



Warner Linear B-Track K4x

Rugged Duty Actuator

B-Track K4x

Rugged Duty Actuator DC Motor Ball Screw

Up to 4,000 lbs. (17760 N) Rated Load
0.32 in. (8.1mm)/sec. Travel Speed



The K4x model provides the highest load rating in its class. This model incorporates all of the base K2 features with a ball screw for a 4,000 lb. (17760 N) load capability within a compact package size. The K4x 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.

Features

- **Protective coatings** and O-ring seals throughout
- **Integral load** holding brake
- **Ball detent overload clutch**
- **Stroke lengths** 2 to 24 inches (50 to 600 millimeters), up to 42 inches (1066 millimeters) possible. Consult factory.
- **Load capacities** up to 4,000 pounds (17760 N)
- **Speed** 0.32 inches (8.1 mm)/sec. travel at full load
- **Heavy wall construction**
- **Double ball bearing motors**
- **Heat treated gears**
- **Rugged extension rod bearing support**

Typical Applications

- Mobile off-highway equipment
- Deck and implement lifts for tractors and mobile applications
- Solar Panels
- Scissor and dump box lifts

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 5,000 lbs. (22000 N) Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06" (1.52 mm)
- 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

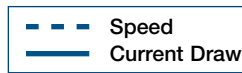
- Ambient temp range: -20° F to +150° F (-29° C to +65° C), -40°F to +176°F (-40°C to +80°C) Upon Request.
- Weather resistant enclosure & seals (IP69K static, IP65 capable, 250 hour salt spray)
- Normal operating voltage: 10-16 vdc (12 vdc Normal)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105° C
- Lead wires abrasion protected with spiral 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) Upon Request

Performance Graphs Imperial & Metric Measurements*

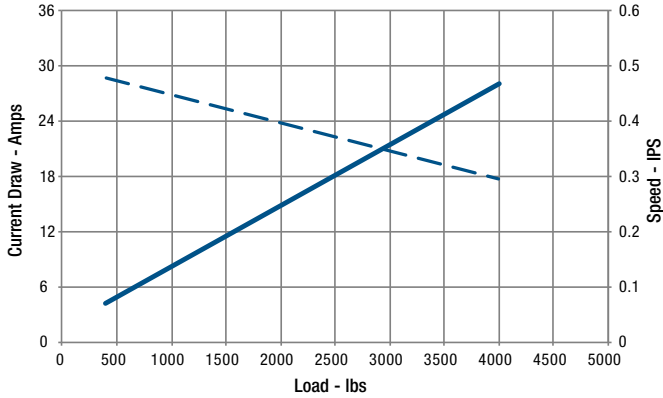
*Performance Chart Measurements are Nominal



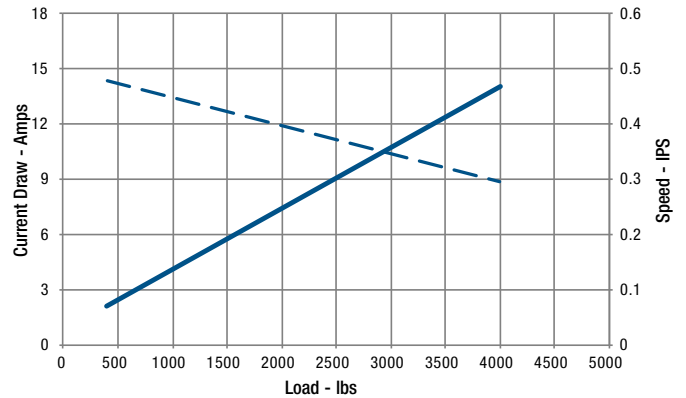
Imperial Measurements*

Load Capacity 4000 lbs.

K4XG30-12VDC



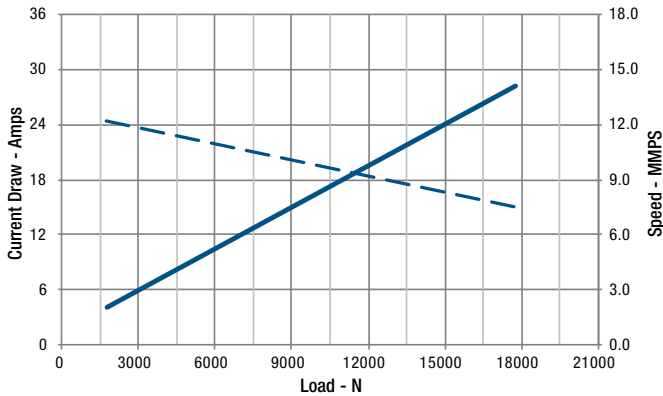
K4XG30-24VDC



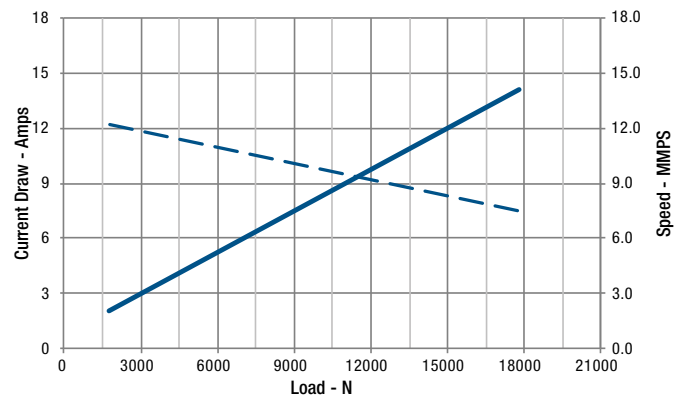
Metric Measurements*

Load Capacity 17750 N

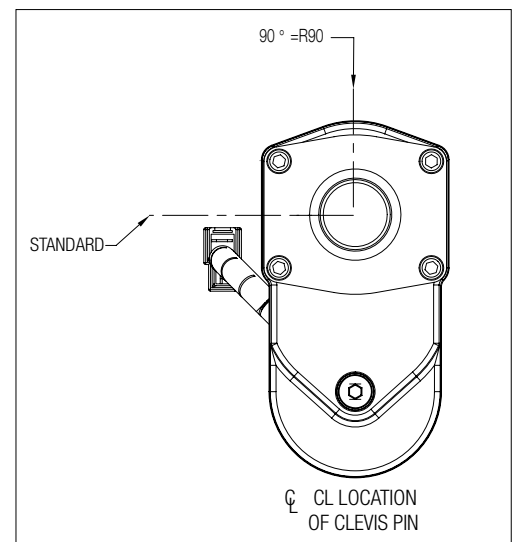
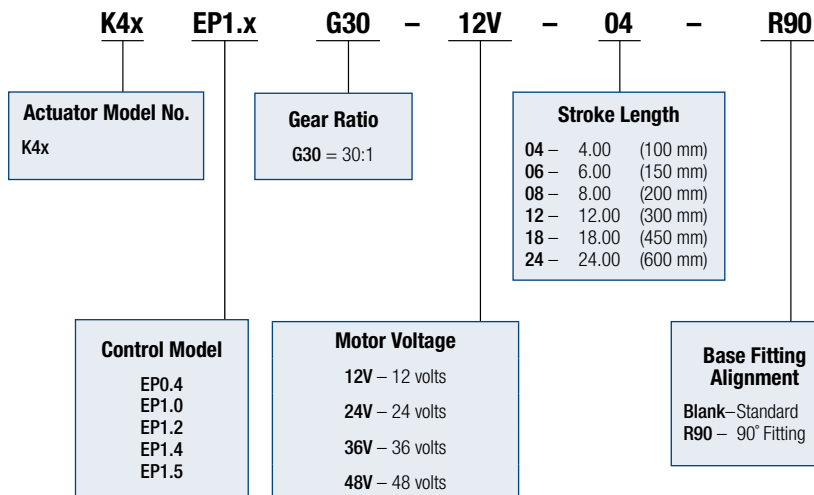
K4XG30-12VDC



K4XG30-24VDC



B-Track Configurator



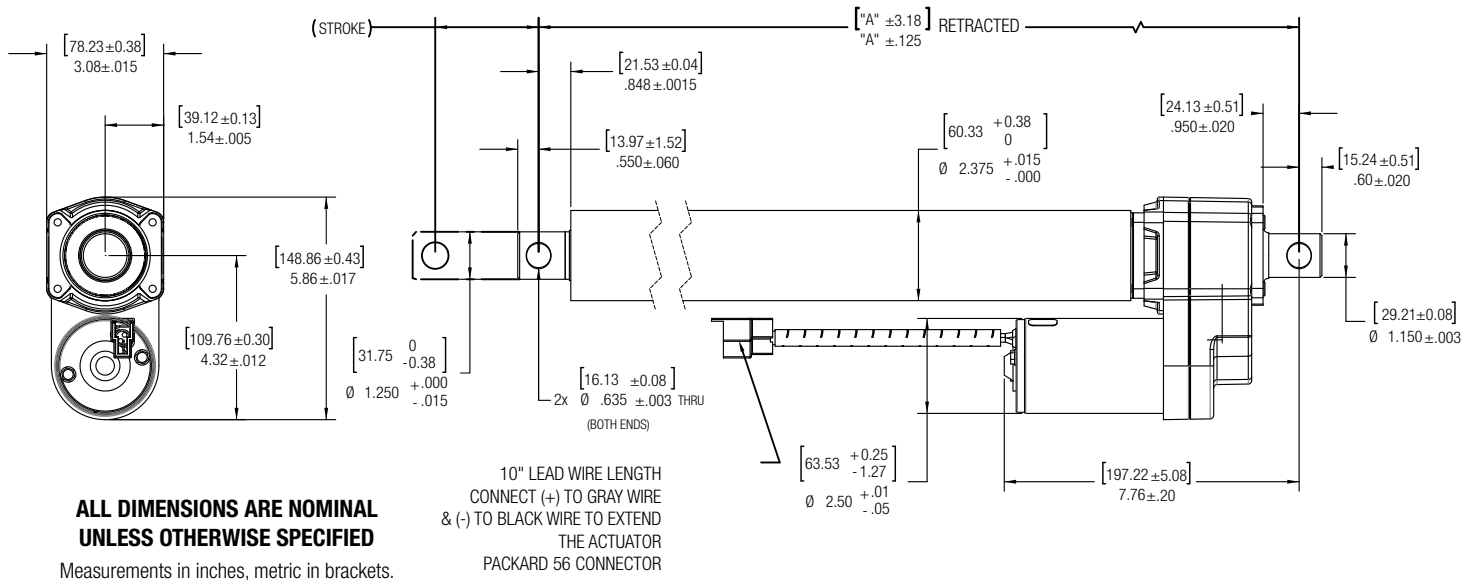
B-Track K4x

Dimensions

B-Track K4x	Stroke	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
		2	50.8	4	101.6	6	152.4	8	203.2	10	254	12	304.8
	A	12.708	322.8	14.708	373.6	16.708	424.4	18.708	475.2	20.708	526.0	22.708	576.8

B-Track K4x	Stroke	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
		14	355.6	16	406.4	18	457.2	20	508	22	558.8	24	609.6
	A	24.708	627.6	26.708	678.4	28.708	729.2	30.708	780.0	32.708	830.8	37.708	957.8

Note: For length under 24", A = 10.708 + stroke. For length 24" and over, A = 13.708 + stroke



EPO.4 Position Feedback



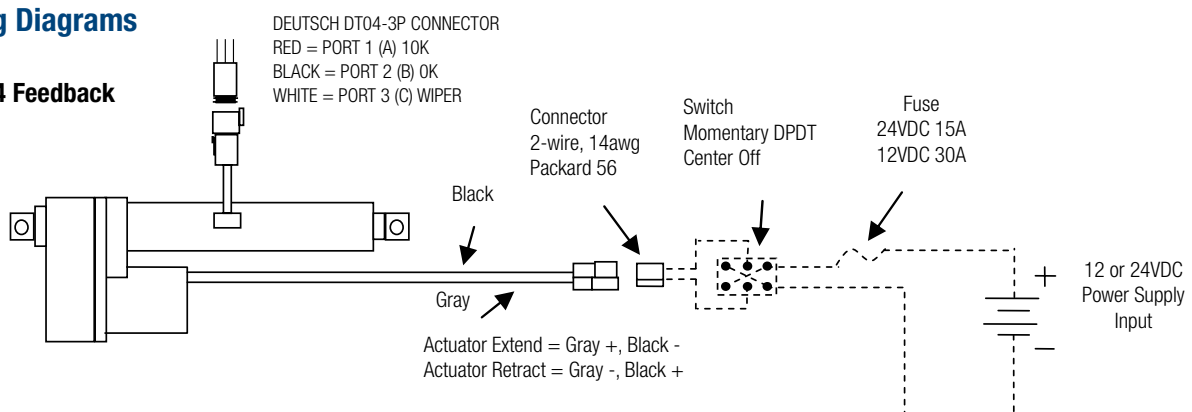
Specifications

Type:	Membrane Potentiometer
Resistance:	12k ohms ($\pm 20\%$)
Linearity:	5%
Operating Temperature:	-20° F to +165° F (-29° C to 75° C)

The EPO.4 option provides an absolute position feedback. A stylus moves along the linear potentiometer located in the actuators tube when it is extending or retracting, varying the resistance. The simple potentiometer design makes it a robust solution for high vibratory environments, and the overmoulded connector protects it from dust and water ingress.

Wiring Diagrams

EPO.4 Feedback



All dashed lines are customer supplied connections

Operation

As the actuator is extending or retracting, the resistance between the black and white wires will change. When a 10VDC voltage is applied to the red (+) and black (-) wires the output voltage between the black and white wires will vary from approximately 0.5VDC (fully retracted) to 9.5VDC (fully extended), giving a voltage value proportional to the actuator position.

EP1.x Electronic Stroke Limit Control



The EP1.x Limit Switch control provides end of travel positioning through the use of a magnetic switch and motor mounted relay.

The limit switches are mounted in a channel on the actuator cover tube accessible below a durable cover. They 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.

Specifications

Power:	25 Amps max. @ 12 volts 12.5 Amps max. @ 24 volts
Operating Temperature:	-20° F to +150° F (-29° C to 66° C)

Options

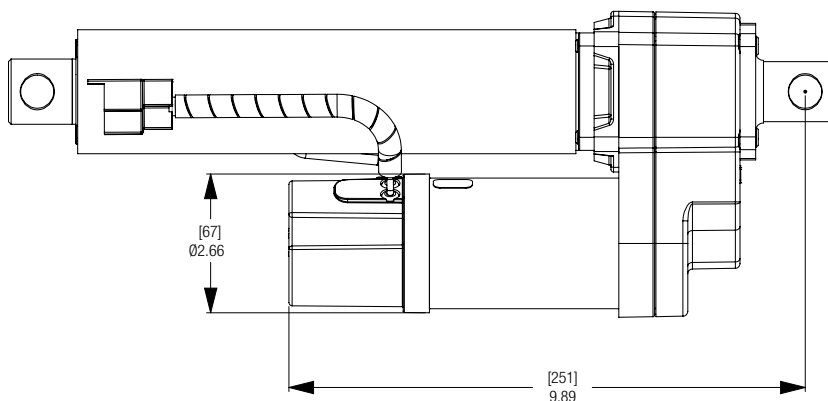
EP1.0	Standard Stroke Limit Control
EP1.2	Same as P1.0 with two 12/24 volt, 0.5 Amps outputs that can be used to signal an external switch, relay, lamp or PLC input.
EP1.2LE	Two +5 VDC 25ma outputs plus a ground to provide a signal when end of travel is reached. This output can be used to power LEDs.
EP1.4	Same as EP1.0, end limit stopping with 0-10K ohm potentiometer output.
EP1.5	Same as EP1.2 with 0-10K potentiometer outputs.



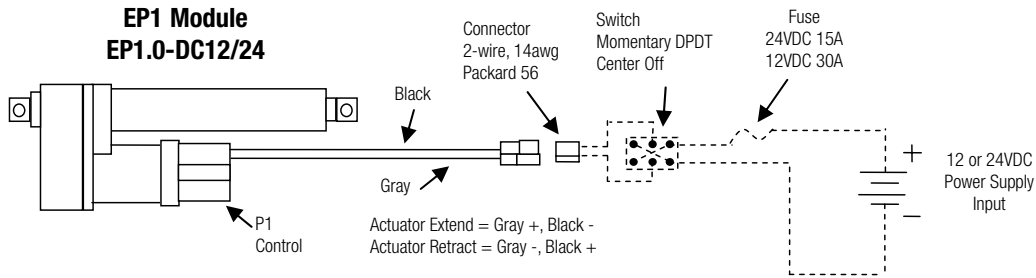
Scan to watch!

How to Adjust the Limit Switches

<https://p.widencdn.net/imzc9v>



EP1 Electronic Stroke Limit Control

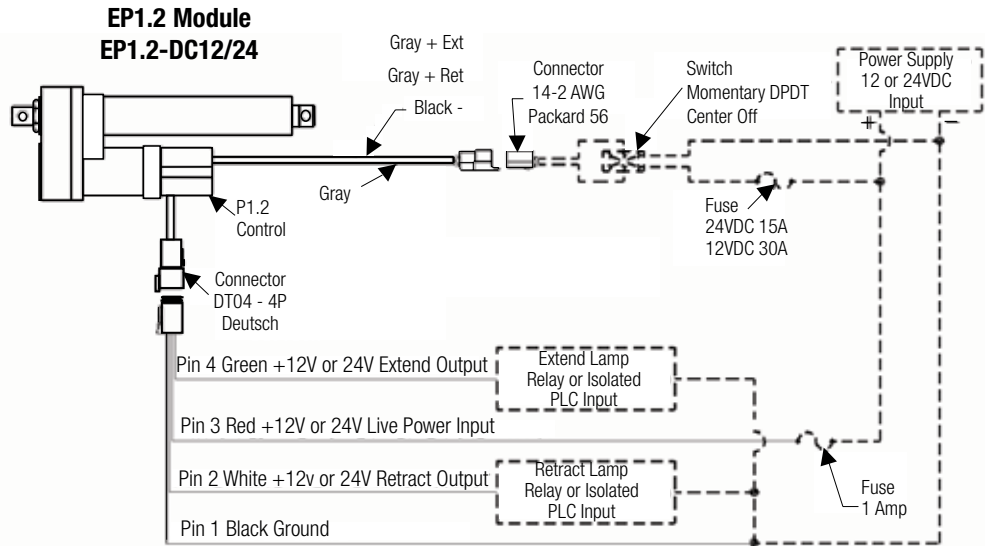


All dashed lines are customer supplied connections

Operation

When the “Customer Supplied Switch” is held in the direction allowing positive 12 or 24VDC to the gray wire and 12 or 24VDC ground to the black wire, the actuator will extend until it reaches the end of stroke. At the end of stroke, which is determined by the factory set location of the Hall effect switches, power will be removed to the actuator by the control.

When the switch is held in the opposite direction so the positive lead of the 12 or 24VDC signal is on the black wire and the 12 or 24VDC ground is on the gray wire, the actuator will retract until it returns to the full home position.



All dashed lines are customer supplied connections

Operation

When the “Customer Supplied Switch” is held in the direction allowing positive 12 or 24VDC to the gray wire and 12 or 24VDC ground to the black wire, the actuator will extend until it reaches the end of stroke. At the end of stroke the “Extend Output” (green wire) will have +12 or 24VDC to ground, indicating it is at the end. This signal can be used to light a lamp, signal a relay coil, or an isolated PLC input that only requires 500mA or less. This output will only be on as long as power is maintained from the “Customer Supplied Switch”.

However, if the output needs to be on even if the “Customer Supplied Switch” is not activated then the “Live Power input” can be used. This will provide power all the

time for the output to remain on whenever the Actuator is at either travel end.

Apply +12 VDC (for 12VDC unit) or +24 VDC (for 24VDC unit) to the red wire of the Deutsch (DT04-4P) 4 pin connector and ground to the black wire. This supply needs to be the same supply as the actuator and will require less than 500mA.

When the switch is held in the opposite direction so the positive lead of the 12 or 24VDC signal is on the black wire and the 12 or 24VDC ground is on the gray wire, the actuator will retract until it returns to full home position. At the full home position, the “Retract Output” (white wire) will have +12 or 24VDC to ground.

EUROPE

United Kingdom

Thomson
Office 9, The Barns
Caddsdow Business Park
Bideford, Devon, EX39 3BT
Phone: +44 1271 334 500
E-mail: sales.uk@thomsonlinear.com

Germany

Thomson
Nürtinger Straße 70
72649 Wolfschlügen
Phone: +49 7022 504 403
Fax: +49 7022 504 405
E-mail: sales.germany@thomsonlinear.com

France

Thomson
Phone: +33 243 50 03 30
Fax: +33 243 50 03 39
E-mail: sales.france@thomsonlinear.com

Italy

Thomson
Via per Cinisello 95/97
20834 Nova Milanese (MB)
Phone: +39 0362 366406
Fax: +39 0362 276790
E-mail: sales.italy@thomsonlinear.com

Spain

Thomson
E-mail: sales.esm@thomsonlinear.com

Sweden

Thomson
Estridsväg 10
29109 Kristianstad
Phone: +46 44 24 67 00
Fax: +46 44 24 40 85
E-mail: sales.scandinavia@thomsonlinear.com

SOUTH AMERICA

Brasil

Thomson
Av. João Paulo Ablas, 2970
Jardim da Glória - Cotia SP - CEP: 06711-250
Phone: +55 11 4615 6300
E-mail: sales.brasil@thomsonlinear.com

USA, CANADA and MEXICO

Thomson
203A West Rock Road
Radford, VA 24141, USA
Phone: +1 540 633 3549
Fax: 1 540 633 0294
E-mail: thomson@thomsonlinear.com
Literature: literature.thomsonlinear.com

ASIA

Asia Pacific

Thomson
E-mail: sales.apac@thomsonlinear.com

China

Thomson
Rm 805, Scitech Tower
22 Jianguomen Wai Street
Beijing 100004
Phone: +86 400 606 1805
Fax: +86 10 6515 0263
E-mail: sales.china@thomsonlinear.com

India

Thomson
c/o Portescap India Pvt Ltd
1 E, first floor, Arena House
Road no 12, Marol Industrial Area,
Andheri (E), Mumbai 400093 India
E-mail: sales.india@thomsonlinear.com

Japan

Thomson
Minami-Kaneden 2-12-23, Suita
Osaka 564-0044 Japan
Phone: +81 6 6386 8001
Fax: +81 6 6386 5022
E-mail: csjapan@scgap.com

South Korea

Thomson
3033 ASEM Tower (Samsung-dong)
517 Yeongdong-daero
Gangnam-gu, Seoul, South Korea (06164)
Phone: + 82 2 6001 3223 & 3244
E-mail: sales.korea@thomsonlinear.com

www.thomsonlinear.com

THOMSON-P-8482-WL-A4 | 20190430TJ

Specifications are subject to change without notice. It is the responsibility of the product user to determine the suitability of this product for a specific application. All trademarks property of their respective owners. © 2019 Thomson Industries, Inc.

 **THOMSON**[®]

Linear Motion. Optimized.[™]