



PA-ST2

User Manual

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Have any queries? Our expert engineers are here to help!



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Safety Precautions

When installing and using your Progressive Automations linear actuator, basic safety precautions should always be followed. Please read all safety precautions thoroughly and be familiar with all functions of the product before use. Apply all other relevant precautions when operating electrical and moving mechanical devices.

DANGER

To reduce the risk of electrical shock and injuries:

- Do not attempt to modify or repair the actuator.
- Avoid using the actuator in environments with explosive gases or flammable materials.
- Avoid using the actuator beyond its specified Ingress Protection rating.
- Make sure that the power source is properly grounded. Neglecting proper grounding can result in a dangerous electrical hazard.

WARNING

To reduce personal harm and injury:

- Follow recommended load ratings and specifications for the actuator.
- Avoid leaving the actuator unattended during operation.
- Avoid operating the actuator in areas with high levels of airborne contaminants.
- Ensure a clear path for full extension and retraction of the actuator.
- Keep hands and body parts clear of the actuator while it is in motion.
- Exercise caution around pinch points and moving components during the actuator's operation.
- Keep all loose clothing, jewelry, and personal items away from the actuator's moving parts.

Operating Notes

Warranty

Any attempts to disassemble or tamper with the actuator's internal components or operation outside of the advertised usage limitations will result in voiding the product's warranty. For more information on our warranty terms, visit:

<https://www.progressiveautomations.com/pages/warranty-terms>

Force Restrictions

Linear actuators must be used within the specified force rating outlined in this documentation. Load must be evenly distributed. Exceeding the recommended force rating may result in failure of the linear actuator. It may also damage the product and void the warranty. Please note that the weight of the load does not always equal the total force due to mechanical advantage, wherein the force may increase or decrease depending on the application.

Operation Time

Linear actuators must be operated within the specified operation time and frequency. Exceeding the duty cycle rating can significantly reduce the actuator's expected lifespan and will void the warranty.

Specifications

Rated Load Configurations (Imperial Units)

Rated Load (lbf)		12 VDC Current (A)		24 VDC Current (A)		12 VDC Speed ¹ (inch/sec)		24 VDC Speed ¹ (inch/sec)	
Dynamic	Static	No Load	Full Load	No Load	Full Load	No Load	Full Load	No Load	Full Load
517	1551	2.0	16.0	1.0	8.0	0.63	0.47	0.63	0.47

¹ Speed specifications have a $\pm 10\%$ tolerance.

Rated Load Configurations (Metric Units)

Rated Load (N)		12 VDC Current (A)		24 VDC Current (A)		12 VDC Speed ¹ (mm/sec)		24 VDC Speed ¹ (mm/sec)	
Dynamic	Static	No Load	Full Load	No Load	Full Load	No Load	Full Load	No Load	Full Load
2300	6900	2.0	16.0	1.0	8.0	16.0	12.0	16.0	12.0

¹ Speed specifications have a $\pm 10\%$ tolerance.

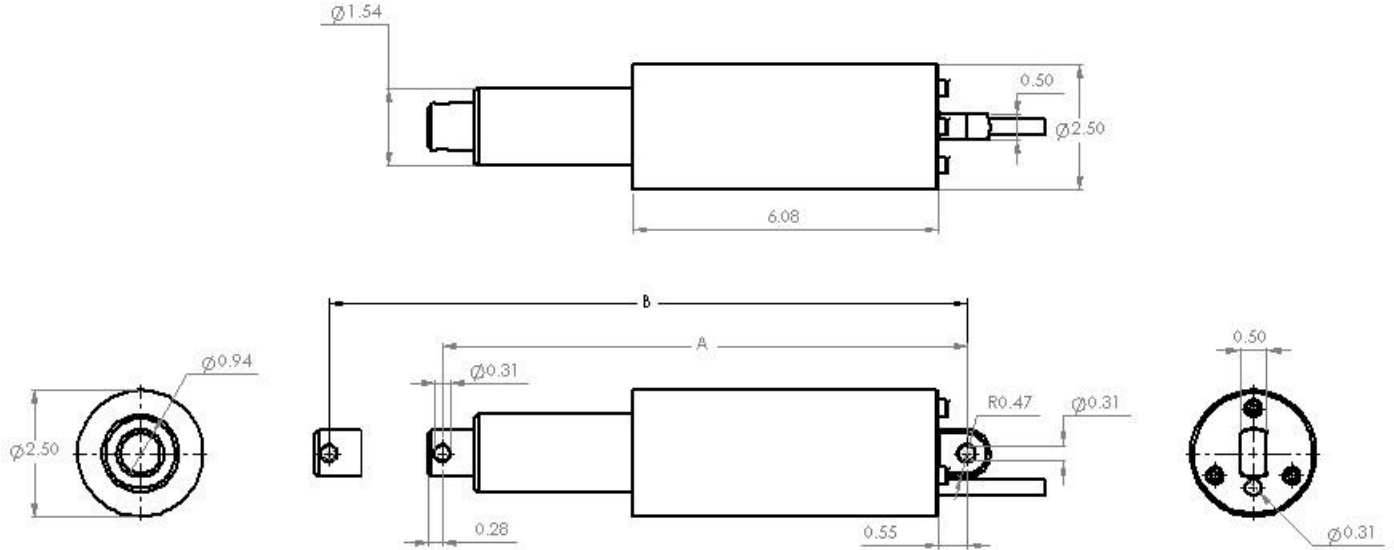
General Specifications

Input Voltage	12VDC, 24VDC
Stroke	2.25" and 4.25" (57mm and 108mm)
Feedback	None
Duty Cycle	10% (2 minutes on, 18 minutes off)
Weather Protection	IP67M
Overload Protection	None
Operational Temperature	-20°C to 60°C (-4°F to 140°F)
Operating Noise	80 dBA
Limit Switch	Built In (Non-Adjustable)
Cable Length	79"
Connector	DT06-2S
Front Mounting Hole Size	0.31", 0.38" (8mm, 9.5mm)
Rear Mounting Hole Size	0.31" (8mm)
Motor Type	Brushed DC Motor
Screw Type	Trapezoidal
Stroke Rod Material	Stainless Steel 316L
Housing Material	Aluminum
Gear Material	Metal

Dimensions (Imperial Units)

Note: All dimensions are listed in inches.

Diagram



ALL DIMENSIONS IN INCHES

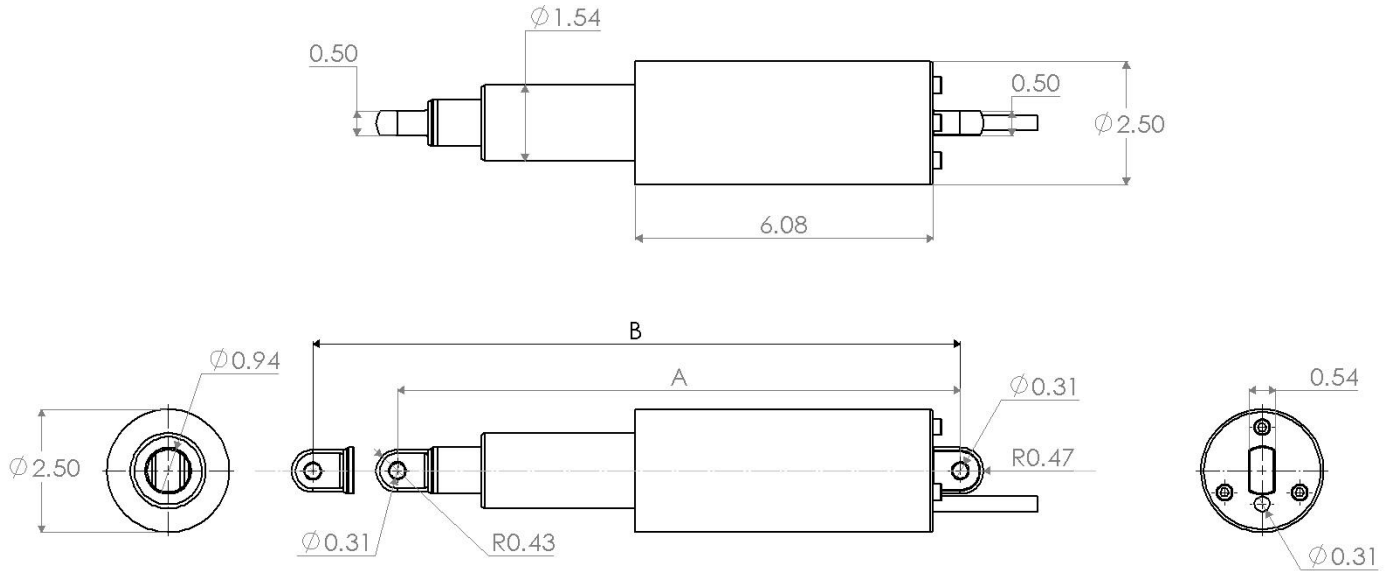
Hole to Hole Length

Stroke Length	2.24"	4.25"
A (Fully Retracted)	10.43	12.44
B (Fully Extended)	12.67	16.69

Dimensions (Imperial Units)

Note: All dimensions are listed in inches.

Diagram



ALL DIMENSIONS IN INCHES

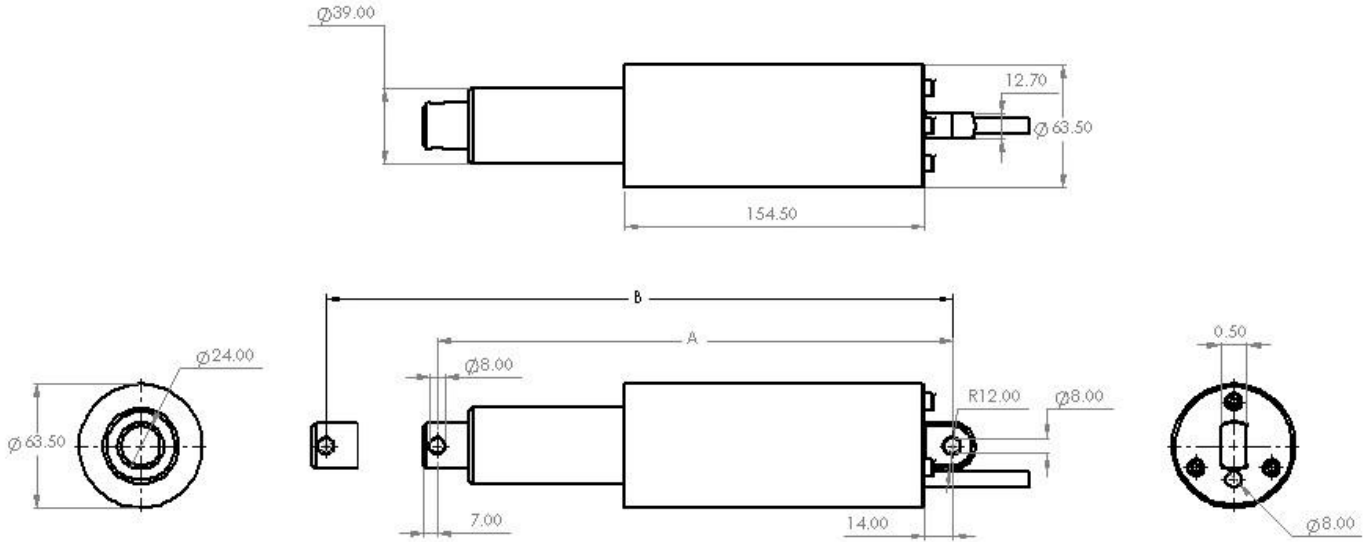
Hole to Hole Length

Stroke Length	2.24"	4.25"
A (Fully Retracted)	11.50	12.99
B (Fully Extended)	13.74	17.24

Dimensions (Metric Units)

Note: All dimensions are listed in millimeters.

Diagram



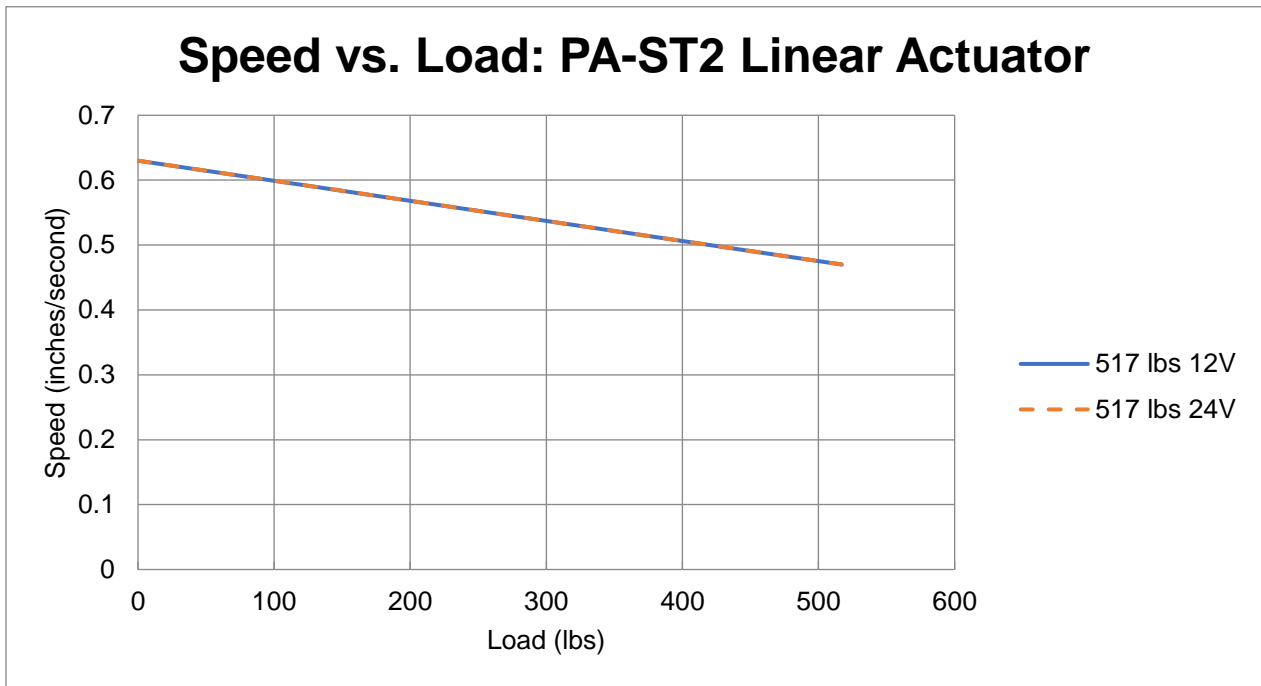
ALL DIMENSIONS IN MM

Hole to Hole Length

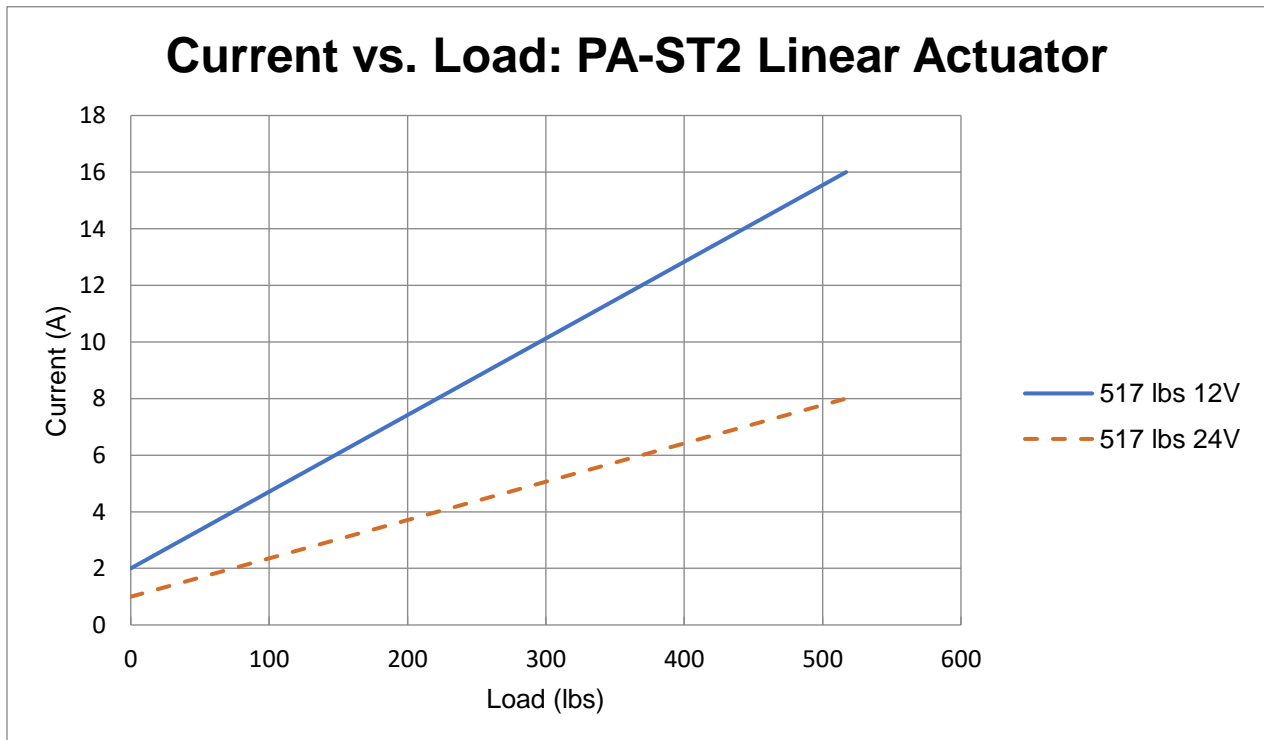
Stroke Length	57mm	108mm
A (Fully Retracted)	265	316
B (Fully Extended)	322	424

Performance Graphs

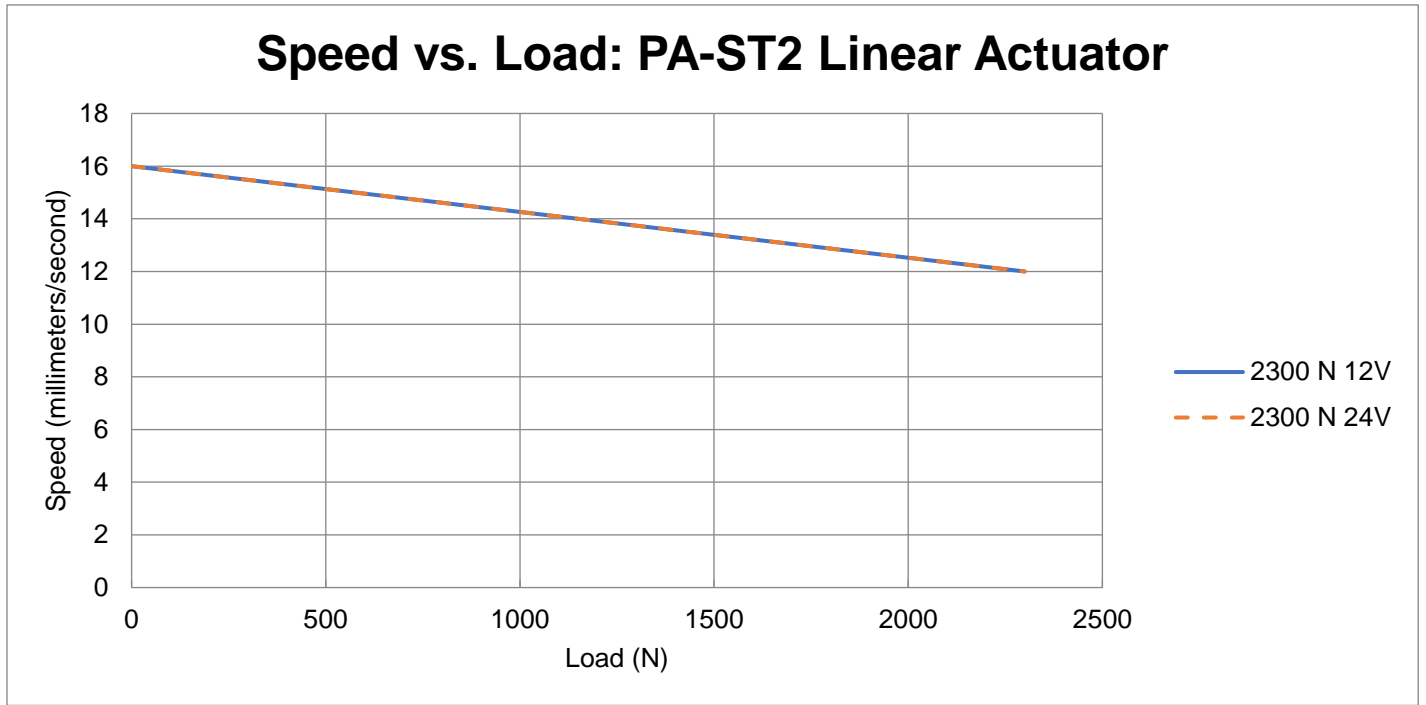
Speed Vs Load (Imperial Units)



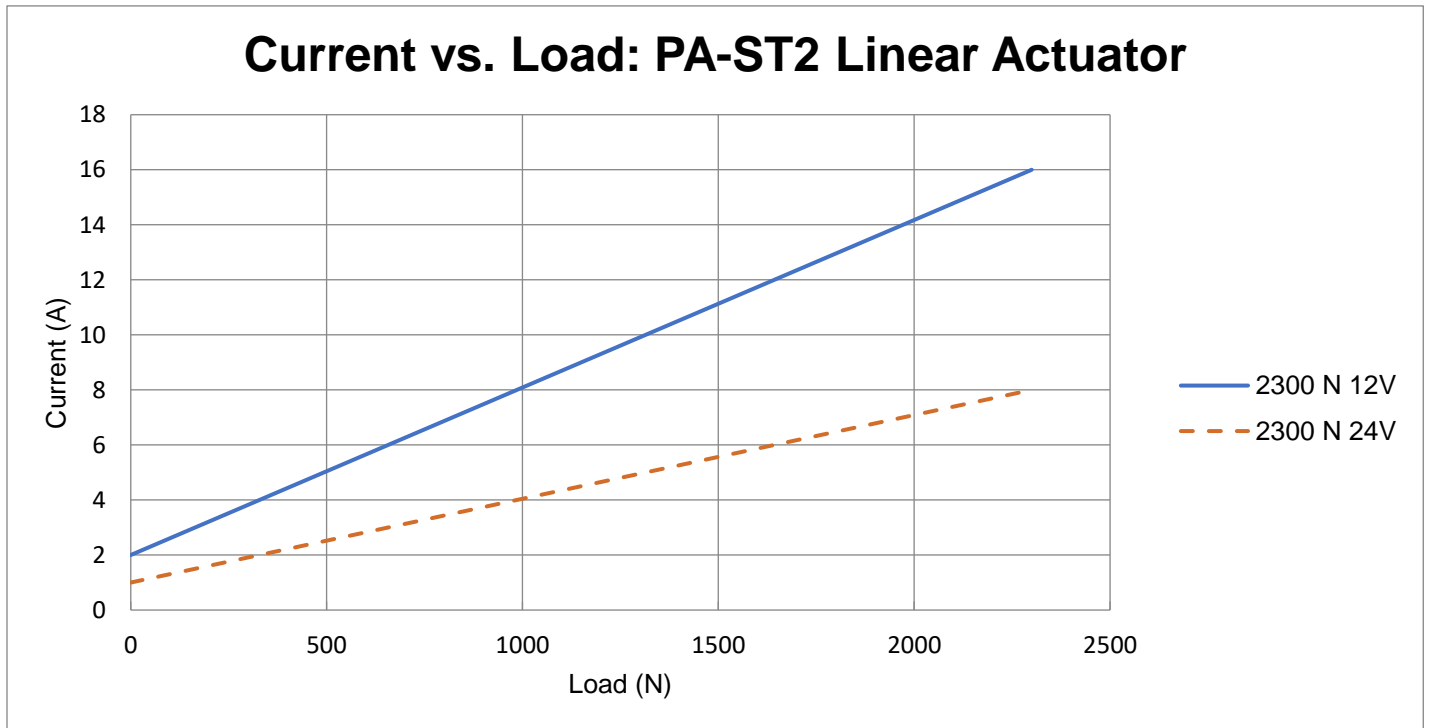
Current VS Load (Imperial Units)



Speed Vs Load (Metric Units)

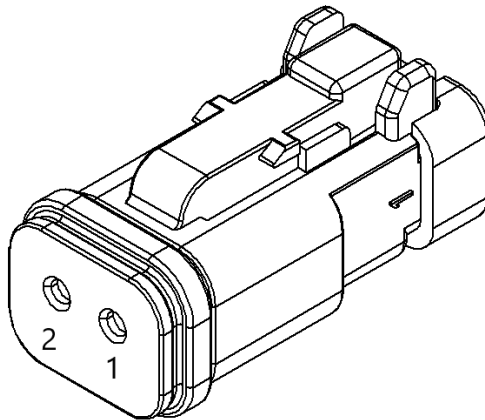


Current VS Load (Metric Units)



Connector

Standard - 2-Pin Connector



Pin Location	1	2
Function	Motor + (Extend)	Motor – (Retract)
Wire Color	Red	Black
Wire Gauge	15 AWG	15 AWG

	Force (lbf)	Part Name	Part Number	Mating Part Number
Housing	All	2-Way Plug Assembly, Gray	DT06-2S	DT04-2P
Motor Terminals	All	Socket, Stamped and Formed, Nickel, 14-18 AWG	1062-16-0122	1060-16-0122

Replacement Compatibility

Lenco Trim Tab Actuators

Lenco Model Number	Progressive Automations Replacement Model Number
101 XD	PA-ST2-115-224-520-N-12VDC
101	PA-ST2-104-224-520-N-12VDC
102 HD/XD	PA-ST2-124-425-520-N-12VDC
102	PA-ST2-129-425-520-N-12VDC