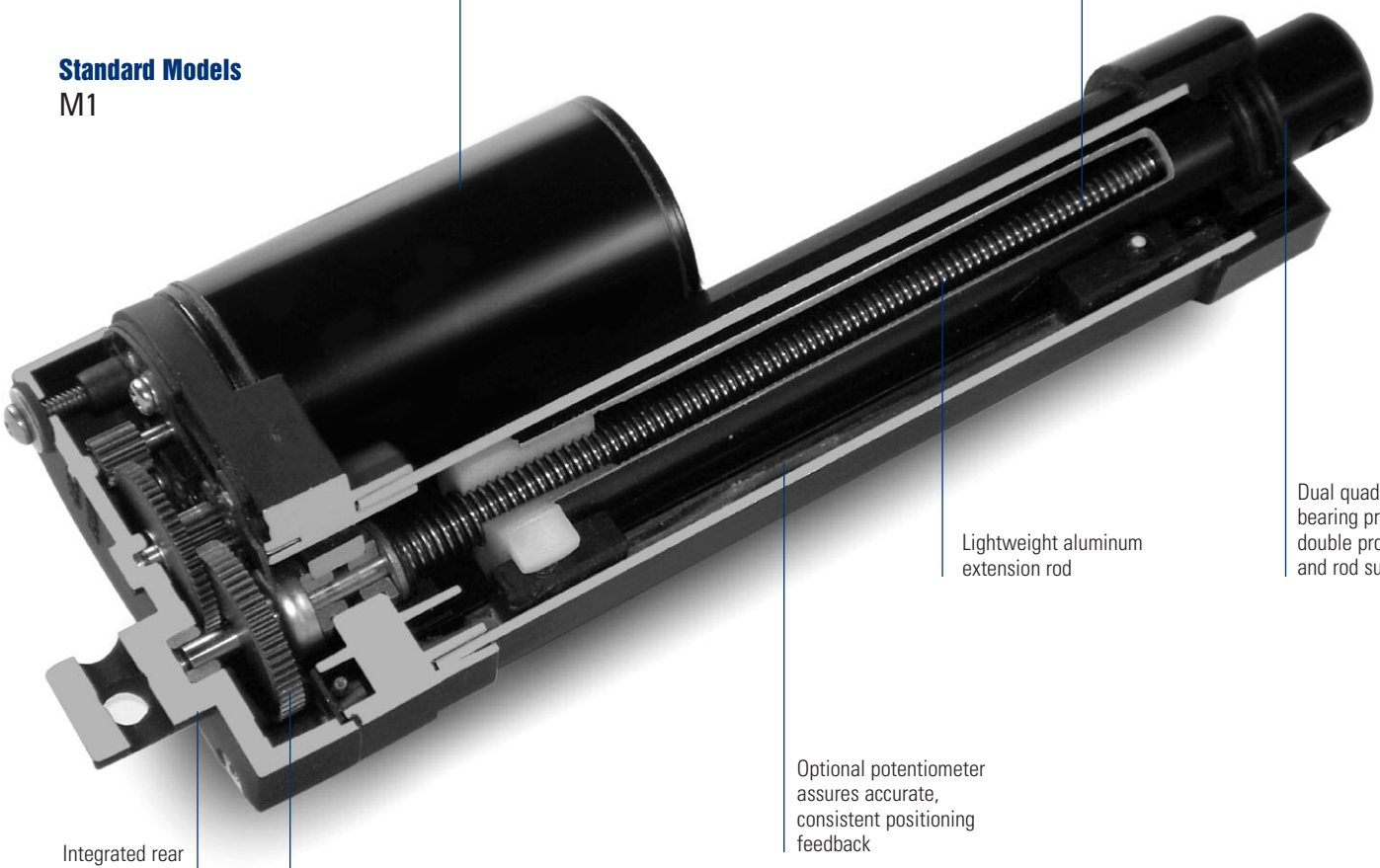
Light Duty Actuators

Key Features

- Compact size
- Efficient design
- Easy to use and install

Standard Models

M1



How To Select

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

Step 2 – Identify motor type and voltage
Select DC motor and motor voltage.

Step 3 – Confirm Speed and Current draw requirements
Using the charts provided, confirm that unit speed and current draw is appropriate for the intended use.

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.

Important 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 45)

Step 5 – Unit Options
M-Track units include end-of-travel limit switches as a standard feature. For positional feedback, a 12K linear membrane potentiometer can be factory installed. The changing potentiometer value provides unit movement feedback for units that are not visible to the machine operator.

Actuator Model No.
M1 = M-Track 1

Motor Voltage Options
D012 = 12 volt DC
D024 = 24 volt DC

Potentiometer
P = With Potentiometer
N = No Potentiometer

Limit Switch Options
L = Limit switches included

Model No.	Voltage	Load Capacity	Screw Type	Stroke Length	Limit Switch	Potentiometer
M1	– D012	– 0025	– A	02	– L	N

Load Capacity
0025 = 25 pounds
0100 = 100 pounds
0165 = 165 pounds

Note: *Not all load ratings are standard for all units. Consult unit page for details.*

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

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

Screw Type
A = Acme Screw

M-Track 1

DC Motor Acme Screw

Up to 165 lb. Rated Load
Up to 1.75 in./sec. Travel Speed

M-Track 1 compact units are completely self-contained and sealed to allow 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, M-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.

Features

- An Acme Screw drive delivers up to 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 M-Track 1 has a temperature operating range of –15º to +150º 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
- IP65 capable on request
- Rod is non rotating during operation, can be rotated for mounting purposes

Typical Applications

Light load and short distance applications such as:

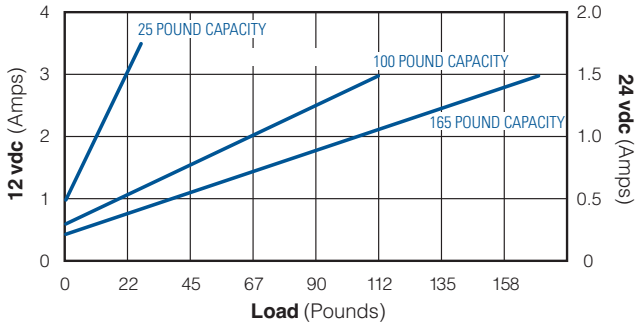
- Valve and vent adjustments
- Light weight tilt or lift positioning
- Vise and clamp operations

Specifications

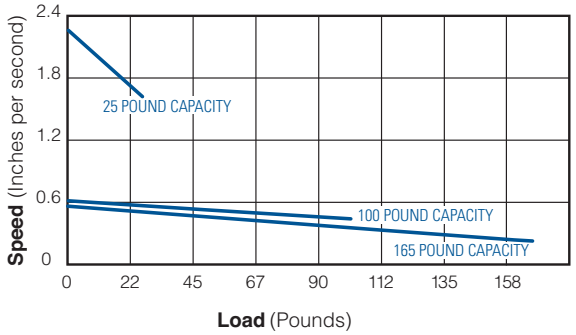
Load Capacity	25 pounds	100 pounds	165 pounds
Speed at Full Load	1.75 in/sec	0.45 in/sec	0.25 in/sec
Input Voltage	12 or 24 volt DC for all models		
Static Load Capacity	300 pounds for all models		
Stroke Length	2, 4, 6, 8, 10 and 12 inches for all models		
Clevis Ends	.25in./6.4 mm diameter		
Duty Cycle	25% for all models		
Operation Temperature Range	-15º F to +150º F for all models		
Limit Switch	Fixed end of stroke limit switches standard for all units		
Potentiometer	Linear membrane potentiometer optional on all units		

Performance Curves

Current vs Load

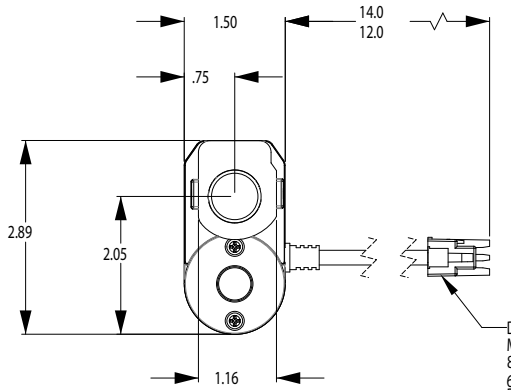


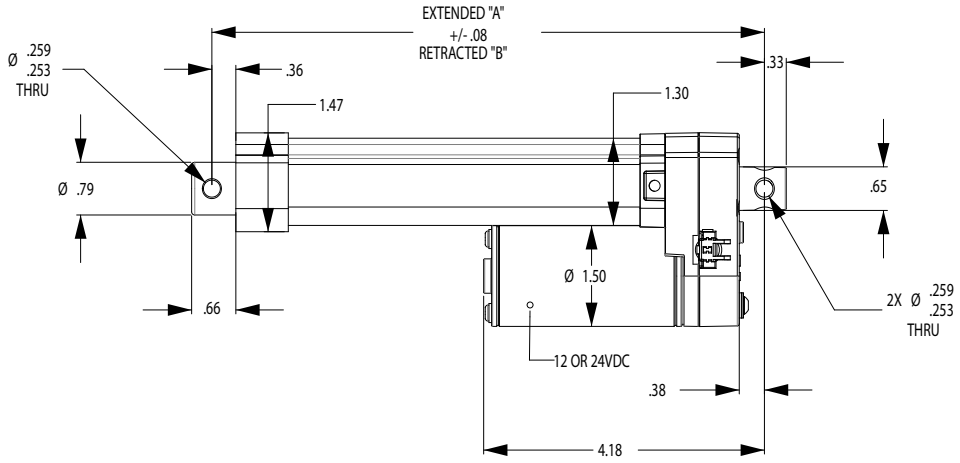
Speed vs Load



Dimensions

Stroke Length	2		4		6		8		10		12	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
Retracted Length (without POT sensor)	6.22	158	8.23	209	10.24	260	12.24	311	14.25	362	16.26	413
Retracted Length (with POT sensor)	7.55	192	9.57	243	11.57	294	13.58	345	N/A	N/A	N/A	N/A





B-Track Features

Rugged Duty Actuators

Key Features

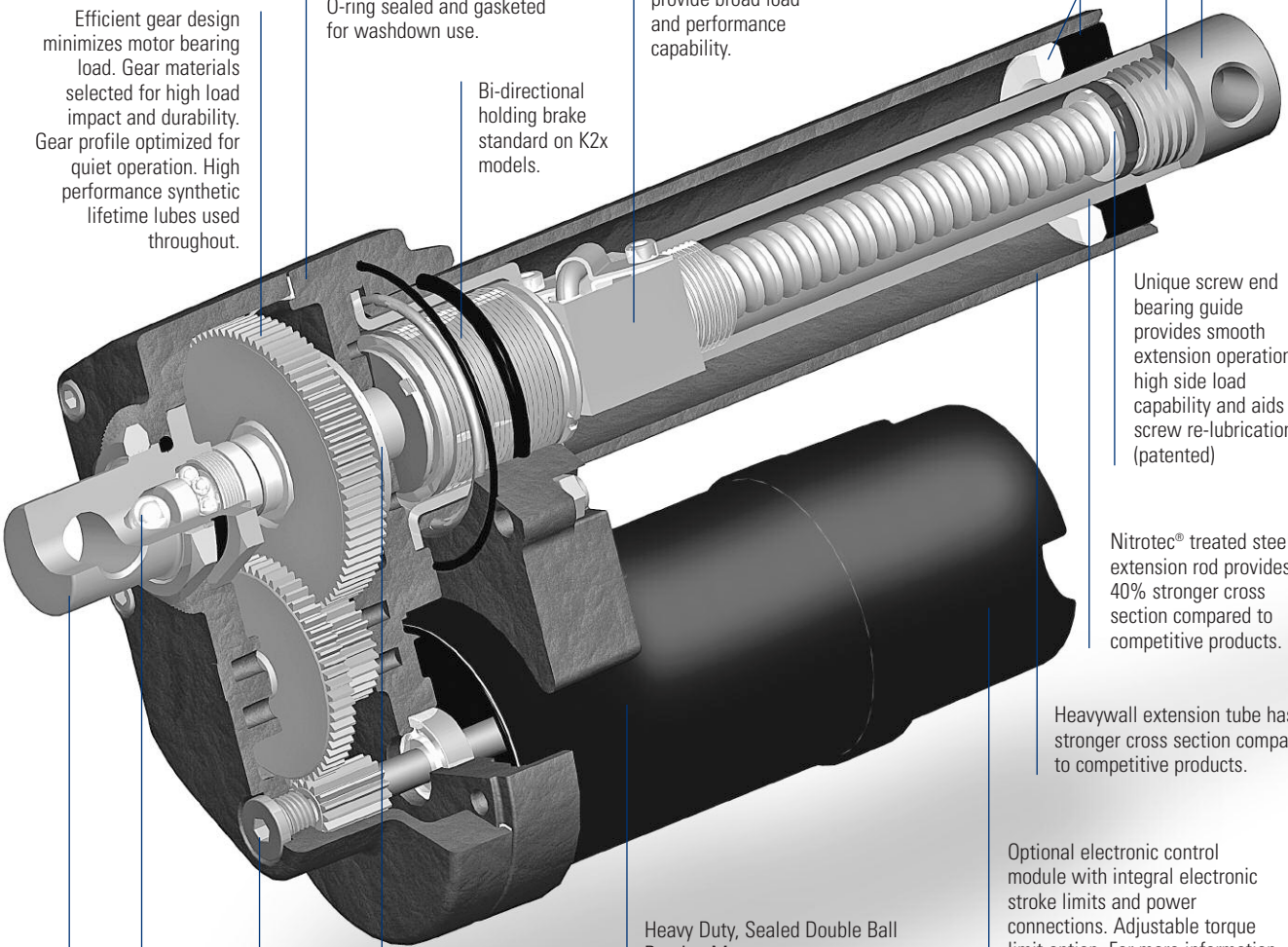
- Weather-tight sealed
- Patented in-line load transfer
- Heavy wall rod and cover tube
- High performance motors
- Up to 2,800 lb. capacity

Standard Models

K2VL, K2, K2X, K2AC, K2XAC

Option Models

K2PL/K2XPL
K2JS/K2XJS
K2RA



How To Select

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

Step 2 – Determine Gear Ratio
Select gear ratio from performance curves for allowable current draw and needed load.

Step 3 – Identify motor type and voltage
Select DC motor and motor voltage.

Step 4 – Motor Type
Select M for ignition protected motor. Select needed motor voltage.

Step 5 – 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.

Step 6 – Select Nut Type
Select nut for unit selected. (K2x are all ball bearing).

Step 7 – Select Stroke Length
Choose standard lengths from chart. For special length consult factory.

Step 8 – Select end fitting orientation
Leave blank for standard orientation.

Important 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 45)

Actuator Model
K2x
K2
K2VL

Gear Ratio
G30 = 30:1
G20 = 20:1
G10 = 10:1
G05 = 5:1

Stroke Length
04 = 4.00
06 = 6.00
08 = 8.00
12 = 12.00
18 = 18.00
24 = 24.00

Base Fitting Alignment
R30 = 30° Fitting
R60 = 60° Fitting
R90 = 90° Fitting
R120 = 120° Fitting
R150 = 150° Fitting
Blank = Standard

Model No.	Control Model	Gear Ratio		Motor Voltage	Motor Type		Nut Type		Stroke Length		Base Fitting Alignment
K2x	Px.x	G20	–	12V	M	–	BR	–	04	–	R120

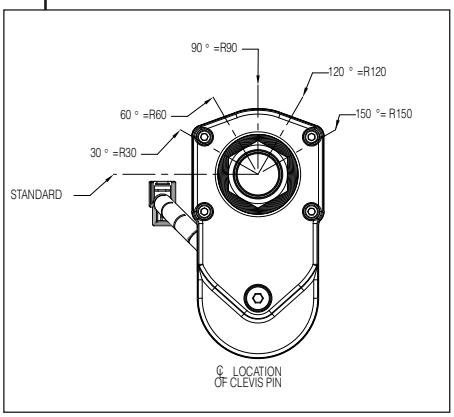
Control Model
P1.x Fixed Limit Switch
P2.x
EP1.x Adjustable Limit Switches
(K2VL Not Available)

Note: See control pages for full listing of model numbers.

Motor Voltage
12V = 12 volts
24V = 24 volts
36V = 36 volts
48V = 48 volts
90V = 90 volts
115V = 115 volts AC
230V = 230 volts AC

Nut Type*
BR = Bronze Nut
BRL = Bronze Nut - Long
DN = Delrin® Nut
*Leave blank for K2x

Motor Type
M = Ignition Protected Motor
For standard motor, leave blank.



B-Track K2VL

General Duty Actuator
DC Motor Acme Screw

Up to 600 lbs. Rated Load
Up to 2.7 in./sec. Travel Speed

This value model of the B-track family is well suited for the toughest applications not needing the full load capability of standard K2 models. The K2VL uses a flange bronze bearing configuration for internal load transfer, offering the lowest cost while maintaining the rugged-duty performance capabilities of the B-track family.

K2VL units feature Nitrotec® corrosion protection on end fittings and rods, high performance powder coat paint on cover tubes and gear box covers, providing a totally sealed, weatherproof, and durable finish for years of trouble-free service.

Features

- Protective coatings and O-ring seals throughout
- Hybrid nut and screw design, no brake needed
- Ball detent overload clutch
- 2 to 12 inch stroke lengths
- Up to 600 pound load capacities
- Speeds up to 2.7 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors
- Heat treated gears
- Rugged extension rod bearing support
- Custom mounting options available

Typical Applications

- Flow gate open/close
- Deck and implement lifts for tractors and mobile applications
- Wheelchair and scooter lifts
- Bin and tank cover lifts
- Remote engine clutch engagement

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
  - 50% max on-time/50% off-time for loads up to 50% of capability
  - 25% max on-time/75% off-time for loads between 50%-80% of capability
  - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

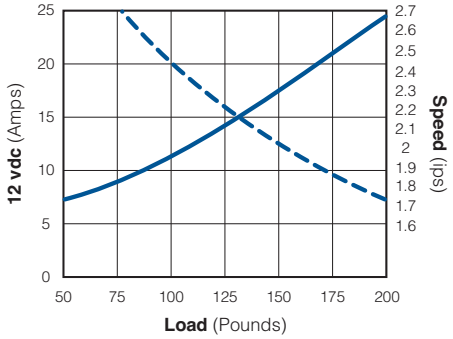
- Ambient temp range: -30°F to 140°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

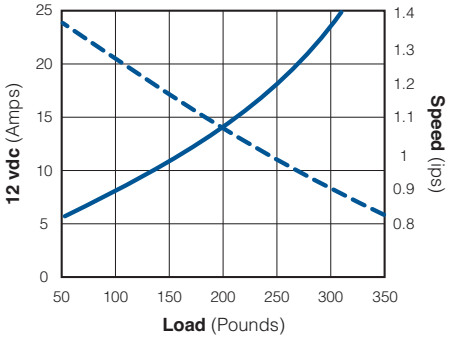
- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
  - Packard 56 series or Delphi Weather-Pack
    - Packard 56 series with 56 series blades (#2984883 & #2962987)
    - Delphi Weather-Pack series (#121015792 & #12010973)

Performance Curves

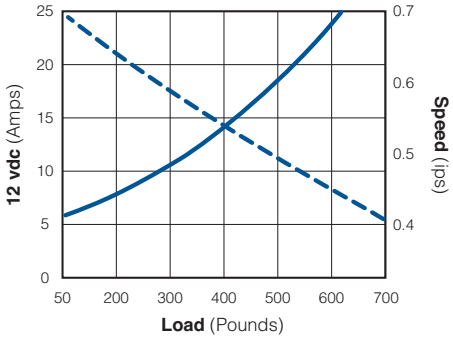
K2VLG05



K2VLG10



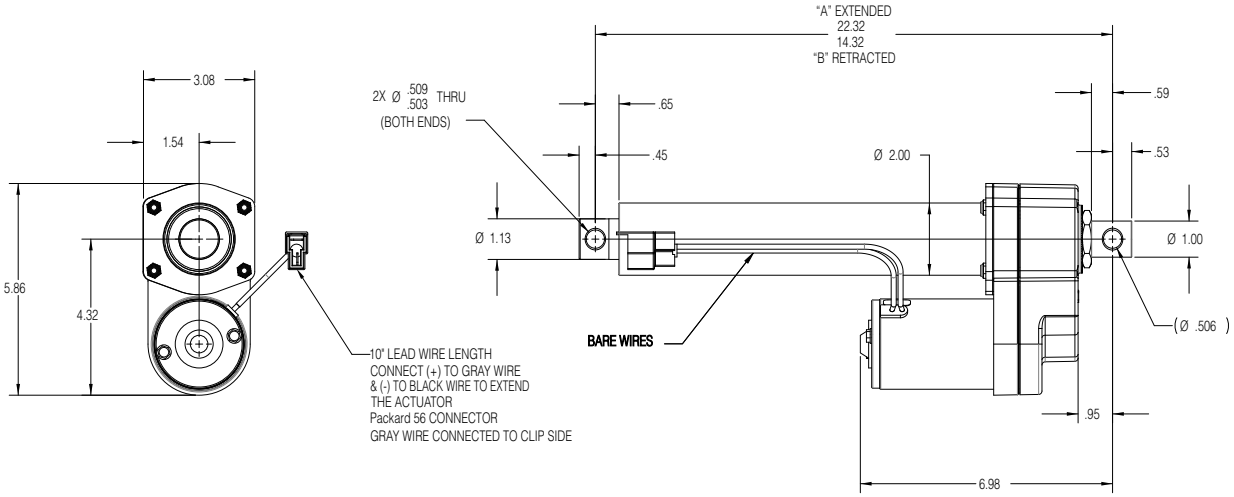
K2VLG20



Dimensions

B-Track K2VL	Stroke	2	4	6	8	10	12
		in	in	in	in	in	in
	A	8.32	10.32	12.32	14.32	16.32	18.32
	B	10.32	14.32	18.32	22.32	26.32	30.32

Note: Special lengths available



B-Track K2

Rugged Duty Actuator
DC Motor Acme Screw

Up to 1500 lbs. Rated Load
Up to 2.7 in./sec. Travel Speed

Shown with optional adjustable limit switch feature

The K2 is the base model in the B-Track family. It incorporates a patented in-line load transfer design which provides high load capability for rugged-duty use, efficient power use, compact package size, excellent corrosion and washdown protection, and high performance synthetic lubrication for life, all at an affordable price.

The K2 uses a solid bronze or Delrin® nut with a rolled hybrid screw yielding high impact capability and long screw life. Heavy-duty double-ended ball bearing motors, hardened gears, O-ring seals and an extension rod bearing system that provides best in class capabilities.

Now Available Standard Adjustable Limit Switch These easy to use adjustable switches are mounted in a channel on the cover tube with custom cap for protection. They are easily moved to enable the end-user the flexibility of setting the stroke length at any position within the full stroke capability. Just pop the cap off, loosen the set screw and slide the switch into the desired position.

Features

- Protective coatings and O-ring seals throughout
- Patented in-line load system
- Hybrid nut and screw design, no brake needed
- Ball detent overload clutch
- 2 to 24 inch stroke lengths
- Up to 1500 pound load capacities
- Speeds up to 2.7 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Optional 90 vdc motor for use with SBC-AC control
- Custom mounting options available

Typical Applications

- Heavy duty platform and engine lifts
- Deck and implement lifts for tractors and mobile applications
- Wheelchair and scooter lifts
- Bin and tank cover lifts
- Flow gate open/close
- Table positioning

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
  - 50% max on-time/50% off-time for loads up to 50% of capability
  - 25% max on-time/75% off-time for loads between 50%-80% of capability
  - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

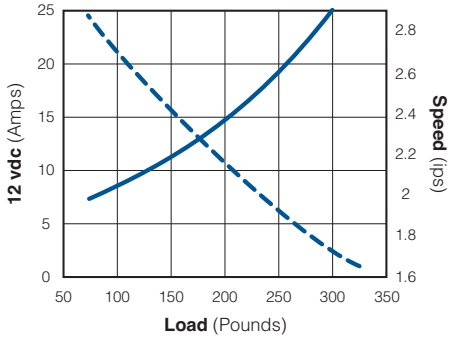
- Ambient temp range: -30°F to 140°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

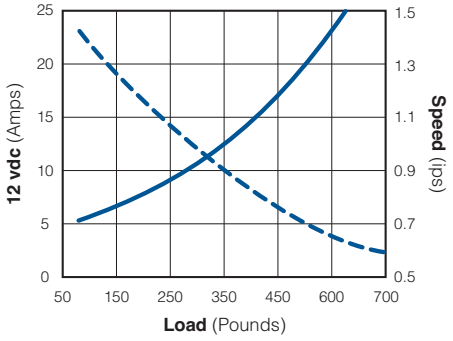
- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
  - Packard 56 series or Delphi Weather-Pack
    - Packard 56 series with 56 series blades (#2984883 & #2962987)
    - Delphi Weather-Pack series (#121015792 & #12010973)

Performance Curves

K2G05



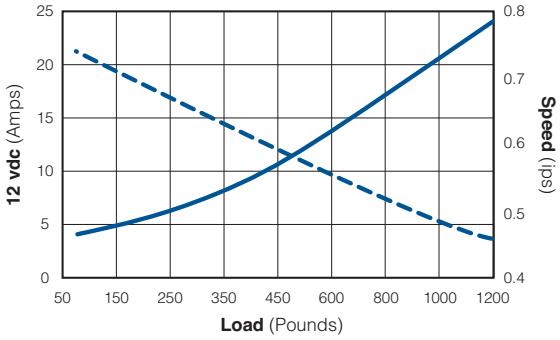
K2G10



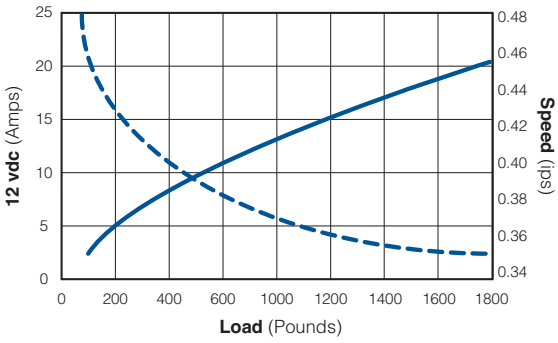
Current Draw

Speed

K2G20



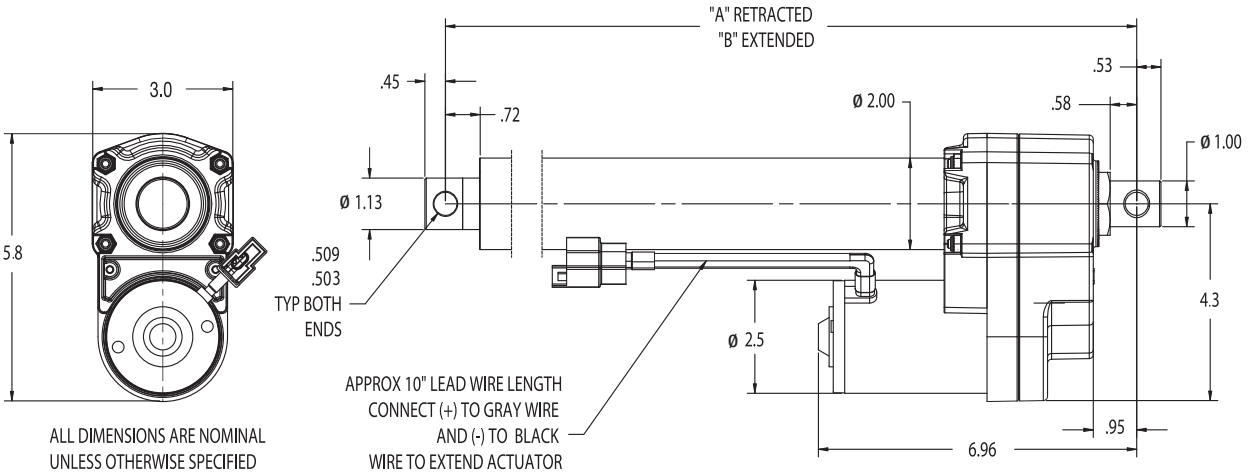
K2G30



Dimensions

	Stroke	2	4	6	8	10	12	14	16	18	20	22	24
		in	in	in	in	in	in	in	in	in	in	in	in
B-Track K2	A	8.32	10.32	12.32	14.32	16.32	18.32	20.32	22.32	24.32	29.32	31.32	33.32
	B	10.32	14.32	18.32	22.32	26.32	30.32	34.32	38.32	42.32	49.32	53.32	57.32

Note: Special lengths available



B-Track K2AC

Rugged Duty Actuator
AC Motor Acme Screw

Up to 1500 lbs. Rated Load
Up to 2.1 in./sec. Travel Speed

The K2 is the base model in the B-Track family. It incorporates a patented in-line load transfer design which provides high load capability for rugged-duty use, efficient power use, compact package size, excellent corrosion and washdown protection, and high performance synthetic lubrication for life, all at an affordable price.

The K2 uses a solid bronze or Delrin® nut with a rolled hybrid screw yielding high impact capability and long screw life. Heavy-duty double-ended ball bearing motors, hardened gears, O-ring seals and an extension rod bearing system that provides best in class capabilities.

Now Available Standard Adjustable Limit Switch These easy to use adjustable switches are mounted in a channel on the cover tube with custom cap for protection. They are easily moved to enable the end-user the flexibility of setting the stroke length at any position within the full stroke capability. Just pop the cap off, loosen the set screw and slide the switch into the desired position.

Features

- Protective coatings and O-ring seals throughout
- Patented in-line load system
- Hybrid nut and screw design, no brake needed
- Ball detent overload clutch
- 4 to 24 inch stroke lengths
- Up to 1500 pound load capacities
- Speeds up to 2.1 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Custom mounting options available
- Limit switches offered only in the adjustable version (EP1.x)

Typical Applications

- Ergonomic lift tables
- Conveyor diverters
- Bin/tank cover lifts
- Roof vents

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
  - 50% max on-time/50% off-time for loads up to 50% of capability
  - 25% max on-time/75% off-time for loads between 50%-80% of capability
  - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

- Ambient temp range: -30°F to 140°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

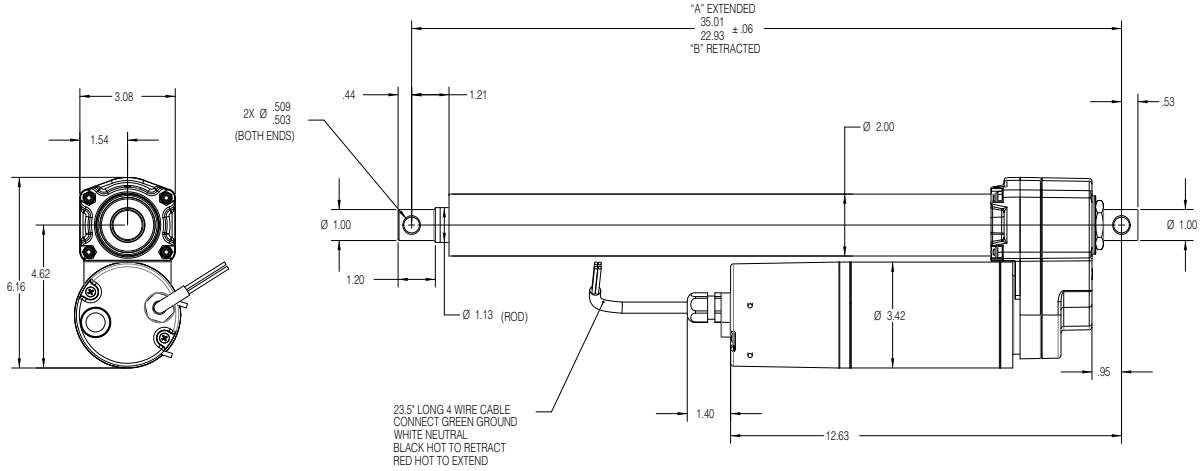
Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
  - Packard 56 series or Delphi Weather-Pack
    - Packard 56 series with 56 series blades (#2984883 & #2962987)
    - Delphi Weather-Pack series (#121015792 & #12010973)

Dimensions

B-Track K2	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
	A	14.96	380	16.97	431	18.94	481	22.95	583	28.94	735	34.92	887
	B	18.97	482	22.99	584	26.93	684	34.95	888	46.93	1192	58.93	1497

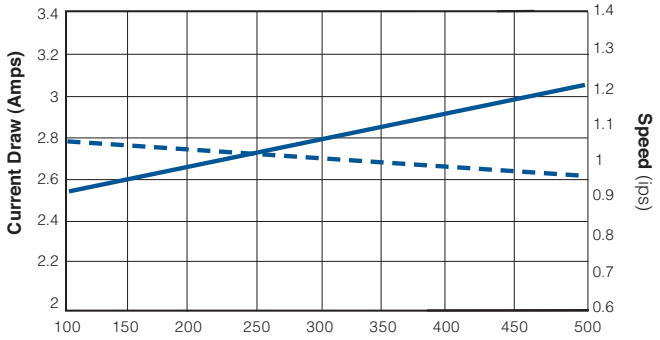
Note: Special lengths available



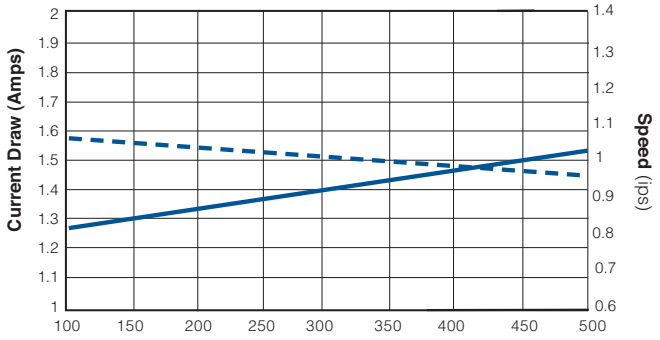
Performance Curves

Current Draw
Speed

K2G10-115VAC



K2G10-230VAC



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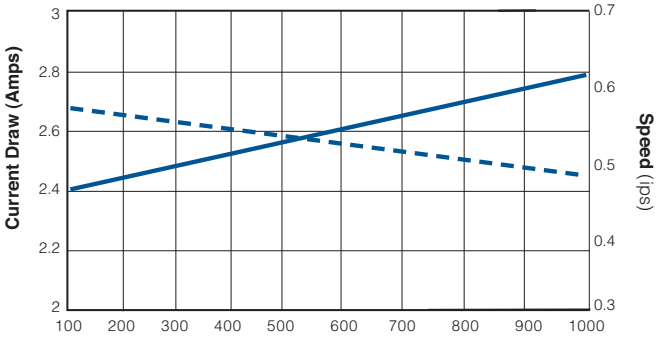

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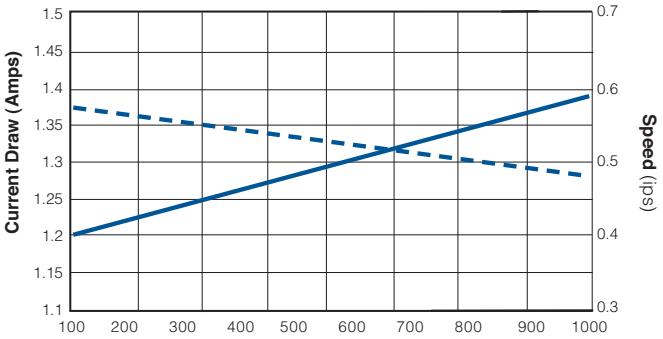
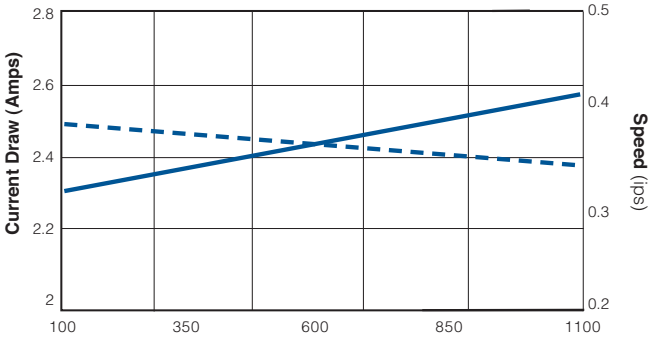


K2G30-115VAC



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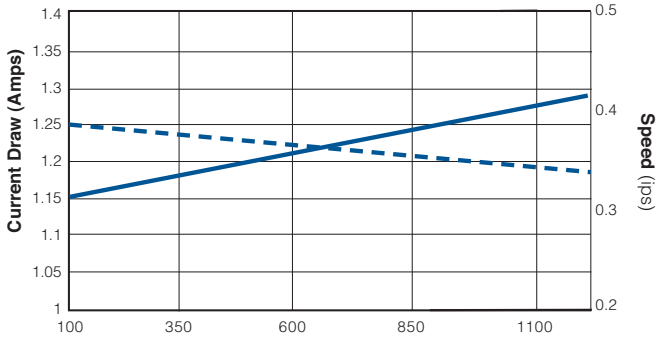


Notes

B-Track K2x

Rugged Duty Actuator
DC Motor Ball Screw

Up to 2,800 lbs. Rated Load
Up to 2.1 in./sec. Travel Speed

The K2x model provides the highest load rating in its class. This model incorporates all of the base K2 features with a ball nut screw for a 2,800 lb. load capability within a compact package size. The K2x includes a bi-directional wrap spring brake for load holding capability. These units are well suited for the most demanding applications where an alternative to hydraulic or air cylinders is needed or where hydraulic power sources are not available.

Combining the K2x actuator with BTc control functionality results in precision actuator control at a fraction of the cost of more complicated servo actuator systems. See Controls Section for more information on BTc controls.

Now Available Standard Adjustable Limit Switch These easy to use adjustable switches are mounted in a channel on the cover tube with custom cap for protection. They are easily moved to enable the end-user the flexibility of setting the stroke length at any position within the full stroke capability. Just pop the cap off, loosen the set screw and slide the switch into the desired position.

Features

- Protective coatings and O-ring seals throughout
- Efficient in-line ball screw system
- Integral load holding brake
- Ball detent overload clutch
- 2 to 24 inch stroke lengths
- Up to 2,800 pound load capacities
- Speeds up to 2.1 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Optional 90 vdc motor for use with SBC-AC control
- Custom mounting options available

Typical Applications

- Paving equipment
- Deck and implement lifts for tractors and mobile applications
- Spray booms
- Scissor and dump box lifts

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
  - 50% max on-time/50% off-time for loads up to 50% of capability
  - 25% max on-time/75% off-time for loads between 50%-80% of capability
  - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

- Ambient temp range: -30°F to 140°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

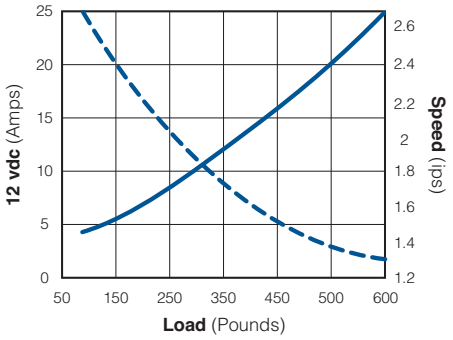
Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
  - Packard 56 series or Delphi Weather-Pack
    - Packard 56 series with 56 series blades (#2984883 & #2962987)
    - Delphi Weather-Pack series (#121015792 & #12010973)

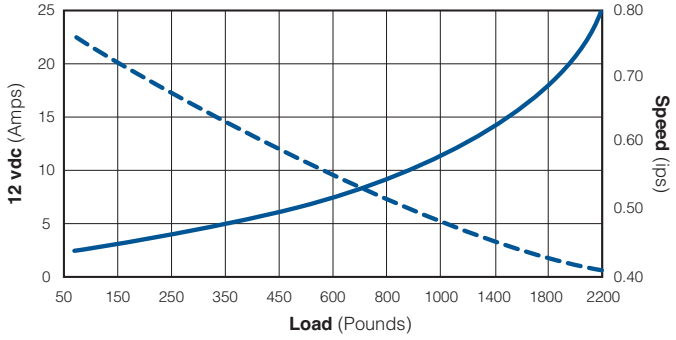
Performance Curves

Current Draw ——— Speed - - - -

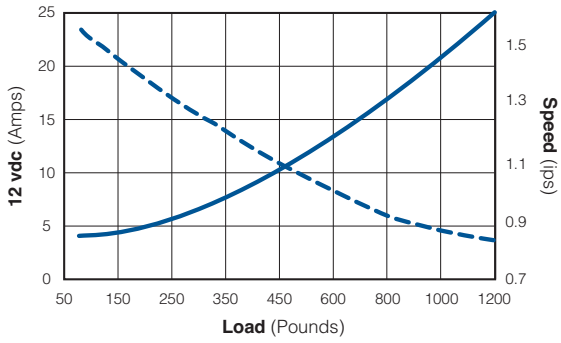
K2xG05



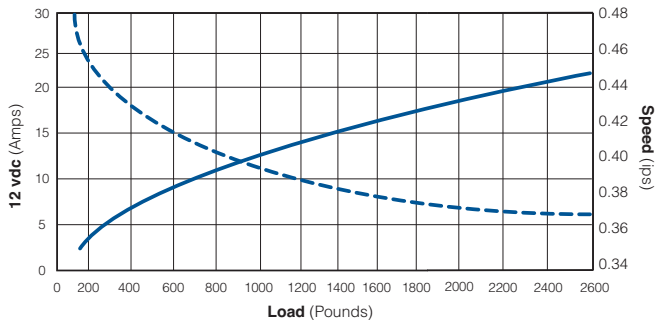
K2xG20



K2xG10



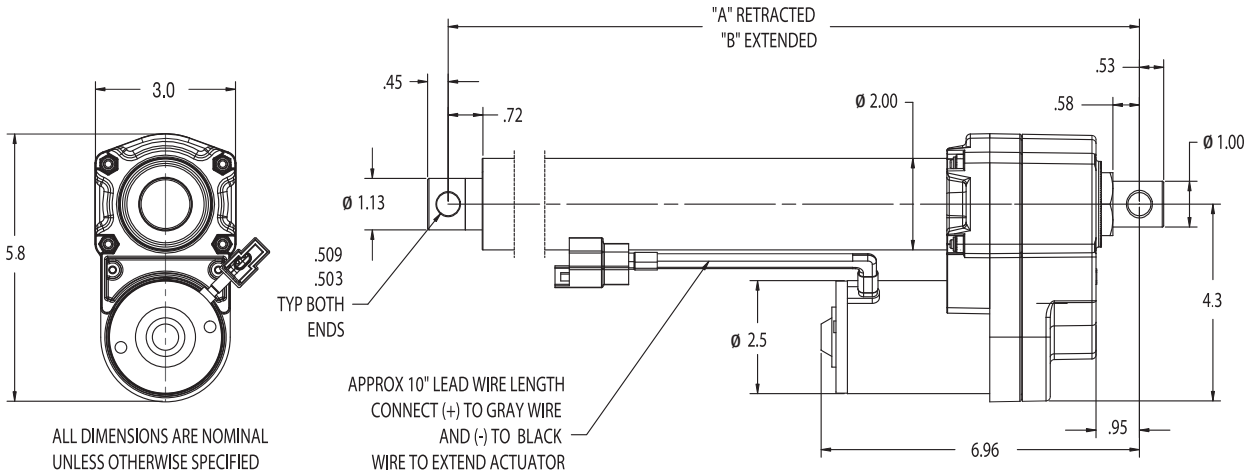
K2xG30



Dimensions

B-Track K2x	Stroke	2	4	6	8	10	12	14	16	18	20	22	24
		in	in	in	in	in	in	in	in	in	in	in	in
	A	9.89	11.89	13.89	15.89	17.89	19.89	21.89	23.89	25.89	30.89	32.89	34.89
	B	11.89	15.89	19.89	23.89	27.89	31.89	35.89	39.89	43.89	50.89	54.89	58.89

Note: Special lengths available



B-Track K2xAC

Rugged Duty Actuator
DC Motor Ball Screw

Up to 2,200 lbs. Rated Load
Up to 2.1 in./sec. Travel Speed

The K2x model provides the highest load rating in its class. This model incorporates all of the base K2 features with a ball nut screw for a 2,200 lb. load capability within a compact package size. The K2x includes a bi-directional wrap spring brake for load holding capability. These units are well suited for the most demanding applications where an alternative to hydraulic or air cylinders is needed or where hydraulic power sources are not available.

Combining the K2x actuator with BTc control functionality results in precision actuator control at a fraction of the cost of more complicated servo actuator systems. See Controls Section for more information on BTc controls.

Now Available Standard Adjustable Limit Switch These easy to use adjustable switches are mounted in a channel on the cover tube with custom cap for protection. They are easily moved to enable the end-user the flexibility of setting the stroke length at any position within the full stroke capability. Just pop the cap off, loosen the set screw and slide the switch into the desired position.

Features

- Protective coatings and O-ring seals throughout
- Efficient in-line ball screw system
- Integral load holding brake
- Ball detent overload clutch
- 4 to 24 inch stroke lengths
- Up to 2,200 pound load capacities
- Speeds up to 2.1 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Custom mounting options available
- Limit switches offered only in the adjustable version (EP1.x)

Typical Applications

- Engine Lifts
- Tables
- Indoor Applications
- Machine Tools
- Egg Rotation

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
  - 50% max on-time/50% off-time for loads up to 50% of capability
  - 25% max on-time/75% off-time for loads between 50%-80% of capability
  - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

- Ambient temp range: -30°F to 140°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

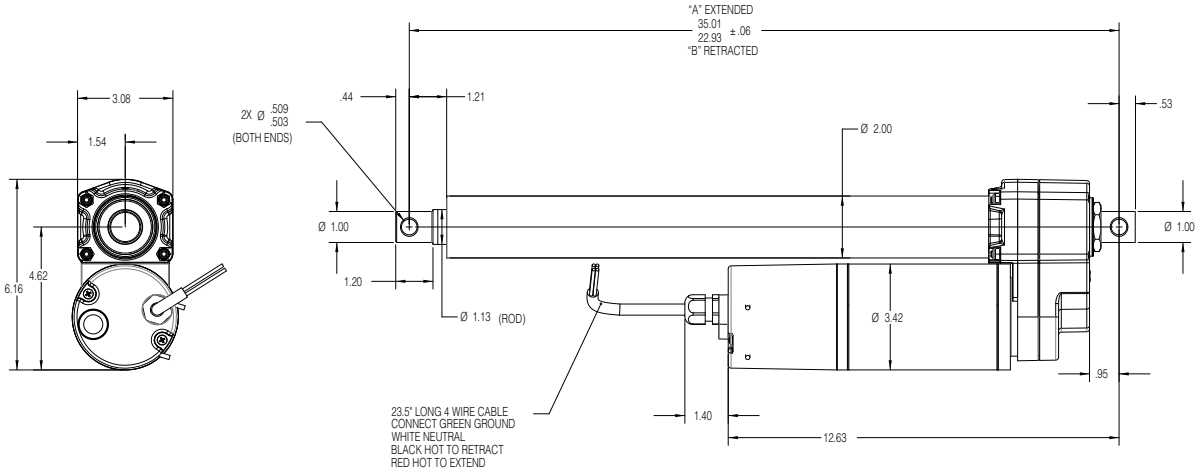
Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
  - Packard 56 series or Delphi Weather-Pack
    - Packard 56 series with 56 series blades (#2984883 & #2962987)
    - Delphi Weather-Pack series (#121015792 & #12010973)

Dimensions

B-Track K2x	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
	A	14.96	380	16.97	431	18.94	481	22.95	583	28.94	735	34.92	887
	B	18.97	482	22.99	584	26.93	684	34.95	888	46.93	1192	58.93	1497

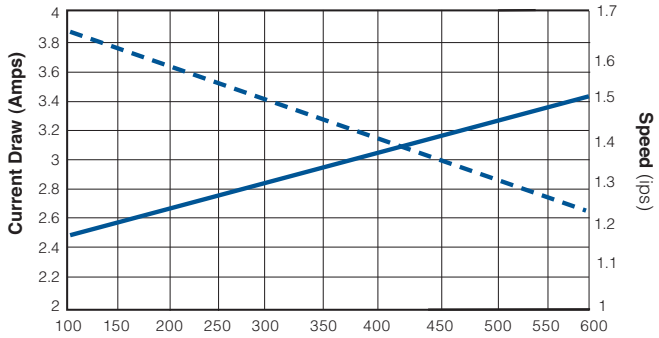
Note: Special lengths available



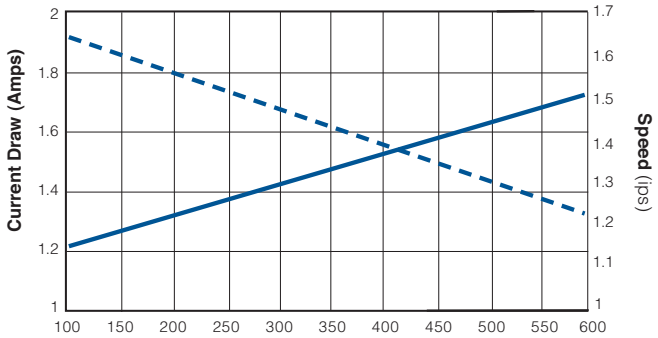
Performance Curves

Current Draw
Speed

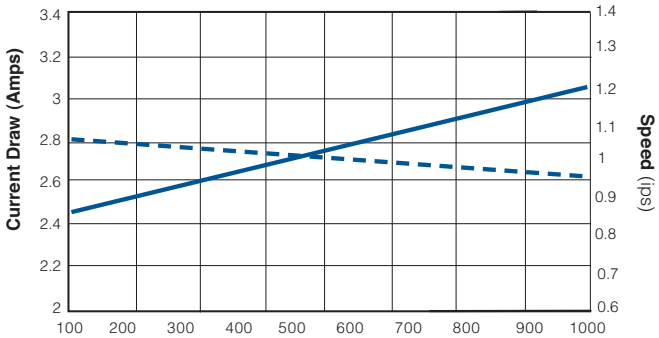
K2xACG05-115VAC



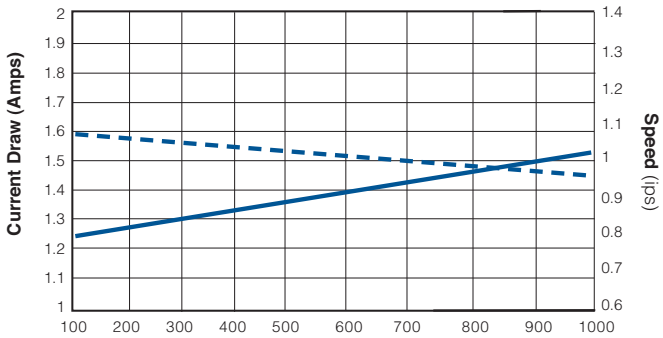
K2xACG05-230VAC



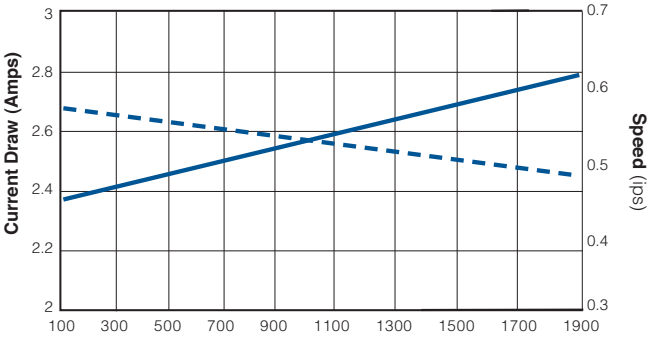
K2xACG10-115VAC



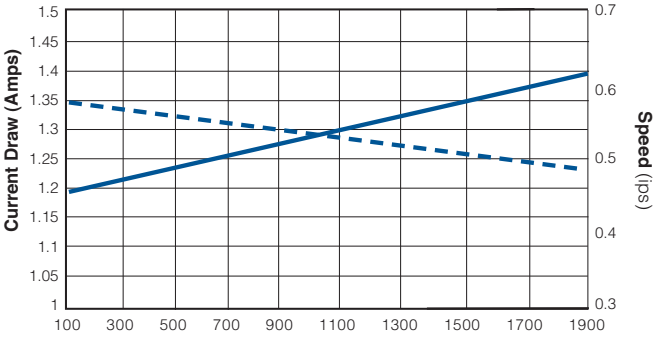
K2xACG10-230VAC



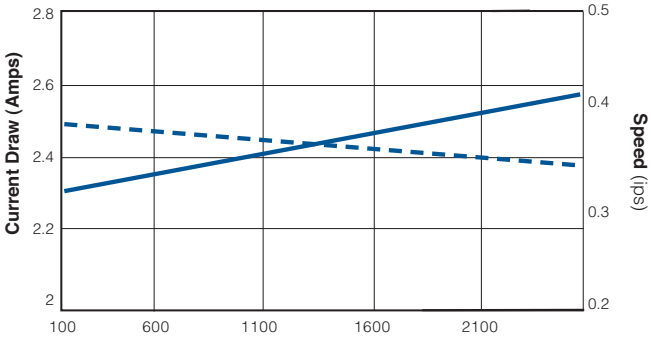
K2xACG20-115VAC



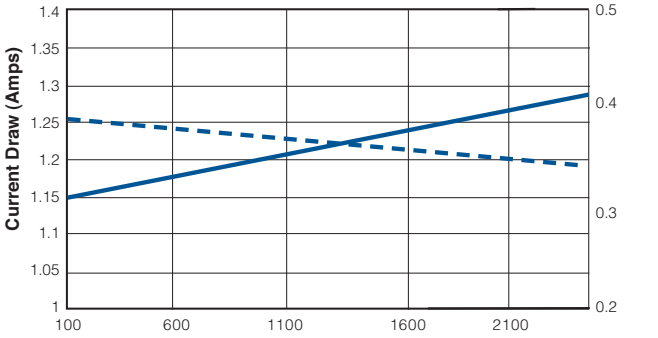
K2xACG20-230VAC



K2xACG30-115VAC



K2xACG30-230VAC



Notes

Custom Actuators

Warner Linear offers a broad range of standard actuators to suit many needs. We realize though, that often special application parameters dictate special actuator configurations and modifications. Warner Linear actuators are designed with this in mind, as many of our products can be readily customized to suit specific requirements.

Our products are built on modules that can be mixed and matched in final assembly. Our final assembly operations are configured to provide flexible assembly to accommodate custom orders, quickly and cost effectively.

If your application has a special need that our standard catalog products are unable to fit, please contact your Warner Linear representative or consult with our technical specialists so we can configure a product to fit your need.

A few of our standard special offerings:

- Special pin to pin lengths and stroke lengths
- Special end fittings and mounting configurations
- Special paints and motor lead wire lengths and connectors

Examples of special request features (shown above)

Rod End Mounting Option Examples
(available for B-Track models only, consult factory for more options)

1. 1/2" Threaded rod end

2. 5/8" Threaded rod end

3. 1/2" Spherical rod end

4. 5/8" Spherical rod end

5. 1" Extended rod end

6. Flat sided rod end

7. 1/2" Threaded gear box end

8. 3/8" Rod end insert

Consult with factory for specific mounting configuration needs.

Standard

We recognize how critical our actuators are to the overall performance of your equipment. Working closely with your engineering and development staff, we strive for an early understanding of how you want your linear actuator to perform.

Building a direct communication line from our engineer to your engineer provides a number of significant benefits.

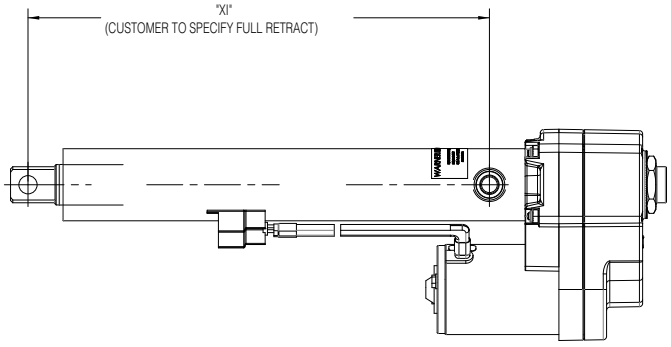
- A teaming of creative resources
- Joint understanding of our actuator capabilities and how they can be tailored to your application
- An understanding of the lowest cost solution to meet your actuator requirements
- Providing a complete solution that includes controls as required

Warner Linear routinely provides actuators modified to meet specific customer application requirements

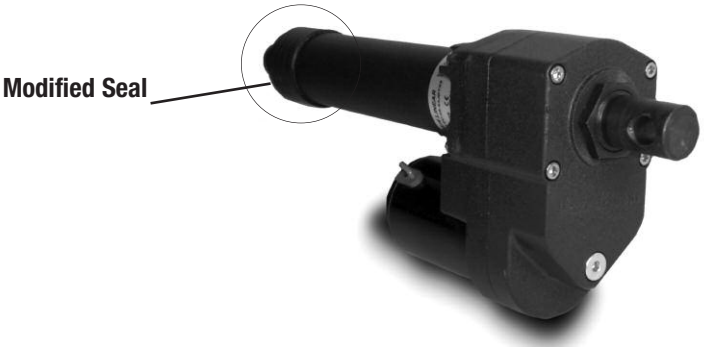
Some common versions of these are shown as our K2PL/K2XPL and K2JS/K2XJS families.

Additional common modifications are:

Tube/Trunion Mount



Modified Seal design for expanded contamination protection



B-Track K2PL / K2XPL

Power Lift Actuator
DC Motor – Acme or Ball Screw

Up to 2,200 lbs. Rated Load
Up to 2.1 in./sec. Travel Speed

Shown with optional direct drive manual override feature without protective cap.

CE

B-Track Power Lift models are modified K2 or K2x actuators. Power Lift units utilize all the standard components and retain all the performance features of the K2 family, without the external cover tube. This allows the Power Lift actuator features to be integrated into a variety of customer designed structures, where a cover tube is not needed.

Extended gear box screws are provided allowing easy attachment to a customer frame. A straight through manual override option is available as shown above. Suggested for tension applications only. Consult factory for compression loading applications.

Features

- Protective coatings and O-ring seals throughout
- Efficient in-line load system
- Patented hybrid nut and screw design, no brake needed in K2 model.
- Integral load holding brake on K2x model
- Ball detent overload clutch
- 4 to 24 inch stroke lengths
- Up to 2200 pound load capacities
- Speeds up to 2.1 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Optional 90 vdc motor for use with SBC-AC control
- Custom mounting options available

Typical Applications

- Wheelchair and scooter lifts
- Traffic signs
- Beds and tables
- Light masts

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
  - 50% max on-time/50% off-time for loads up to 50% of capability
  - 25% max on-time/75% off-time for loads between 50%-80% of capability
  - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

- Ambient temp range: -30°F to 140°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
  - Packard 56 series or Delphi Weather-Pack
    - Packard 56 series with 56 series blades (#2984883 & #2962987)
    - Delphi Weather-Pack series (#121015792 & #12010973)

Performance Curves

See page 15 for K2PL performance curves.
See page 24 for K2XPL performance curves.

Dimensions

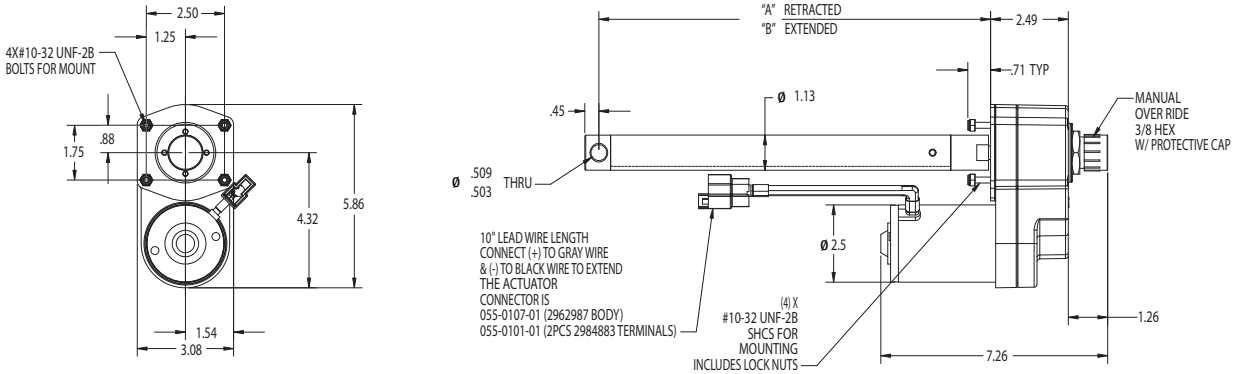
B-Track K2PL	Stroke	4	6	8	10	12	14	16	18	20	22	24
		in	in	in	in	in	in	in	in	in	in	in
	A	7.03	9.03	11.03	13.03	15.03	17.03	19.03	21.03	23.03	25.03	27.03
	B	14.06	18.06	22.06	26.06	30.06	34.06	38.06	42.06	46.06	50.06	54.06

Note: Special lengths available

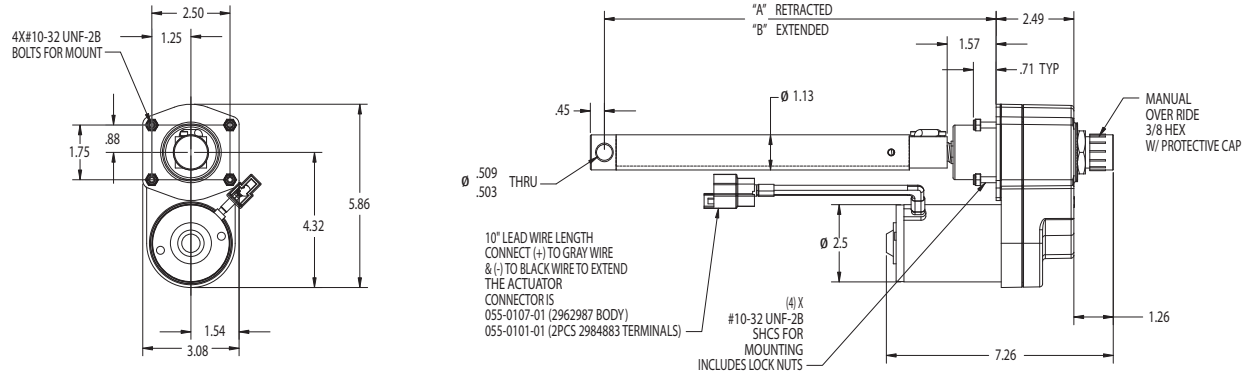
B-Track K2XPL	Stroke	4	6	8	10	12	14	16	18	20	22	24
		in	in	in	in	in	in	in	in	in	in	in
	A	8.53	10.53	12.53	14.53	16.53	18.53	20.53	22.53	24.53	26.53	28.53
	B	12.53	16.53	20.53	24.53	28.53	32.53	36.53	40.53	44.53	48.53	52.53

Note: Special lengths available

B-Track K2PL



B-Track K2XPL



B-Track K2JS / K2XJS

Jack Stand Actuator
DC Motor – Acme or Ball Screw

Up to 2,800 lbs. Rated Load
Up to 2.1 in./sec. Travel Speed

Shown with optional switch box, direct drive manual override, and footpad.

The B-Track Jack Stand actuator incorporates a large diameter extension rod providing the maximum offset load capability within the K2 family. The extension rod is slightly smaller than the cover tube and slides on Teflon® bearings within the cover tube. This feature makes the K2JS suitable for high-load, free-standing use.

A number of mounting options are available including trunnion mounts, or with standard flange plate (as shown). These units can be customized with an integral switch box, direct drive manual override, or pivoting footpad.

Features

- Protective coatings and O-ring seals throughout
- Efficient in-line ball screw system
- Integral load holding brake on K2x model
- Ball detent overload clutch
- 8 to 16 inch stroke lengths
- Up to 2,800 pound load capacities
- Speeds up to 2.1 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Custom mounting options available

Typical Applications

- Trailer jack stands
- Trailer and vehicle outriggers
- Implement lifts
- Machine height adjustment
- Camper lifts
- Load Levelers

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
  - 50% max on-time/50% off-time for loads up to 50% of capability
  - 25% max on-time/75% off-time for loads between 50%-80% of capability
  - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

- Ambient temp range: -30°F to 140°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
  - Packard 56 series or Delphi Weather-Pack
    - Packard 56 series with 56 series blades (#2984883 & #2962987)
    - Delphi Weather-Pack series (#121015792 & #12010973)

Performance Curves

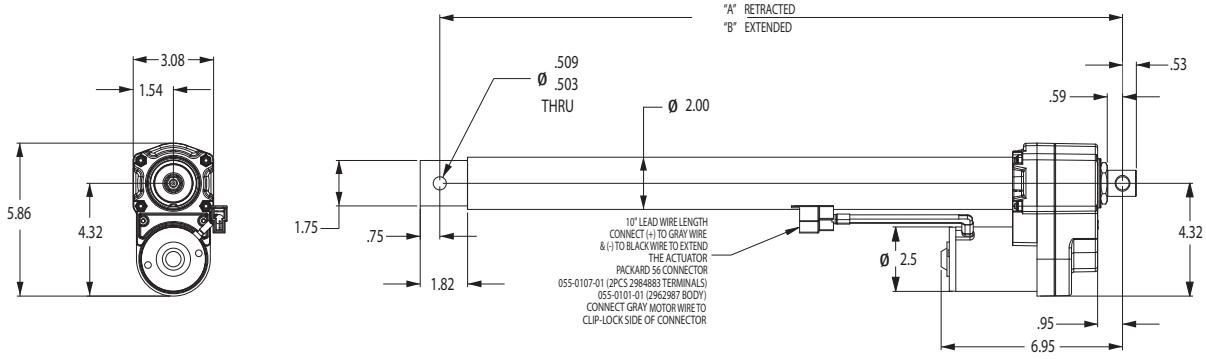
See page 15 for K2JS performance curves.
See page 24 for K2XJS performance curves.

Dimensions

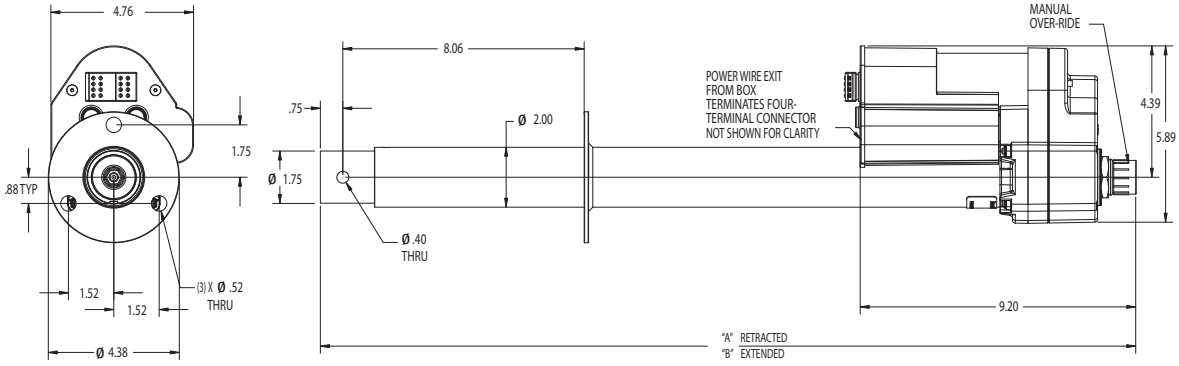
B-Track K2JS/K2XJS	Stroke	8	10	12	14	16
		in	in	in	in	in
	A	20.98	22.98	24.98	26.98	28.98
	B	28.98	32.98	36.98	40.98	44.98

Note: Special lengths available

B-Track K2JS



B-Track K2XJS



B-Track K2RA

Rotary Actuator
DC Motor

Up to 140 in-lb Torque Output
Speeds from 250 to 850 RPM

Shown with extended gear box screws for ease of attachment.

Optional Configurations

CE

K2RA rotary actuators are motor driven gear boxes and use the base drive design and components of the K2 linear actuator. K2RA models incorporate all of the features of the K2 model providing excellent weatherproofing for outdoor applications. The same long-life motors, hardened gears, corrosion protection, and lubrication are utilized. Several output shaft and mounting configurations are available with the standard configuration shown above.

Features

- Protective coatings and O-ring seals throughout
- Efficient in-line load system
- Ball detent overload clutch
- Speeds up to 850 RPM
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged output bearing support
- Customized mounting configurations available
- Optional 24 vdc motor available to provide more speed selections

Typical Applications

- Salt/seed spreaders
- Scooter lift mechanisms
- Spout rotation
- Turntables
- Cable winch

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for current/speed capabilities
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: match customer requirements
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
  - 50% max on-time/50% off-time for loads up to 50% of capability
  - 25% max on-time/75% off-time for loads between 50%-80% of capability
  - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/RPM profiles will allow some adjustment variation from these guidelines.)

Operating Environment

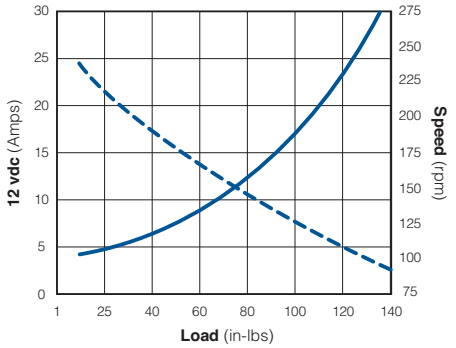
- Ambient temp range: -30°F to 140°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 12, 24, 36, 48 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

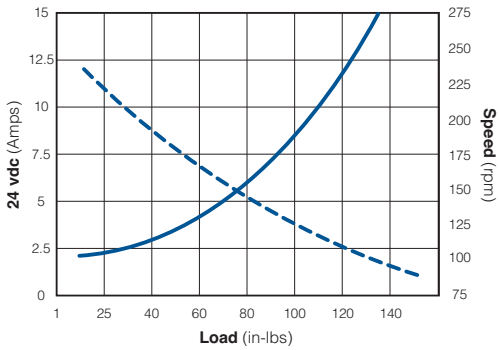
- 14 gauge stranded lead wires - SAE J1128 SXL cross linked polyethylene insulation Class F 257°F
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit. (ON)-OFF-(ON) DPDT
- Connectors:
  - Packard 56 series or Delphi Weather-Pack
  - Packard 56 series with 56 series blades (#2984883 & #2962987)
  - Delphi Weather-Pack series (#121015792 & #12010973)

Performance Curves

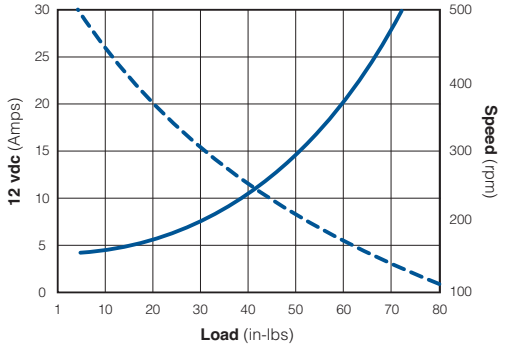
K2RA20 Speed & Load @ 12 VDC



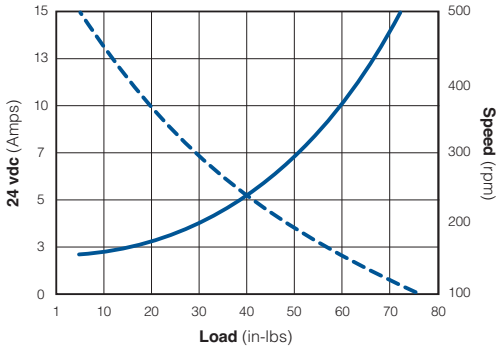
K2RA20 Load & Speed @ 24 VDC



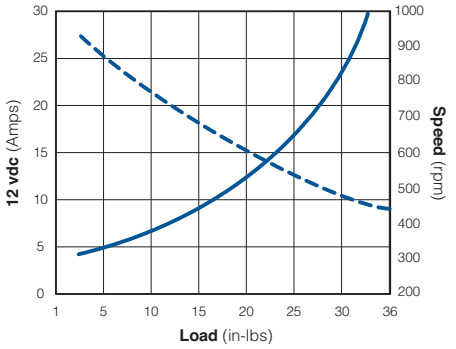
K2RA10 Speed & Load @ 12 VDC



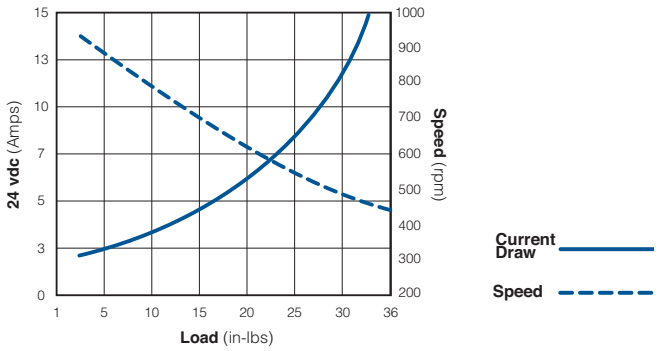
K2RA10 Load & Speed @ 24 VDC



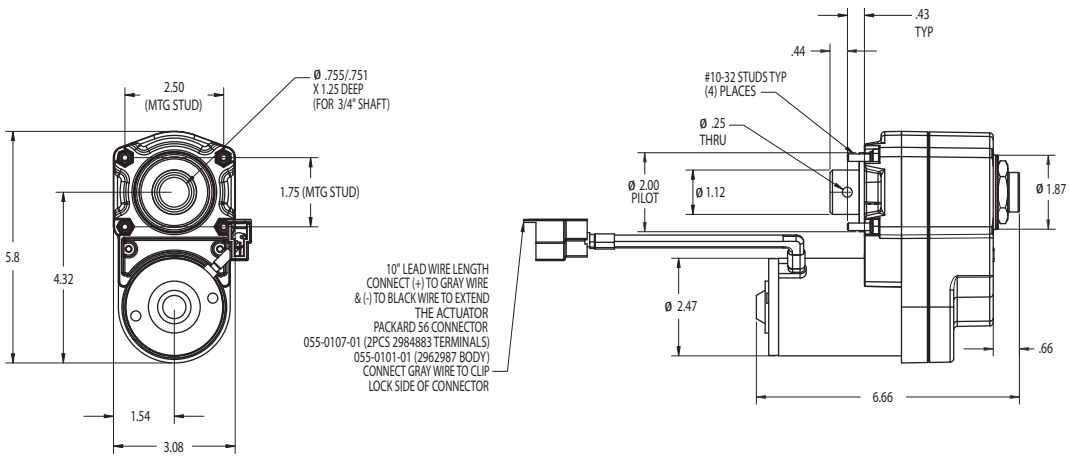
K2RA5 Speed & Load @ 12 VDC



K2RA5 Load & Speed @ 24 VDC



Dimensions



Performance Features

Warner Linear Actuator Controls available for a wide variety of applications

Warner Linear provides a full line of actuator controls well suited for a broad range of application needs.

They range from simple to use switch box controls for basic extend/retract function, to state-of-the-art microprocessor based digital electronic controls using SMT design and manufacturing processes.

Offered functions:

Basic extend and retract

Electric switch and electronic stroke limits

End of stroke outputs

Position feedback potentiometer and encoder outputs

Electronic current limit – fixed and programmable

Electronic dynamic braking

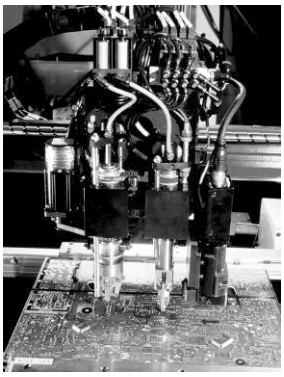
Fixed, manual and electronic adjustable end stops

Signal follower

Dependable Operation
Warner Linear controls are state-of-the-art using surface mount electronic components and automated circuit board manufacturing methods. Each control is field durability tested for use in demanding applications.

Rugged and Reliable
Use of SMT manufacturing processes assures consistent performance from control to control.

- Integrated actuator sensors are protected from the environment
- Solid-state electronic components and non-contact sensors (hall effect)
- Actuator mounted or remote mountable



Easy To Use

- Simple plug-and-play switch box controls are hassle-free – just plug in and connect the power clips.
- Basic position controls are integrated with the actuators to simplify ease of use and maintain the rugged duty capabilities of Warner Linear actuators. They are easy to use and plug-and-play ready.
- Advanced microprocessor based controls are also available. They employ digital electronics using SMT processes and offer a broad range of intelligent actuator control options. Consult your Warner Linear technical specialist on how advanced controls might suit your needs.

Warner Linear BTc controls are specifically designed for use with the B-Track line of actuators. Some controls and options are also suitable for use with the M-Track models.

Customer Provides Power

Power Supply Required

NOTE: All power supply designs are provided with a one foot long cable for connection to actuator. Accessory cables are available in lengths of 5, 10, 20, 25 foot length

Controls

Simple Switch Box Controls

All actuators are controlled using an external-retract-off switching function. The SBC-DC and SBC-AC provide a simple mounted switch compatible with Warner Linear actuators.

SBC-DC

Power: Compatible with 12, 24 and 48 volt DC actuators
Function: Extend, Retract, Off via DPDT momentary toggle switch
Enclosure: ABS plastic enclosure 4.7" L x 3.2" W x 2.2" H
Input Cable: 12ft, 2 wire, 14AWG cable with alligator clip ends
Output Cable: 1ft cable provided. Designate connector appropriate to actuator being used
Optional extension cables are available in 5-25ft lengths

DC Power Supply	Input Power	Connector Style		Mating Cable
SBC	DC	3	—	10

Connector Syle: (One End Female Weatherpack) Other End is Male Version of:
1=Mini Packard 56 (M-Track)
2=Packard 56
3=Weatherpack
4=Deutsch (DT06-2S)

Length of Mating Cable in Feet
(If blank, switch has no mating connector)

SBC-AC

Power: Compatible with 115 or 230 volt VAC input
Function: Extend, Retract, Off via DPDT momentary contact switch
Enclosure: 4.72" L x 4.72" W x 3.15" long dust tight enclosure
Protection: Externally mounted 5 amp fuse on outside of enclosure for easy replacement
Input Cable: 6ft open ended tinned AC input cable provided
Output Cable: Sealed cable gland included for customer supplied output cable

AC Power Supply	Input Power	Input Wire Style
SBC	AC	A

Input Wire Style
Blank=6' Open (3) Strand Wire
A=6' Long 3 Prong Plug

Optional Extension and Control Power Cables

Power supplies include a 1ft length cable to connect to actuator.

Accessory cables may be ordered in lengths of 5, 10, 20 and 25 feet with the appropriate connector for the actuator selected. (mini-packard, Packard 56, Weatherpack, Deutsch)

Live Power (LP) cables are required to provide constant power to BTc Limit switch or potentiometer feedback circuits mounted on the actuator. LP cables provide two connectors.

Signal Cable (SC) cables provide the LP cable with two additional connectors for use with limit switch or potentiometer feedback.

Extension Cable Part Number

AC Power Supply	Number of Conductors	Cable Type	Connector Style	Dual Output		Length In Feet
SBC	— 2	PC	3	Y	—	20

Cable Type

PC= Power Cable (Carol "J" Cord with Shrink Sleeves)

SC= Signal Cable (with Shrink Sleeves Only)

LP= Live Power (22 AWG, 4 conductor wire but only use red & black wires. Trim white & green wires flush with insulation.)

Connector Syle: One End Male, One End Female

1=Mini Packard 56 (M-Track)
2=Packard 56
3=Weatherpack
4=Deutsch

Dual Output "Y" Cable

(Used only on PC & LP options)

SBC-AC Power Supply

Input: 85-264 volts AC

Output: 12 volts @ 5.4amps
24 volts @ 2.7amps

Input Cable: Standard: 6ft open end, tinned cable
Optional: 6ft with 115 VAC 3 prong plug

Output Cable: 1ft length cable with 2-pin Packard 76 (for M-Track 1)
Optional extension cables can be ordered in 5-25ft lengths

Enclosure: 4.72" x 4.72" x 3.15" polycarbonate housing
NEMA 4, 4x, 12, 13

Operating Temperature: -30º F to 140º F

Ratings: CE, TUV, UL/cUL Conducted EMI meets EN55022 and ROHS

Protection: External fuse provided

Switching: No switch or DPDT momentary switch

AC Power Supply	Input Power	Output Power	Connector Style	Input Wire Syle	Switch
SBC	— AC2	— 12V	1	— A	S

Input Power

AC=115 VAC Input
AC2=230 VAC Input

Output Power

12V=12VDC (M-Track Only)
24V=24VDC

Connector Syle: (Female Gender)

1=Mini Packard 56 (M-Track)

Input Wire Style

Blank=6' Open (3) Strand Wire
A=6' Long 3 Prong Plug (Plug only available on 115 VAC input)

Switch

S=Rocker Switch
Blank=No Switch

SBC-AC/SBC-AC2 Power Supply 24 volt output

Input: AC: 115 volt AC
AC2: 230 volt AC

Output: 24 volts @ 12 amps

Input Cable: Standard: 6 ft. open end, tinned cable
Optional for 115 AC 6 ft. with 115 VAC 3 prong plug

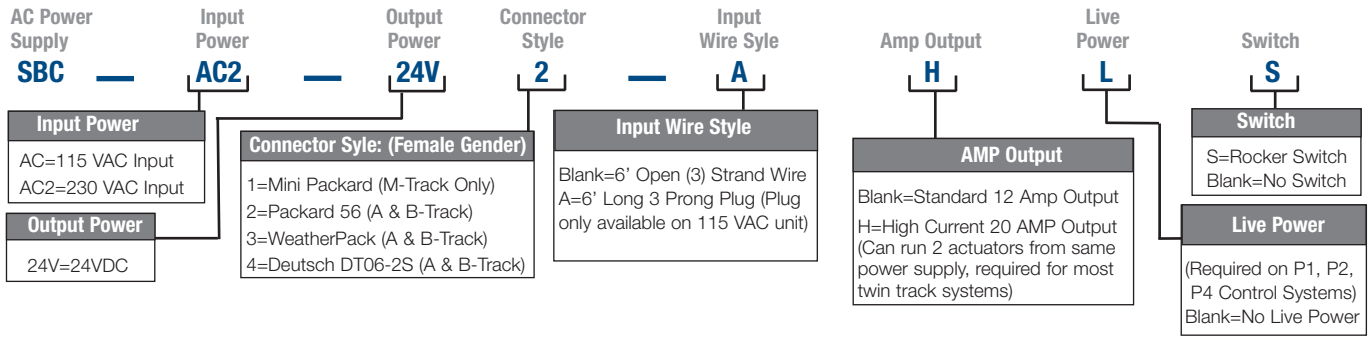
Output Cable: Standard 1 ft. cable: specify connector to match actuator:
1) Mini Packard standard for M-Track actuators
2) Packard 56 standard on K2 and K2x model actuators
3) Packard WeatherPack optional on K2 and K2x model actuators
4) Deutsch DT06-2S optional on K2 and K2x model actuators
Optional extension output cables can be ordered in 5-25 ft. lengths

Enclosure: 6.69"L x 6.69"W x 3.54"H polycarbonate housing
NEMA 4, 4x, 12, 13

Fusing: External fuse mounted on enclosure for easy replacement

Switching: DPDT momentary rocker switch for manual actuator control or Customer may supply their own switch

Live Power Option: When used with BTc control options (limit switch, potentiometer feedback) the Live Power option is required. Live power option provides a constant output power source for external control components regardless of output power to the actuator. (See Extension Cable selection to select the correct cable for this option.)



SBC-AC/SBC-AC2 Power Supply 90 volt output

Input: AC: 115 volt AC
AC2: 230 volt AC

Output: 90 volts DC @ 5 amps

Input Cable: Standard: 6 ft. open end, tinned cable
Optional for 115 AC 6 ft. with 115 VAC 3 prong plug

Output Cable: 1 ft. cable with 3-pin Deutsch connector
Optional extension cables can be ordered in 5-25 ft. lengths

Enclosure: 4.72"L x 4.72"W x 3.15"H polycarbonate housing
NEMA 4, 4x, 12, 13

Fusing: External fuse mounted on enclosure for easy replacement

Switching: DPDT momentary rocker switch for manual actuator control or
Customer may supply their own switch

Potentiometer: Optional speed pot allows for output voltage adjustment
(varies actuator speed)

AC Power Supply	Input Power	Output Power	Connector Style	Input Wire Syle	Switch	Potentiometer
SBC	AC2	90V	4	A	S	P

Input Power	Output Power	Connector Syle: (Female Gender)	Input Wire Style	Switch	Potentiometer
AC=115 VAC Input AC2=230VAC Input	90V=90VDC	4=Deutsch DT06-3S	Blank=6' Open (3) Strand Wire A=6' Long 3 Prong Plug (Plug only available on 115 VAC unit)	S=Rocker Switch Blank=No Switch	Potentiometer (used for speed control) Blank = No Pot

P1 Electronic Stroke Limit Control

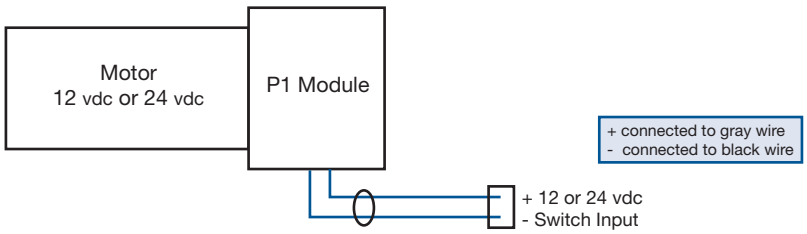
Model Selection

Model No.	Input Voltage (vdc)	Maximum Output Current (Amps)	Features
P1.0 (DC12)	12	25	Base = Electronic Stroke Limit with Electronic Dynamic Braking
P1.0 (DC24)	24	12.5	Base = Electronic Stroke Limit with Electronic Dynamic Braking
P1.1 (DC12)	12	25	Base & LED Indicators on Housing
P1.1 (DC24)	24	12.5	Base & LED Indicators on Housing
P1.2 (DC12)	12	25	Base & +12 vdc Outputs
P1.2 (DC24)	24	12.5	Base & +24 vdc Outputs
P1.2LE (DC12)	12	25	Base & LED Outputs +5 vdc
P1.2LE (DC24)	24	12.5	Base & LED Outputs +5 vdc

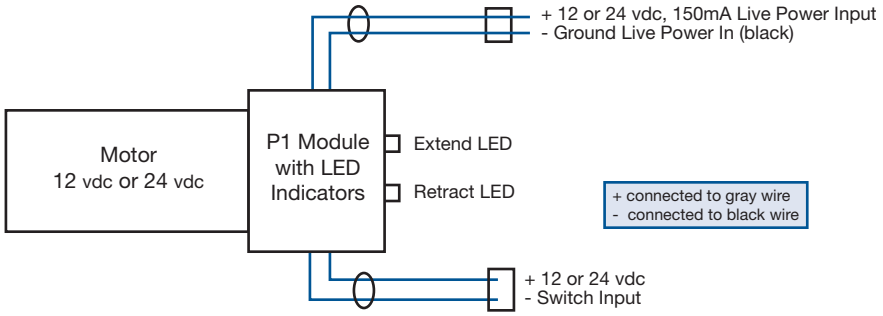
Note: For adjustable external end limits add E before P

Wiring Diagrams

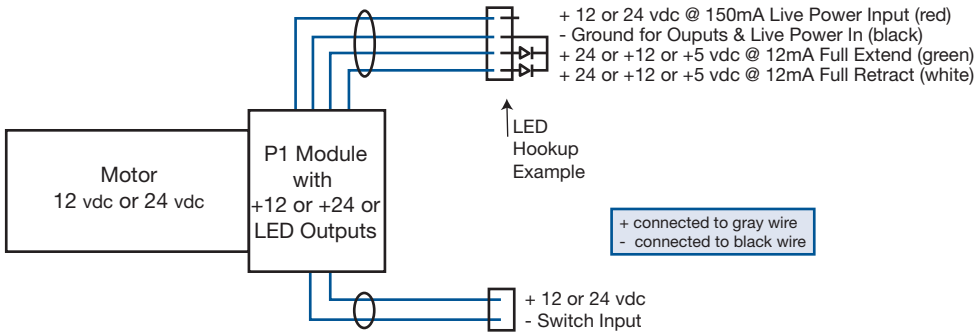
P1 Module
P1.0-DC12/24



P1 Module with
LED Indicators
P1.1-DC12/24



P1 Module with +12 or +24 vdc
Outputs or LED Outputs
P1.2-DC12/24 or
P1.2LE-DC12/24



P1.x Electronic Stroke Limit Control

Standard

The P1.x Limit Switch control provides end of travel positioning through the use of a hall effect sensor and motor mounted relay.

Hall effect sensors are factory mounted within the actuator cover tube. The sensor position is set at the factory and is not field adjustable (See EP.1 for adjustable switch functions). The hall effect sensors are sealed for life and are not subject to wear.

The Electronic Stroke control package consists of the hall effect sensors and a motor mounted relay within an enclosure suited for harsh environments.

A Zener diode suppression is used on both input and outputs for added protection from electrical spikes. Unit reversing is achieved by reversing input power polarity to the motor.

Specifications

Power: 25 amps max. @ 12 volts
12.5 amps max. @ 24 volts

Operating Temperature: -30º to +140º F

Output Signal Power Input: A live power input is provided that can maintain LED's on when motor power is off.
12 or 24 VDC 150ma required

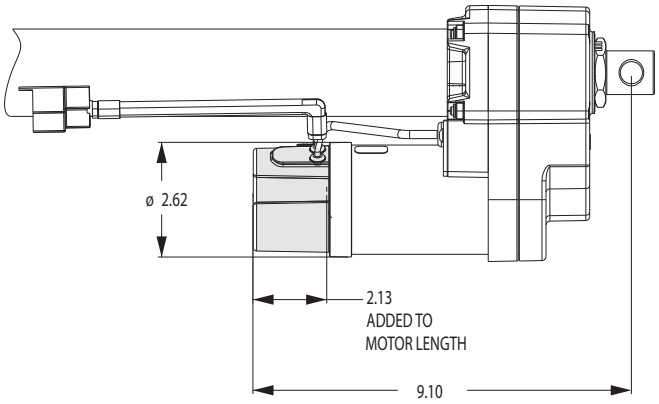
Options

P1.0 Standard Stoke Limit Control

P1.1 Same as P1.0 with two LEDs on the outside of the control module. LEDs indicate when end of travel has been reached.

P1.2 Same as P1.0 with two 12/24 volt, 0.5 amps outputs that can be used to signal an external switch, relay, lamp or PLC input.

P1.2LE Two +5 VDC 25ma outputs plus a ground to provide a signal when end of travel is reached. This output can be used to power LEDs.



EP1.x Electronic Stroke Limit Control

Specifications

Power: 25 amps max. @ 12 volts
12.5 amps max. @ 24 volts

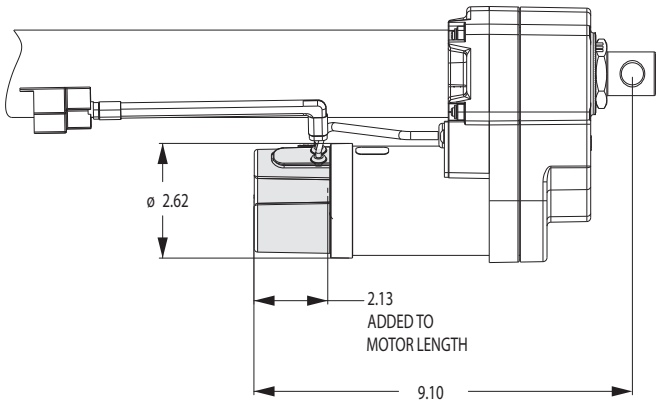
Operating Temperature: -30º to +140º F

Output Signal Power Input:
A live power input is provided that can maintain LEDs on when motor power is off.
12 or 24 VDC 150ma required

The EP1.x Limit Switch control provides end of travel positioning through the use of a magnetic switch and motor mounted relay.
The EP1 limit switches are mounted in a channel on the actuator cover tube accessible below a durable cover. (for factory set limit switches see P1.0 designs). The EP1 switches are field adjustable.

The Electronic Stroke control package consists of the magnetic sensors and a motor mounted relay within an enclosure suited for harsh environments.

A Zener diode suppression is used on both input and outputs for added protection from electrical spikes. Unit reversing is achieved by reversing input power polarity to the motor

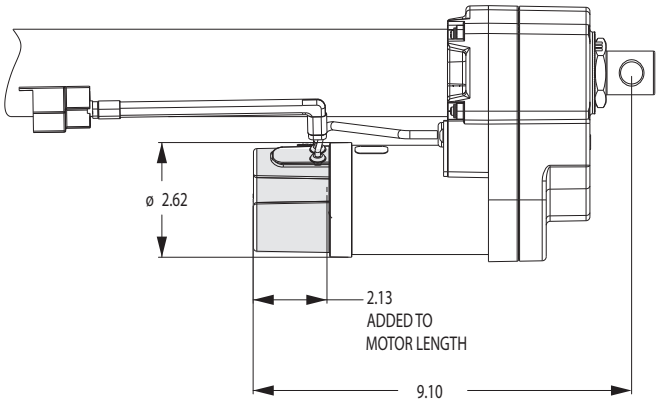


PQS Quick Stop Control

Specifications

Supply Power: 25 amps @ 12 volts dc
12.5 amps @ 24 volts dc

Operating Temperature: -30˚ to 140˚ F

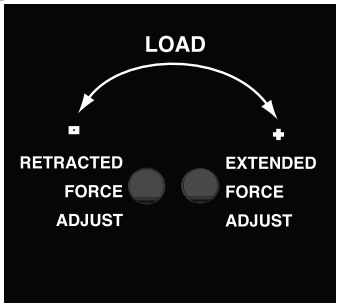


The PQS Quick Stop Control is an adjustable bi-directional current control that monitors motor current draw during actuator movement. If current draw exceeds set point due to obstruction or overload, the control removes power from the motor stopping the actuator.

Current limits are set via potentiometers accessible from the side of the control housing. Current limits can be adjusted independently for each direction of movement.

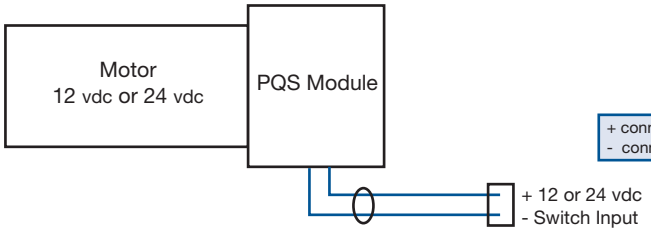
Changing extend or retract load limits:

- Remove access plugs on the side of control.
- Rotate trim pot counter clockwise for min. load.
- Rotate trim pot clockwise for max. load.
- Adjust the Retract pot to control closing force.
- Adjust the extend pot to control lifting force.
- Adjust as viewed with extension rod pointing up.
- Reinstall access plugs.



Wiring Diagrams

PQS Module
PQS-DC12/24



Model Selection

Model No.	Input Voltage (vdc)	Maximum Output Current (Amps)	Features
PQS	12	25	Base = Electronic Stroke Limit with Mid-stroke Current Limit and Electronic Dynamic Braking
PQS	24	12.5	Base = Electronic Stroke Limit with Mid-stroke Current Limit and Electronic Dynamic Braking

BTc Controls P2-DC

P2-DC Position Feedback Control

The P2.0 Position Control is a microprocessor position feedback control providing a 0 -10 volt DC output indicating actuator travel. The control uses two inductive pulse count sensors and a counting wheel to accurately determine actuator position. A third sensor at the full retract position provides a zero or home position indication.

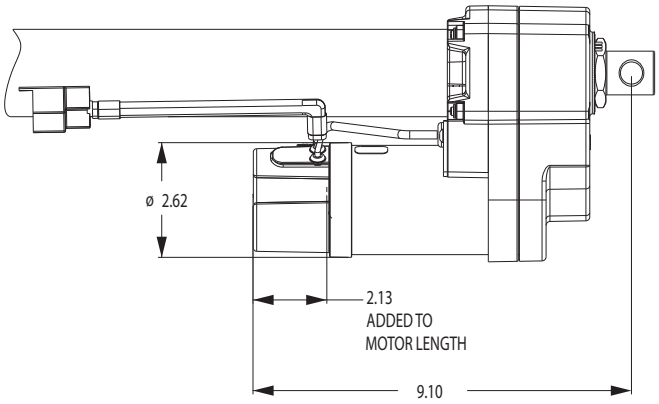
Hall Effect limit switches (those used in the P1.0 control) are used to provide end of travel positioning and will shut off actuator at both full extend and retract settings. All sensors are non-contact and sealed fo life. They are integrated within the actuator and control to protect them from contamination.

Specifications

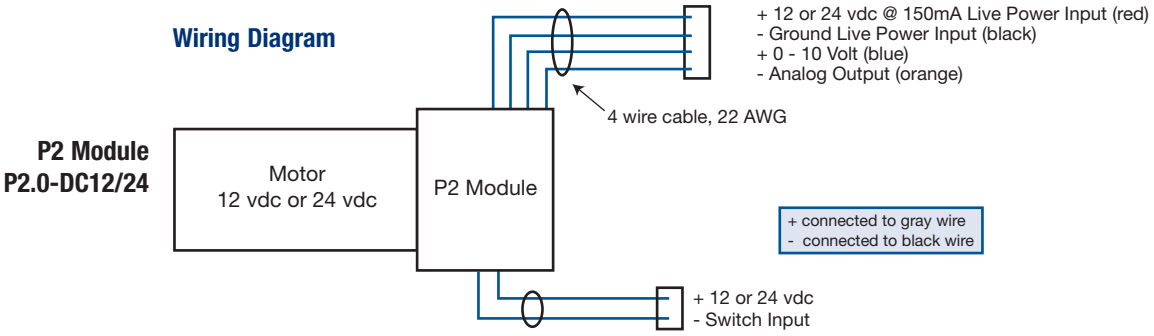
Supply Power: 25 amps @ 12 volts dc
12.5 amps @ 24 volts dc

Operating Temperature: -30˚ to 140˚ F

Protection: Zener diode suppression on the input and output for protection from electrical noise.



Wiring Diagram

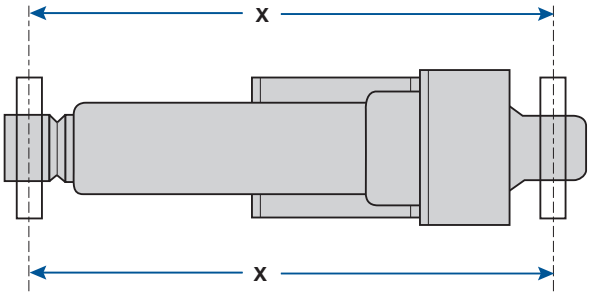


Model Selection

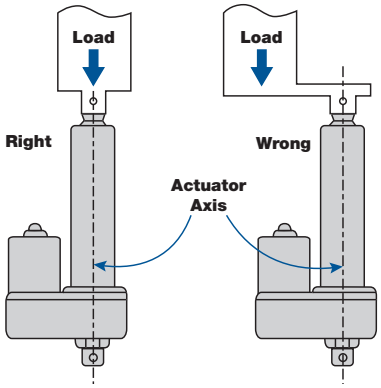
Model No.		Input Voltage (vdc)	Maximum Output Current (Amps)	Features
P2.0	(DC12)	12	25	Base = Electronic Stroke Limits with 0 to + 10V Analog Output and EDB
P2.0	(DC24)	24	12.5	Base = Electronic Stroke Limits with 0 to + 10V Analog Output and EDB

Warner 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.

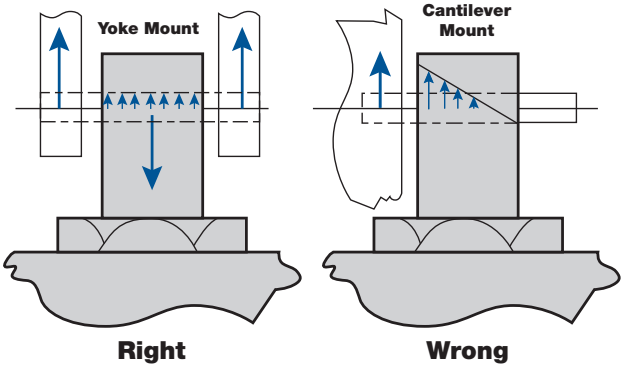
Use of solid pins provide maximum holding capability with a retaining ring or cotter pin on each end to prevent the solid pin from falling out of the mounting bracket (it is best to avoid roll pins and spring pins).



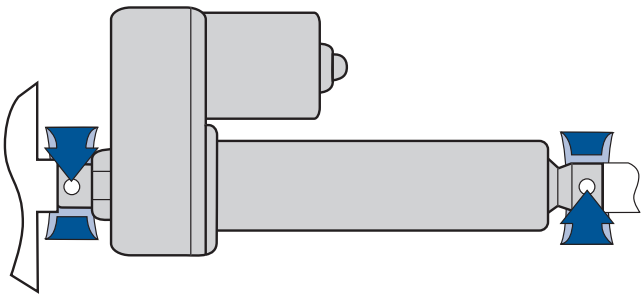
Mounting pins must be parallel to each other as shown above. Pins which are not parallel can cause excess vibration or actuator binding.



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 M-Track actuators by the cover tube. The tube is not designed to support the forces required for tube mounting.

All 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.

M-Track Torque created 20 inch pounds
All others Torque created 100 inch pounds

Glossary

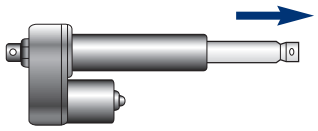


Figure 1 Axial load

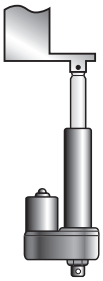


Figure 2 Cantilevered mount

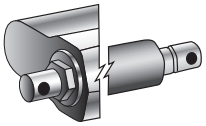


Figure 3 Clevis mount

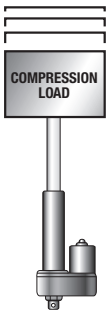


Figure 4 Compression load

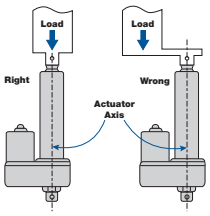


Figure 5 Eccentric load

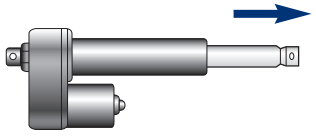


Figure 6 Extended length

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.

BTc
B-Track control family.

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.

ESL
Electronic Stroke Limit magnetically activated hall effect switches that turn power off at end of stroke.

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.

Synchronous position
Having more than one actuator extend and retract together maintaining ± 0.20 position relative to each other.

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.

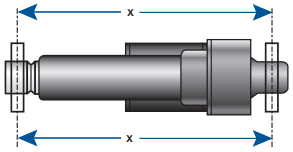


Figure 7 Pin mount

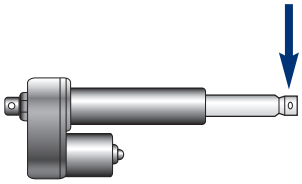


Figure 8 Radial load also side loading

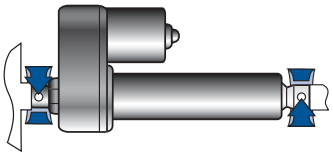


Figure 9 Restraining torque

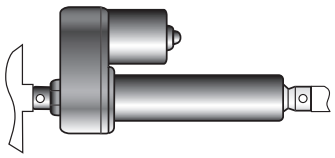


Figure 10 Retracted length

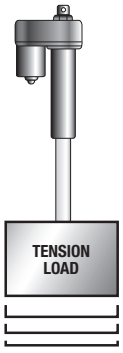


Figure 11 Tension load

Notes

Legacy products: From 2005 through 2009 Warner Linear provided the A-Track series of actuators. These have been replaced by the K2, K2AC, K2x, and K2xAC products which are direct replacements for the A-Track 2, 5, and 10 models.

The A-Track designs will continue to be available on a limited basis for some time to come. We do not recommend these for new applications but will continue to provide them as replacement items so long as supply is available.

General Duty

A-Track 2

Efficient design offering low cost power capability. For use in applications where moisture or environmental contamination exist.

Drive Type:
Acme Screw

Load Capacity & Speed (lbs. @ in./sec.):
330 @ 1.0
500 @ 0.5

Stand. Stroke Length (in.):
4, 6, 8, 12, 18, 24

Input Voltage (vdc):
12, 24

Typical Applications:
Drum Lifts
Access Panel Lifts
Walk Behind Sweeper/Polishers
Tractor Hood Lifts
Spout Positioning

A-Track 5

Efficient design offering moderate power capability. For indoor use or where AC power is available.

Drive Type:
Acme or Ball Screw

Load Capacity & Speed (lbs. @ in./sec.):
330 @ 1.2
500 @ 0.75
1000 @ 1.0
1300 @ 0.75

Stand. Stroke Length (in.):
4, 6, 8, 12, 18, 24

Input Voltage (vac):
115, 230

Typical Applications:
Work Table Positioning
Conveyor Positioning
Remote Louver Control
Door Opening
Vent Control
Scissor Lift Tables

A-Track 10

Completely self-contained for more demanding outdoor applications requiring moderate load and duty cycle capability.

Drive Type:
Ball Screw

Load Capacity & Speed (lbs. @ in./sec.):
500 @ 2.0
750 @ 1.0
1000 @ 0.5

Stand. Stroke Length (in.):
4, 6, 8, 12, 18, 24

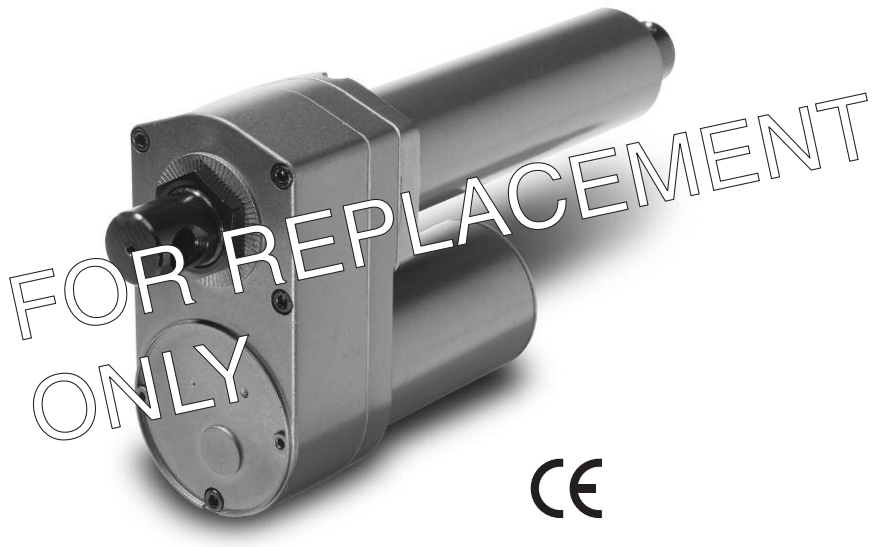
Input Voltage (vdc):
12, 24

Typical Applications:
Boat Engine Covers
Round Baler Covers
Engine Hoods
Scooter Lifts

A-Track 2

DC Motor Acme Screw

Up to 500 lbs. Rated Load
Up to 1.0 in./sec. Travel Speed



Features

- Sealed and gasketed for mobile or outdoor applications
- Overload clutch standard
- 4, 6, 8, 12, 18 and 24 inch stroke lengths
- 12 or 24 volt DC motors
- Acme screw drive
- Thermal overload included in double ball bearing motor.

Typical Applications

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

General Purpose DC Actuator

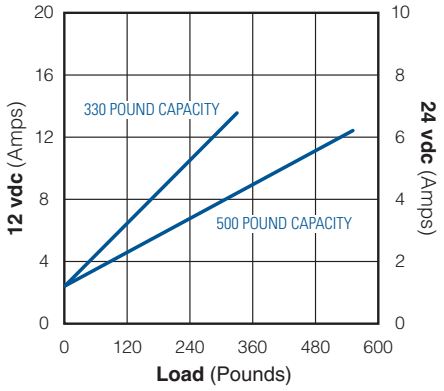
The A-Track 2 incorporates an Acme screw drive system that provides a value priced unit for moderate duty applications. The A-Track 2 includes lubrication for the life of the unit, combined with robust seal and O-ring design, creating a maintenance free design, even when used in applications with high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

Specifications

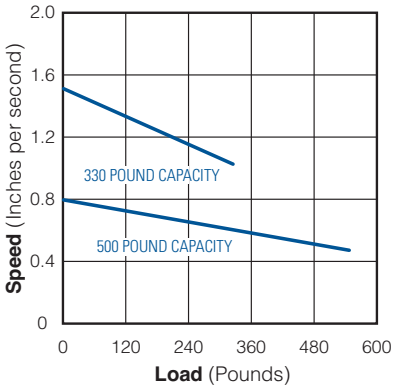
Load Capacity	330 pounds	500 pounds
Speed at Full Load	1.0 in/sec	0.50 in/sec
Input Voltage	12 or 24 volt for all models	
Static Load Capacity	1000 pounds for all models	
Stroke Length	4, 6, 8, 12, 18 and 24 inches for all models	
Clevis Ends	13 mm diameter	
Duty Cycle	25% for all models	
Operation Temperature Range	-15º F to +150º F for all models	
Limit Switch	Optional adjustable travel limit switches (20:1 only) (500 lb.)	
Potentiometer	Optional feedback potentiometer	
Restraining Torque	100 inch pounds	
Thermal Overload	Thermal overload included in all motors	

Performance Curves

Current vs Load



Speed vs Load



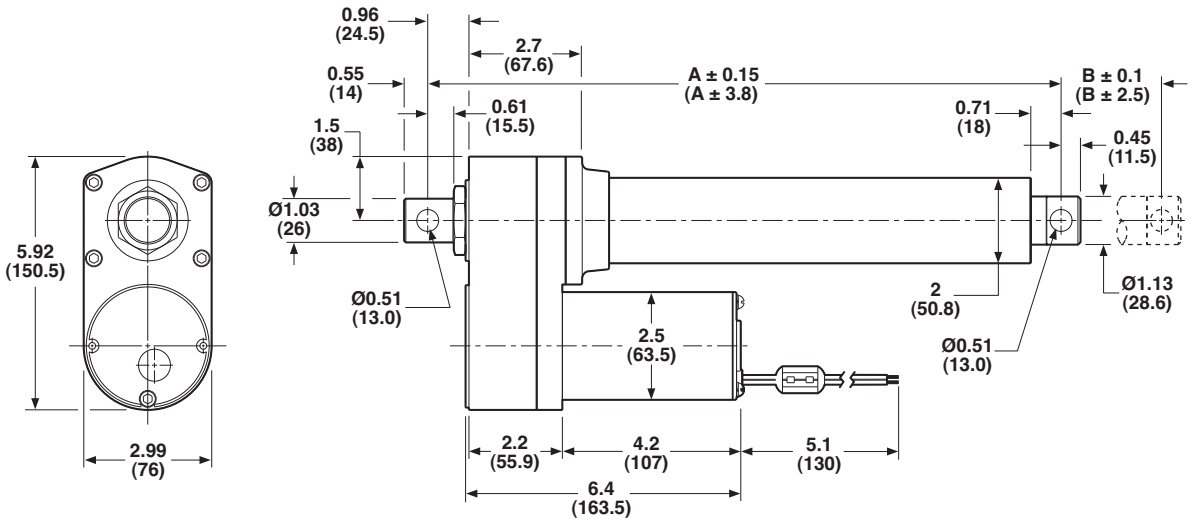
Dimensions

With Limit Switches

A-Track 2	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
	A	13.31	338	15.31	389	17.13	435	21.26	540	30.39	772	36.38	924
	B	4.01	102	6.02	153	7.99	203	12.0	305	17.99	457	24.01	610

Without Limit Switches

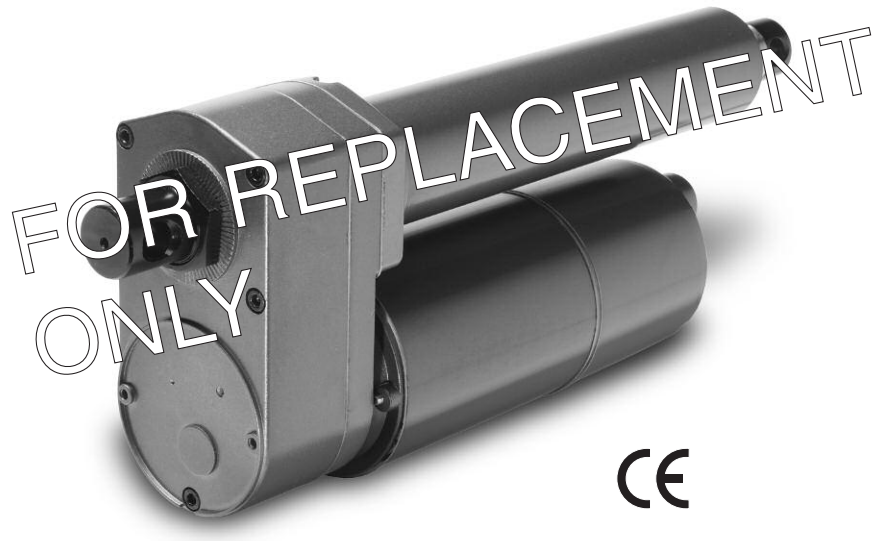
A-Track 2	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
	A	10.3	262	12.32	313	14.33	364	18.31	465	27.40	696	33.39	848
	B	4.01	102	6.02	153	7.99	203	12.00	305	17.99	457	24.01	610



A-Track 5

AC Motor Acme Screw

Up to 500 lbs. Rated Load
Up to 0.98 in./sec. Travel Speed



Features

- Acme screw drive system
- 115 volt AC (60hz) and 230 volt AC (50hz) motors available
- 4, 6, 8, 12, 18 and 24 inch strokes
- Acme screw drive train
- Overload clutch standard
- Lubricated for life
- Capacitor included with motor

Typical Applications

- Ergonomic lift tables
- Conveyor diverters
- Bin/tank cover lifts
- Roof vents

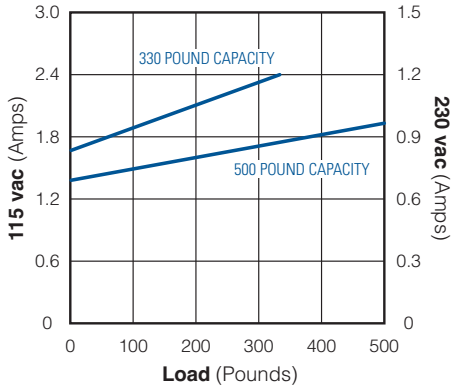
The A-Track 5 Acme screw actuator is a general purpose AC actuator with load capacities of 330 and 500 pounds for use in moderate duty interior applications. The unit includes a power off motor stopping brake for faster stops and extra load holding capability. The Model 5 allows for stroke lengths of 4 to 24 inches for in-plant or protected applications.

Specifications

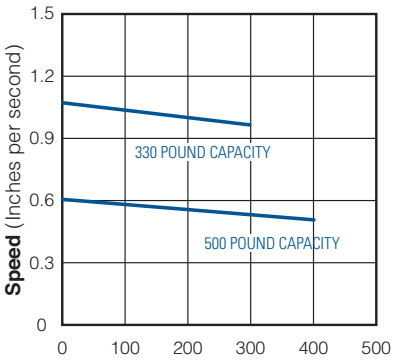
Load Capacity	330 pounds	500 pounds
Speed at Full Load	0.98 in/sec	0.55 in/sec
Input Voltage	115 vac (60hz) and 230 vac (50hz) for both models	
Static Load Capacity	1000 pounds for all models	
Stroke Length	4, 6, 8, 12, 18 and 24 inches for all models	
Clevis Ends	13 mm diameter	
Duty Cycle	25% for all models	
Operation Temperature Range	-15º F to +150º F for all models	
Limit Switch	Optional adjustable travel limit switches (20:1 only) (500 lb.)	
Potentiometer	Optional feedback potentiometer	
Restraining Torque	100 inch pounds	
Thermal Overload	Thermal overload included in all motors	

Performance Curves

Current vs Load



Speed vs Load



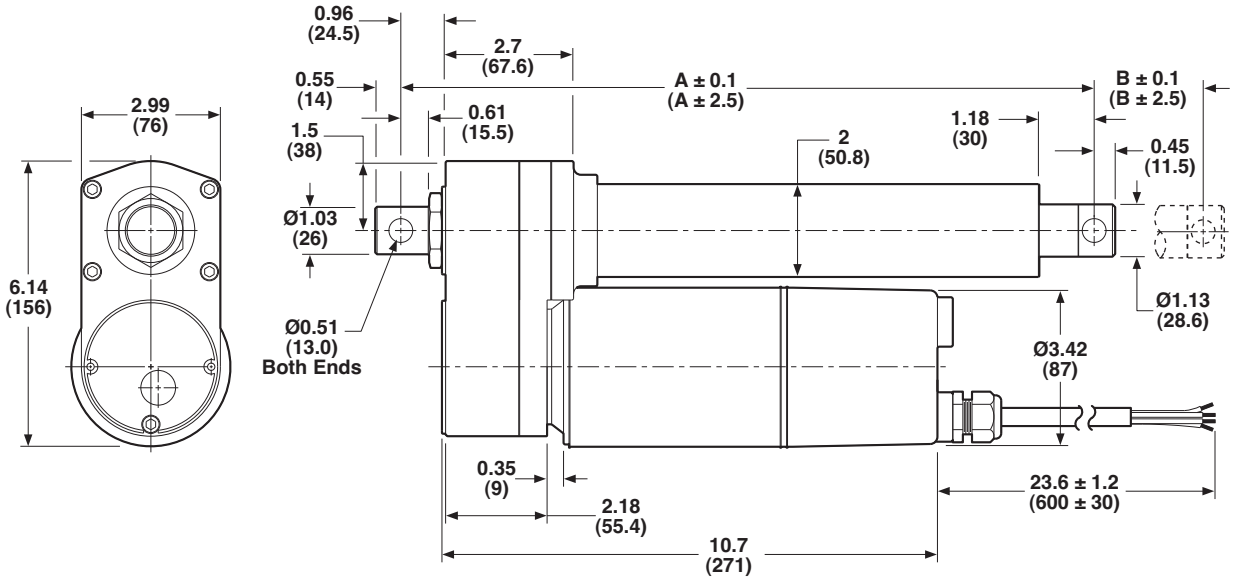
Dimensions

With Limit Switches

	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A-Track 5 Acme	A	17.95	456	19.92	506	21.89	556	25.91	658	31.89	810	37.87	962
	B	4.01	102	6.02	153	7.99	203	12.00	305	17.99	457	24.01	610

Without Limit Switches

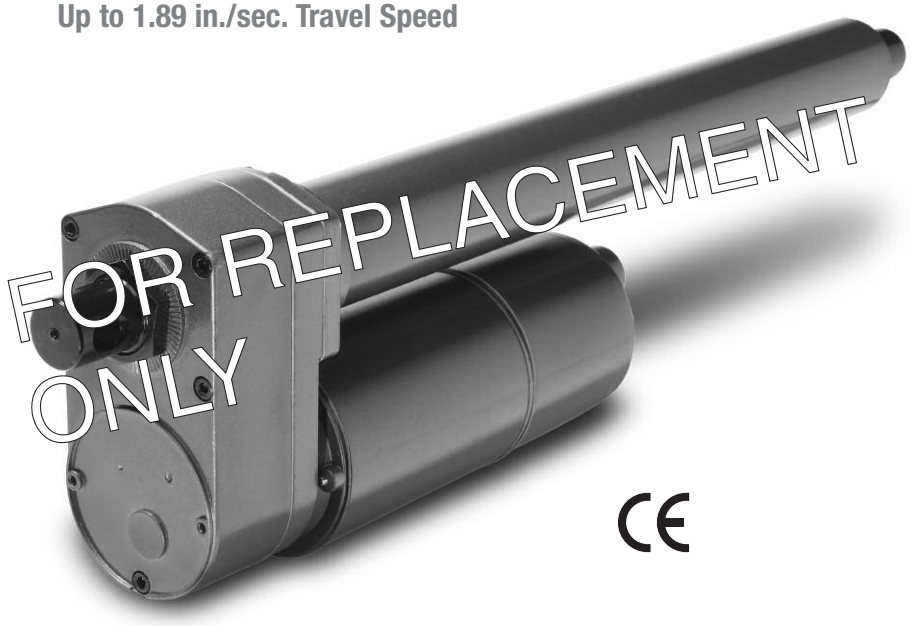
	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A-Track 5 Acme	A	14.96	380	16.97	431	18.94	481	22.95	583	28.94	735	34.92	887
	B	4.01	102	6.02	153	7.99	203	12.00	305	17.99	457	24.01	610



A-Track 5

AC Motor Ball Screw

Up to 1300 lbs. Rated Load
Up to 1.89 in./sec. Travel Speed



Features

- Ball bearing screw drive system
- Anti-coast load holding brake
- 4–24 inch stroke length capability
- Load limiting clutch standard
- Thermal overload protection in the motor
- Capacitor included in motor

Typical Applications

- Ergonomic lift tables
- Conveyor diverters
- Bin or tank cover lifts
- Die transfer carts

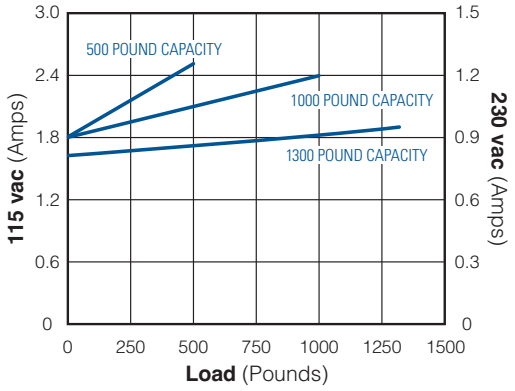
The A-Track 5 Ball Screw is a ball screw drive linear actuator for industrial and commercial applications. The unit provides load capacity up to 1300 pounds with either 115 volt or 230 volt AC motors. This unit includes a power off load holding brake which stops the motor from turning when power is off. The Model 5 allows for stroke lengths of 4 to 24 inches for in-plant or protected applications.

Specifications

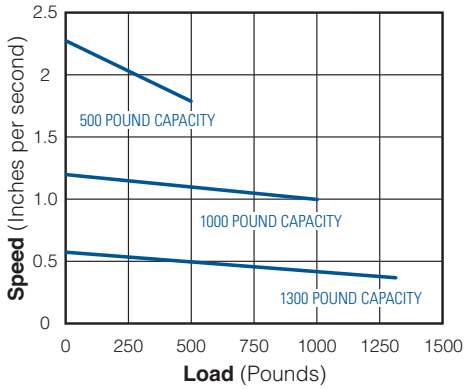
Load Capacity	500 pounds	1000 pounds	1300 pounds
Speed at Full Load	1.89 in/sec	0.98 in/sec	0.47 in/sec
Input Voltage	115 vac (60hz) / 230 vac (50hz)		
Static Load Capacity	3050 pounds for all models		
Stroke Length	4, 6, 8, 12, 18 and 24 inches		
Clevis Ends	13 mm diameter		
Duty Cycle	25% for all models		
Operation Temperature Range	-15º F to +150º F for all models		
Limit Switch	Optional Adjustable (20:1 only) (1300 lbs.)		
Potentiometer	Optional for all models		
Restraining Torque	100 in. lbs.		
Thermal Overload	Overload clutch and motor thermal overload		

Performance Curves

Current vs Load



Speed vs Load



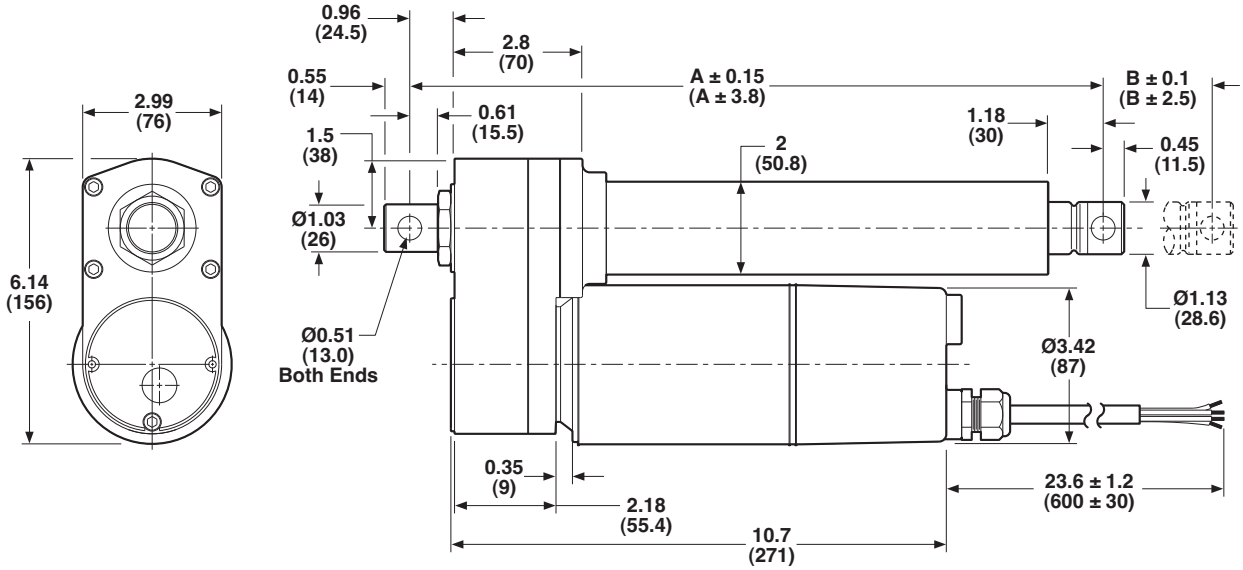
Dimensions

With Limit Switches

	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A-Track 5 Ball Screw	A	17.95	456	19.92	506	21.89	556	25.91	658	31.89	810	37.87	962
	B	4.01	102	6.02	153	7.99	203	12.00	305	17.99	457	24.01	610

Without Limit Switches

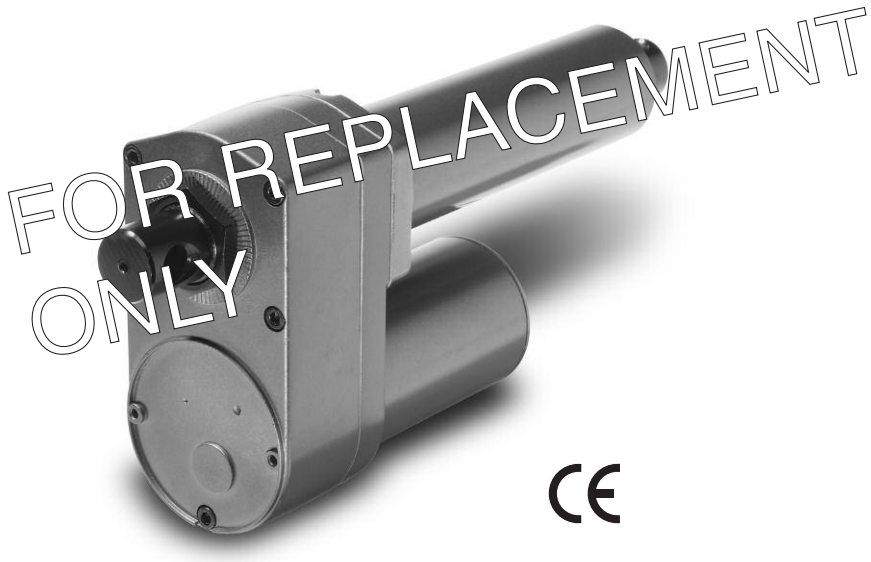
	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A-Track 5 Ball Screw	A	14.96	380	16.97	431	18.94	481	22.95	583	28.94	735	34.92	887
	B	4.01	102	6.02	153	7.99	203	12.00	305	17.99	457	24.01	610



A-Track 10

DC Motor Ball Screw

Up to 1000 lbs. Rated Load
Up to 1.35 in./sec. Travel Speed



Features

- Efficient ball screw drive system
- Load holding brake standard
- Overload clutch standard
- 4 to 24 inch stroke lengths
- Thermal overload incorporated into the motor

Typical Applications

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

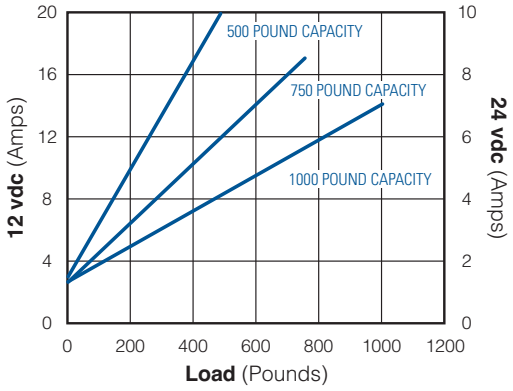
The A-Track 10 actuator is a DC motor driven, ball screw design suitable for applications requiring high load capacity. The A-Track 10 incorporates seals and O-rings to provide protection when used in outdoor, mobile or ambient contamination environments. This unit includes an integral load holding brake 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.

Specifications

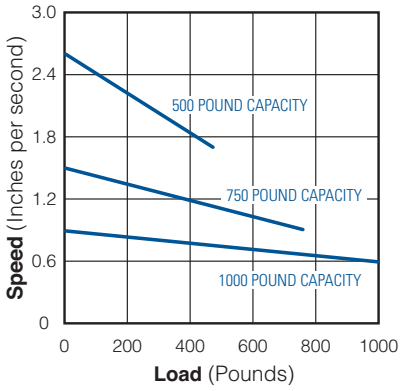
Load Capacity	500 pounds	750 pounds	1000 pounds
Speed at Full Load	1.35 in/sec	0.85 in/sec	0.51 in/sec
Input Voltage	12 or 24 volt DC for all models		
Static Load Capacity	3000 pounds for all models		
Stroke Length	4, 6, 8, 12, 18 and 24 inches for all models		
Clevis Ends	.51 in. / 13mm		
Duty Cycle	25%		
Operation Temperature Range	-15º F to +150º F for all models		
Limit Switch	Optional Adjustable (20:1 only) (1000 lbs.)		
Potentiometer	Optional for all models		
Restraining Torque	100 in. lbs.		
Thermal Overload	Overload clutch and motor thermal overload for all models		

Performance Curves

Current vs Load



Speed vs Load



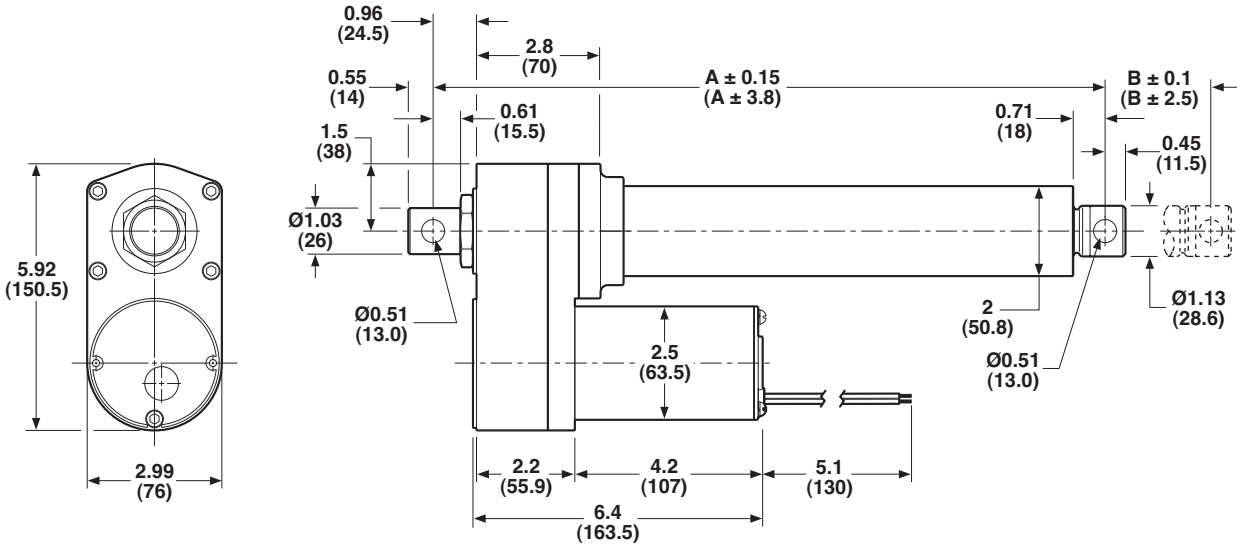
Dimensions

With Limit Switches

	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A-Track 10	A	14.88	378	16.89	429	18.86	479	22.83	580	31.89	810	37.87	962
	B	3.86	98	5.90	150	7.91	201	11.89	302	17.99	457	24.01	610

Without Limit Switches

	Stroke	4		6		8		12		18		24	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A-Track 10	A	11.89	302	13.90	353	15.90	404	19.88	505	28.94	735	34.92	887
	B	3.86	98	5.90	150	7.91	201	11.89	302	17.99	457	24.01	610



General Project Specifications

Mail or Fax to:

Warner Linear
Application Engineering
6593 Revlon Dr. Plant #1,
Belvidere, Il 61008

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

Date _____

Company _____

Address _____

City _____ State _____ Zip _____

Name _____

Title _____ Phone (____) _____

Project Specifications

Dynamic Load _____ kg _____ 0.00 lbs.

Side Load _____ kg _____ 0.00 lbs.

Full Load Speed (min): _____ mm/s _____ 0.00 inches/s

Full Load Speed (max): _____ mm/s _____ 0.00 inches/s

Stroke: _____ mm _____ 0 inches

Life: _____ mm _____ 0 inches

NOTE: "Life" is total distance traveled in lifetime of product

Environment _____

Conditions:

Corrosives/Salt _____

Oil Splash _____

Moisture _____

Operating Temperature:

_____C Min _____32.0 F

_____C Max_____32.0 F

Duty Cycle (for one full extend + retract)

_____ Time On (Time on +Time off)

_____Cycles per day

Mounting Position _____

Maximum Noise Level _____ dB

Load Movement _____

_____

_____

In dumping applications, when load first acts to compress screw and then to retract screw (or vice versa)

Extension Rod Mount _____

Gearbox Mount _____

_____

_____

Connector Type _____

Mating Connector Required _____

Input Voltage Type _____

Input Voltage _____

Control Needed _____

If yes, which control _____

Notes

Notes

The power of one, the strength of many.

Other product solutions from

Altra Industrial Motion

Our comprehensive product offering is comprised of nine major categories including electromagnetic clutches and brakes, heavy duty clutches and brakes, overrunning clutches, gearing, engineered couplings, engineered bearing assemblies, linear products and belted drives. With thousands of product solutions available, Altra provides true single source convenience while meeting specific customer requirements. Many major OEM's and end users prefer Altra products as their No.1 choice for performance and reliability.

Electromagnetic Clutches and Brakes

Warner Electric
Inertia Dynamics
Matrix International

Heavy Duty Clutches and Brakes

Wichita Clutch
Twiflex Limited
Industrial Clutch

Overrunning Clutches

Formsprag Clutch
Marland Clutch
Stieber Clutch

Engineered Couplings and Universal Joints

TB Wood's
Ameridrives Couplings
Ameridrives Power Transmissions
Bibby Transmissions

Belted Drives and Sheaves

TB Wood's

Gearing

Boston Gear
Nuttall Gear
Delroyd Worm Gear

Linear Products

Warner Linear

Engineered Bearing Assemblies

Kilian Manufacturing

Precision Couplings and Air Motors

Huco Dynatork

Altra Industrial Motion

All Customer Service phone numbers shown in bold

Electromagnetic Clutches and Brakes

Warner Electric

Electromagnetic Clutches and Brakes

New Hartford, CT - USA
1-800-825-6544

For application assistance: 1-800-825-9050

St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Precision Electric Coils and Electromagnetic Clutches and Brakes

Columbia City, IN - USA
1-260-244-6183

Matrix International

Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes

Brechin, Scotland
+44 (0) 1356 602000

New Hartford, CT - USA
1-800-825-6544

Inertia Dynamics

Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes

New Hartford, CT - USA
1-800-800-6445

Overrunning Clutches

Formsprag Clutch

Overrunning Clutches and Holdbacks

Warren, MI - USA
1-800-348-0881 – Press #1

For application assistance: 1-800-348-0881 – Press #2

Marland Clutch

Roller Ramp and Sprag Type Overrunning Clutches and Backstops

Burr Ridge, IL - USA
1-800-216-3515

Stieber Clutch

Overrunning Clutches and Holdbacks

Heidelberg, Germany
+49 (0) 6221 30 47 0

Engineered Couplings

Ameridrives Couplings

Mill Spindles, Ameriflex, Ameridisc

Erie, PA - USA
1-814-480-5000

Gear Couplings

San Marcos, TX - USA
1-512-353-4000

Bibby Transmissions

Disc, Gear, Grid Couplings, Overload Clutches

Dewsbury, England
+44 (0) 1924 460801

Boksburg, South Africa
+27 11 918 4270

TB Wood's

Elastomeric Couplings

Chambersburg, PA - USA
1-888-829-6637 – Press #5

For application assistance: 1-888-829-6637 – Press #7

General Purpose Disc Couplings

San Marcos, TX - USA
1-512-353-4000

Ameridrives Power Transmission

Universal Joints, Drive Shafts, Mill Gear Couplings

Green Bay, WI - USA
1-920-593-2444

Huco Dynatork

Precision Couplings and Air Motors

Hertford, England
+44 (0) 1992 501900

Charlotte, NC - USA
1-800-825-6544

Linear Products

Warner Linear

Linear Actuators and Guideways

Belvidere, IL - USA
1-800-825-6544

For application assistance: 1-800-825-9050

St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Heavy Duty Clutches and Brakes

Wichita Clutch

Pneumatic Clutches and Brakes

Wichita Falls, TX - USA
1-800-964-3262

Bedford, England
+44 (0) 1234 350311

Twiflex Limited

Caliper Brakes and Thrusters

Twickenham, England
+44 (0) 20 8894 1161

Industrial Clutch

Pneumatic and Oil Immersed Clutches and Brakes

Waukesha, WI - USA
1-262-547-3357

Gearing

Boston Gear

Enclosed and Open Gearing, Electrical and Mechanical P.T. Components

Charlotte, NC - USA
1-800-825-6544

For application assistance: 1-800-816-5608

Nuttall Gear and Delroyd Worm Gear

Worm Gear and Helical Speed Reducers

Niagara Falls, NY - USA
1-716-298-4100

Belted Drives and Sheaves

TB Wood's

Belted Drives

Chambersburg, PA - USA
1-888-829-6637 – Press #5

For application assistance: 1-888-829-6637 – Press #7

Engineered Bearing Assemblies

Kilian Manufacturing

Engineered Bearing Assemblies

Syracuse, NY - USA
1-315-432-0700

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www.warnerelectric.com.sg

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