

# Linear Actuator

28 VDC- Load up to 455 N



## Standard Features

- Selective Stroke Length from 0.5 inch to 1 inch
- Different Duty cycle for 2 Models
- Electronic limit switches
- Self-locking ACME Screw drive system  
Acme screws withstand vibration and shock better than ball or worm screws and are used for applications with these characteristics
- PMDC motor with neodymium magnets
- High Temperature Capability
- Machined aluminum structure and housing
- 6 ball bearings
- Bidirectional
- Direction movement By reversing voltage polarity

## Typical Applications

- Unmanned air vehicles
- Industrial equipment: used on conveyor belts, for adjustable work tables/platforms
- Robotics

## Benefits

- Robust structural design
- Minimal End play
- EMI Filter
- Low weight to power performance
- Operating Range : [-30 °c to +70°c]
- Adjustable end of stroke limit switches
- Reliability

## General Specifications

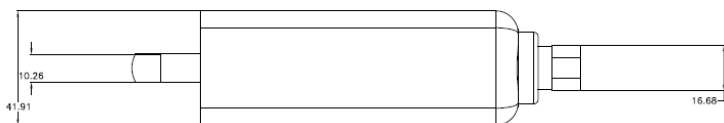
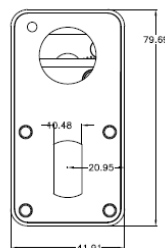
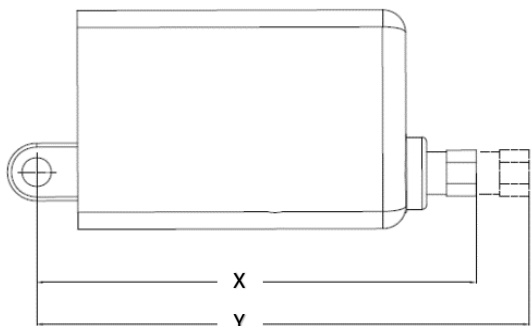
Screw type	ACME
Holding brake	No, Self-locking
Stroke Protection	Internal MCS
Motor connection	Connector integrated in housing
Rod and house material	Beryllium Copper/Aluminum
Gear set material	Hardened steel
FeedBack	2 MCS at ends of stroke

## Performance Specifications

Operating Range	24 - 34 VDC
Typical Supply Voltage	28 VDC
Standby Current	0
No load current	350±10 mA
Efficiency Point Current	550±10 mA
Peak Power Point	453 N @ 6.9mm/s Compression (opposite direction) 453 N @ 8.9mm/s Tension (same direction)
Peak Efficiency Point	227 N @ 8mm/s Compression (opposite direction) 227 N @ 9.15mm/s Tension (same direction)
Max Speed (No Load)	9 mm/s
Max Static Load	1580 N Retract 550 N Extend
Standard stroke lengths	0.51±0.05 inch & 1±0.1inch
Full load duty cycle [%]	20% for 0.5 inch stroke 40% for 1 inch stroke
End play, maximum [mm]	0.765 mm @ 92 N
Durability (MTBF)	More than 75,000 cycles
Weight	270 g
Mounting	Round connector
Operating Temp	-30°C to +70°C

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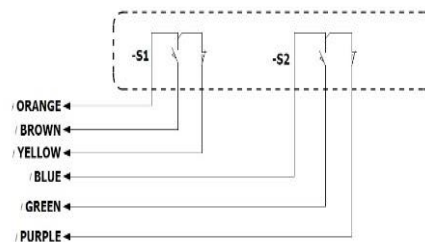


Parameters		
Stroke	(X) Retract	(Y) Extend
0.5"	93.98mm	106.68mm
1"	91.44mm	116.84mm

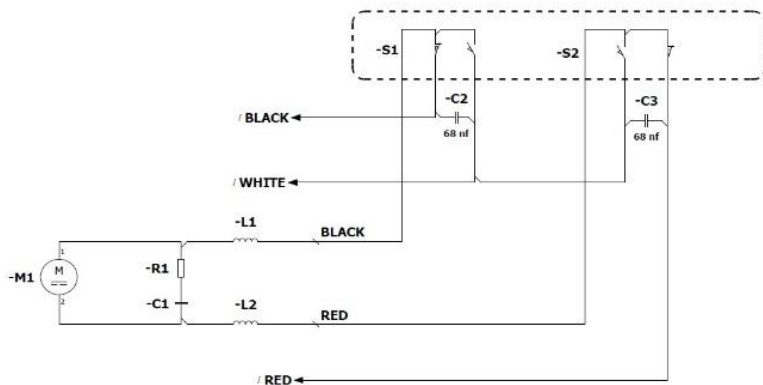
Environmental	
Designed To MIL-STD-810E	
Operating Temp	-30°C to +70°C
Storage Temp	-40°C to +80°C
Altitude	0 ft to 25,000 ft MSL
Vibration	20 - 2000 Hz, 5 min & 0.04 g <sup>2</sup> /hz

## Wiring

Feedback MSC's wiring Diagram



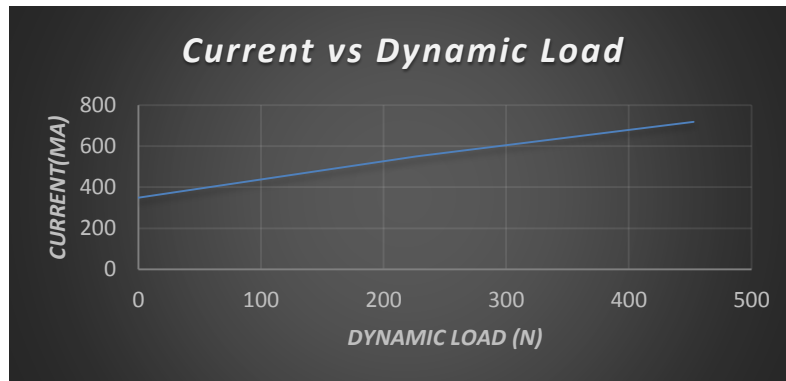
Power MSC's Wiring Diagram



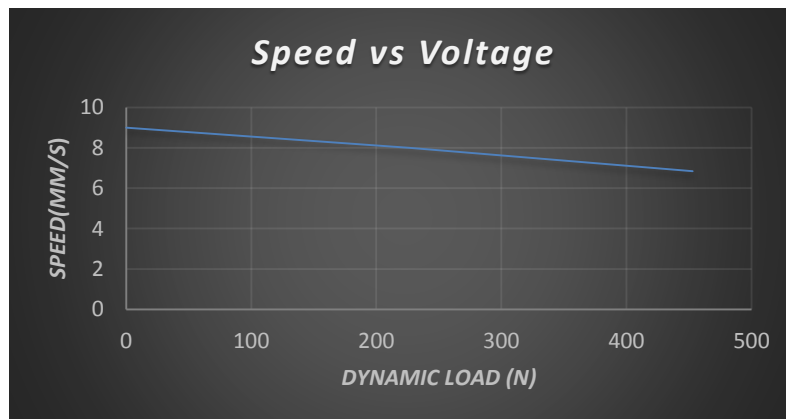
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### Performance Diagrams

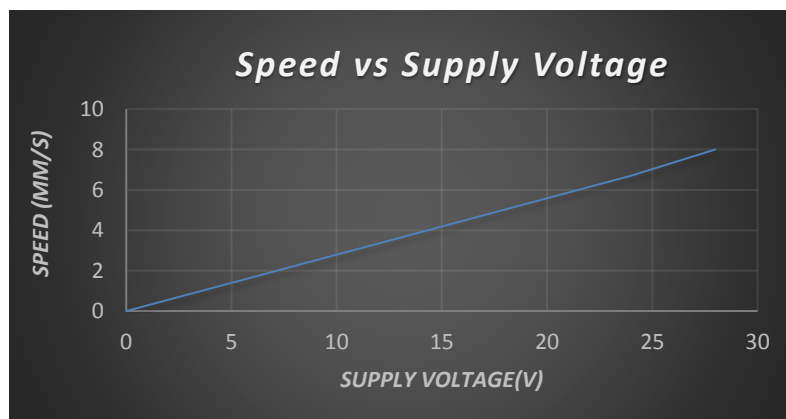
**Current Curve:** This graph shows a plot of current versus Dynamic load. As the load is increased the amount of current drawn is increased.



**Speed Curve:** This graph shows a plot of speed versus load. As the load is increased the speed of the actuator will be reduced.



**Voltage Curve:** Actuator speed for a fixed load can be varied by varying the motor voltage.

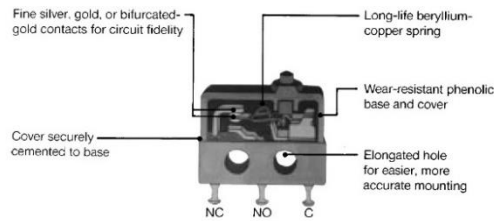


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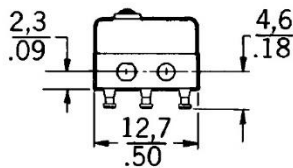
### Micro Switch

This Micro switches automatically turns off power to the motor at ends of stroke and two optional MCS can put at ends of stroke as feedback micro switches.



- Power load switching capability up to 5 amperes—silver contacts
- Low operating force to 3 oz. (85 grams) Maximum
- Long mechanical life 1,000,000 cycles
- Temperature tolerance -53°C to 121°C on standard construction
- High temperature designs for up to +400°F (204°C) for 100 hours

### Dimensions



Dimensions shown are for reference only

Key :  $\frac{0,0 = mm}{0.00 = inches}$

### Specification

Circuitry	SPDT
Voltage	250 Vac, 28 Vdc
Contact Type	Silver
Operating Force (OF)	1,70 N [6.0 oz] max.
Release Force	0,14 N [0.494 oz] min.
Housing Material	General Purpose Phenolic
Application	Limit Power switch and Feedback

### Insulation Resistance Test Results

This resistance indicates the quality of the insulation between two conductors. Because this test is non-destructive, it is particularly useful for monitoring insulation aging during the operating life of electrical equipment or installations. Each data has reported for each wire of the actuator is the resistance between the body of actuator and that wire. Voltage test for measuring insulation resistance is 500 Vdc.

Wire	Resistance	Wire Duty
Orange	> 1GΩ	NC Open Feed Back MSC
Brown	> 1GΩ	NC Open Feed Back MSC
Yellow	> 1GΩ	NC Open Feed Back MSC
Blue	> 1GΩ	NC Open Feed Back MSC
Green	> 1GΩ	NC Open Feed Back MSC
Purple	> 1GΩ	NC Open Feed Back MSC