Mach Motion Products

MLA-J2 Industrial Linear Actuator

2026 Catalog

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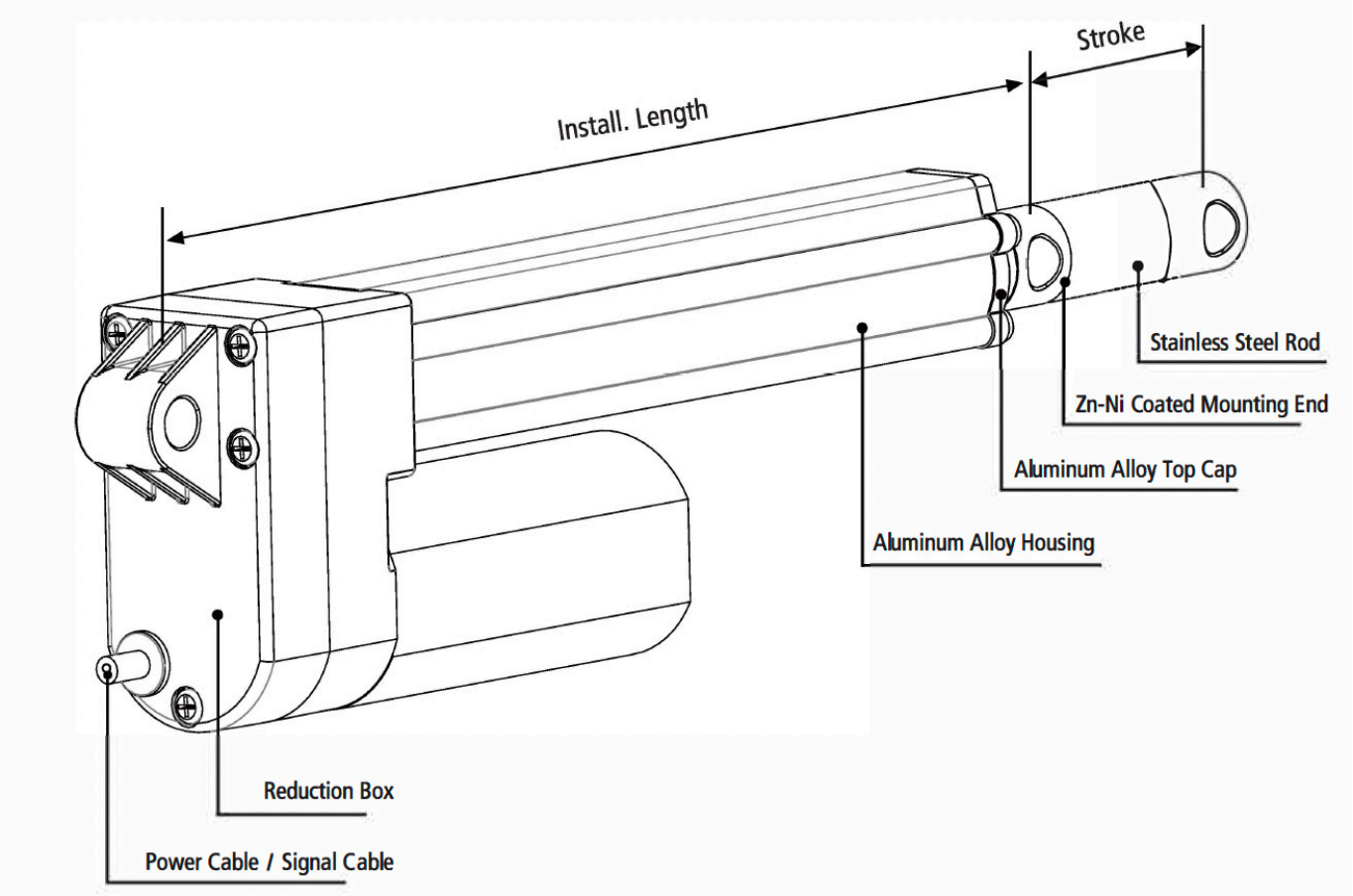
Mach Motion Products

• Glossary of Terms



Stroke	How far the rod extends outwards from the body. The difference between fully extended length and fully retracted length. (Customizable)
Installation Length	The length of unit when fully closed. (Customizable)
Front Mounting End	Optional.
Rear Mounting End	Optional.
Mounting Holes	Can be rotated by 90°.
Dynamic Force	The max. force the actuator can carry while it is moving.
Self-locking	The max. force the actuator can hold when it is stopped.
Weather Protection	IPXX. The first digit: Dust Protection. The Second Digit: Liquids Protection. Please refer to [Table 1.]
Duty Cycle	Continuous working time "a", rest time "b". Duty Cycle is a/(a+b)x100%. Please refer to [Table 1.]
Speed	Includes free-load speed and full load speed.
Hall Sensor	Provides pulse signals. Displacement measurement is achieved through pulse counting, and the phase difference of the waveform can be used to identify the rotation direction of motor. Check [Table 1] to see if it is available.
Potentiometer	Potentiometer is a three-terminal variable resistor with a rotating contact which is used to measure the displacement of actuators. Check [Table 1] to see if it is available.
Manual Override	Can be used to extend or retract the actuator when there is no power in an emergency situation. Check [Table 1] for availability.

Mach Motion Products

• General Specifications

Color	X Silver	_ Black	_ Custom			
Lead Screw	X Acme Screw	_ Ball Screw				
Operation Mode	X Electrical	_ Electrical + Manual				
Application	X Industrial	X Furniture	X Medical			
Operational Temp.	_ 5°C to 40°C	X -10°C to 65°C	X -40°C to 65°C			
Operating Noise	X ≤45dB	_ ≤50dB	_ ≤65dB			
Stroke Range	X 50 to 600mm	_ 600 to 1,000mm				
Dynamic Load	_ ≤1,200N	X ≤2,000N	_ ≤4,000N	_ ≤10,000N	_ ≤12,000N	_ ≤20,000N
Duty Cycle	_ 10%	X 20%*	_ 25%	_ ≤50%	_ 100%	
Motor Type	X Brushed DC	_ Stepper Motor	_ Brushless	_ Servo Motor		
Overload Protection	X None	_ Clutch	_ Electronic	_ Thermistor		
Weather Protection	_ IP20	_ IP43	_ IP54	_ IP65	X IP66	_ IP69K
Position Feedback	X None	X Endstop Signal	X Hall Sensor	_ Potentiometer	_ Encoder	X Reed Switches
Input Voltage	X 12VDC	X 24VDC	X 36VDC	X 48VDC	_ 110VAC	_ 220VAC

*Note: Do not exceed 4 minutes continuous working at full load at 20°C ambient temperature.

[Table 1]

X Options for MLA-J2 _ Available Other Models

• Technical Parameters

Code	Max. Dynamic Load (*See Note 2)	Max. Self-Locking Load	Reduction Ratio	Pitch	Speed +/-10% (mm/sec) (*See Note 1)		Max. Stroke (*See Note 3)
	(N)	(N)		(mm)	Free Load	Full Load	(mm)
A	2,000	3,000	32.6:1	3.17	6	5	600
B	1,500	2,500	32.6:1	5	10	7	600
C	1,000	1,500	32.6:1	7.5	15	11	600

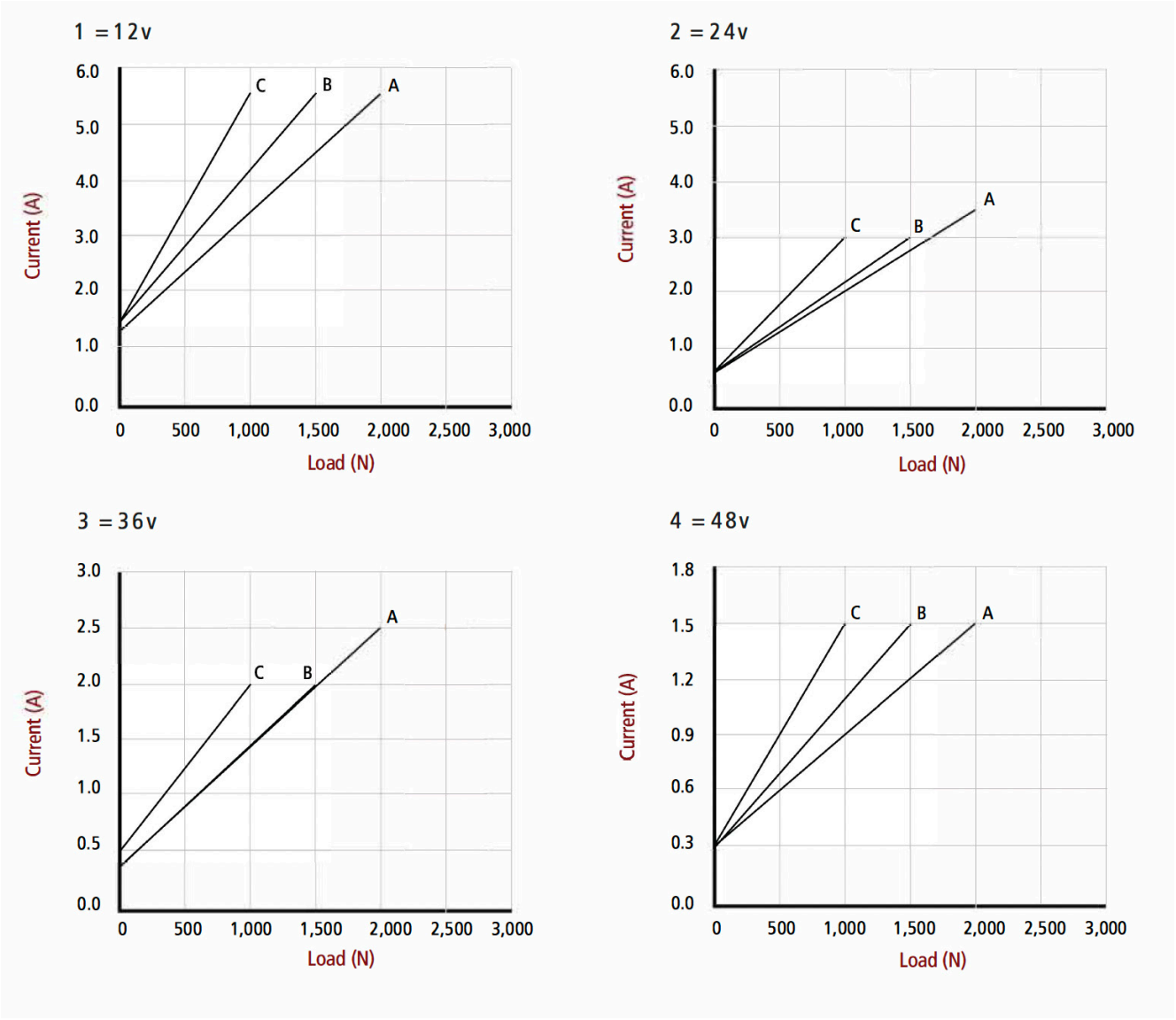
[Table 2]

*Notes:

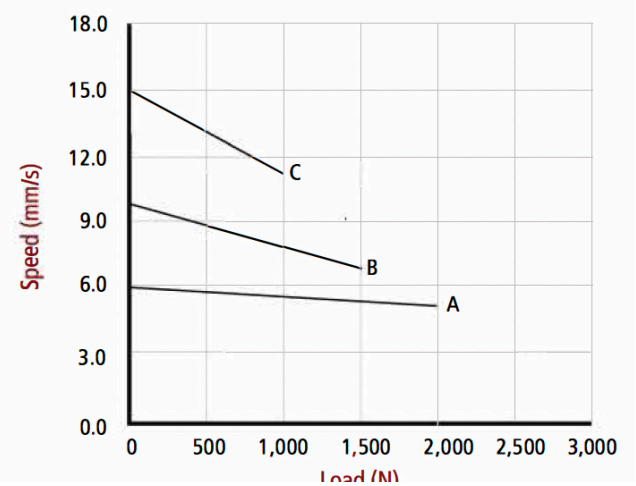
1. Measurements are made with actuators in connection with stable power supplies and ambient temperature of 20°C.
2. For example, when real load is 1,400N, choosing code "B" is recommended. You can also choose "A", which comes with an increased load buffer, higher safety factors, and extended product service time.
3. Many factors affect the "Customizable Maximum Stroke," such as load, speed, and direction of force. Actual application scenarios should be considered. Please contact cs@machmo.com if your required parameters are not listed.

• Performance

Current vs. Load



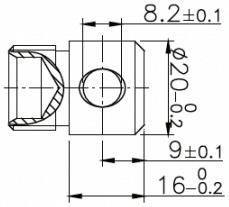
Speed vs. Load



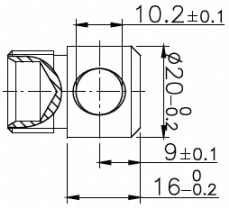
*** Note: Measurements are made with Actuators in Connection with Stable Power Supplies and Ambient Temperature of 20°C.**

•Front Mounting End

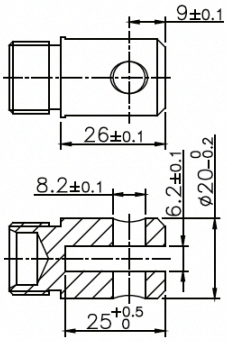
1. Please contact cs@machmo.com if none of the options below meet your requirements.



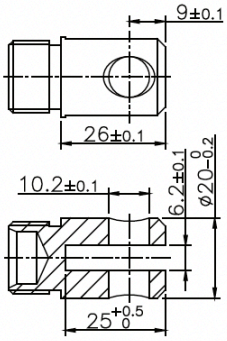
F01



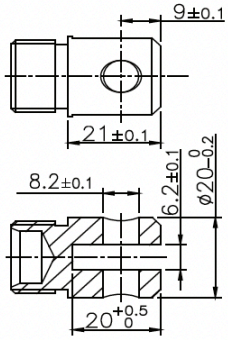
F02



F03



F04



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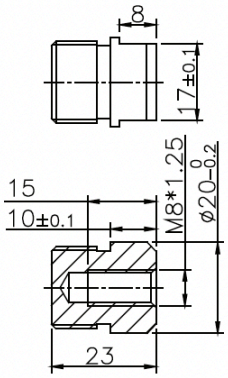

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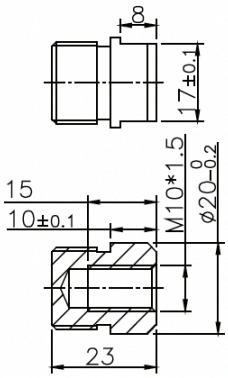

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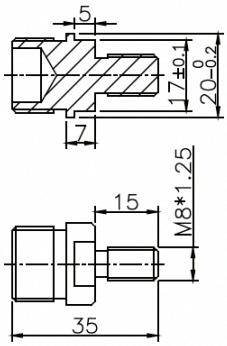
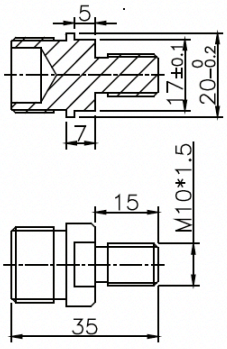
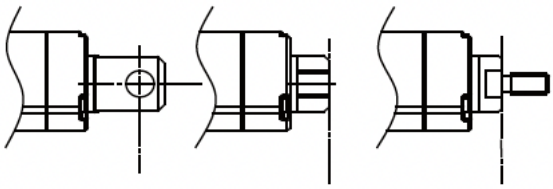


F08

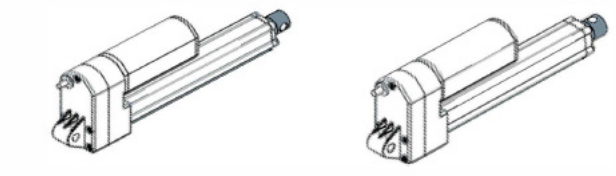


F09

2. Start of Installation Length



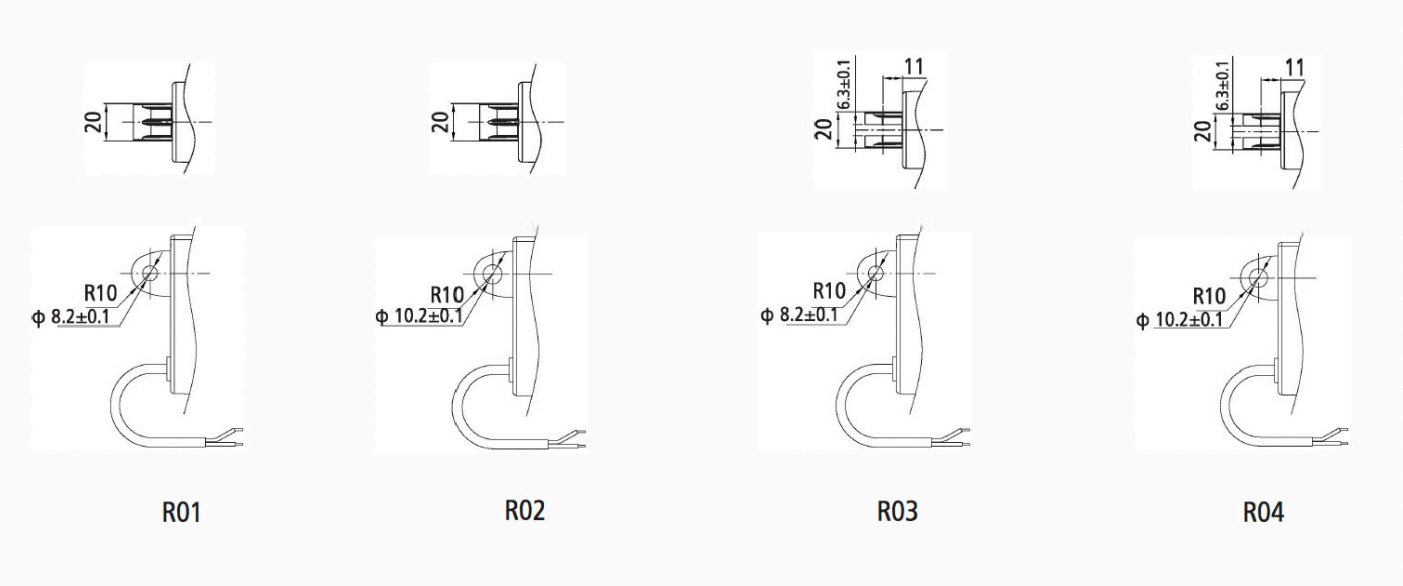
3. Hole Directions



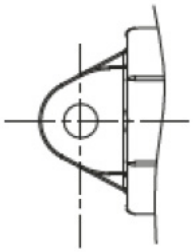
1 = 90° **2 = 0°**

- **Rear Mounting End**

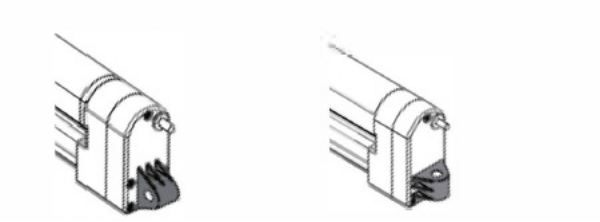
1. Please contact cs@machmo.com if none of the options below meet your requirements.



2. End of Installation Length



3. Hole Directions



1 = 90°

2 = 0°
***Not applied to R01 & R02**

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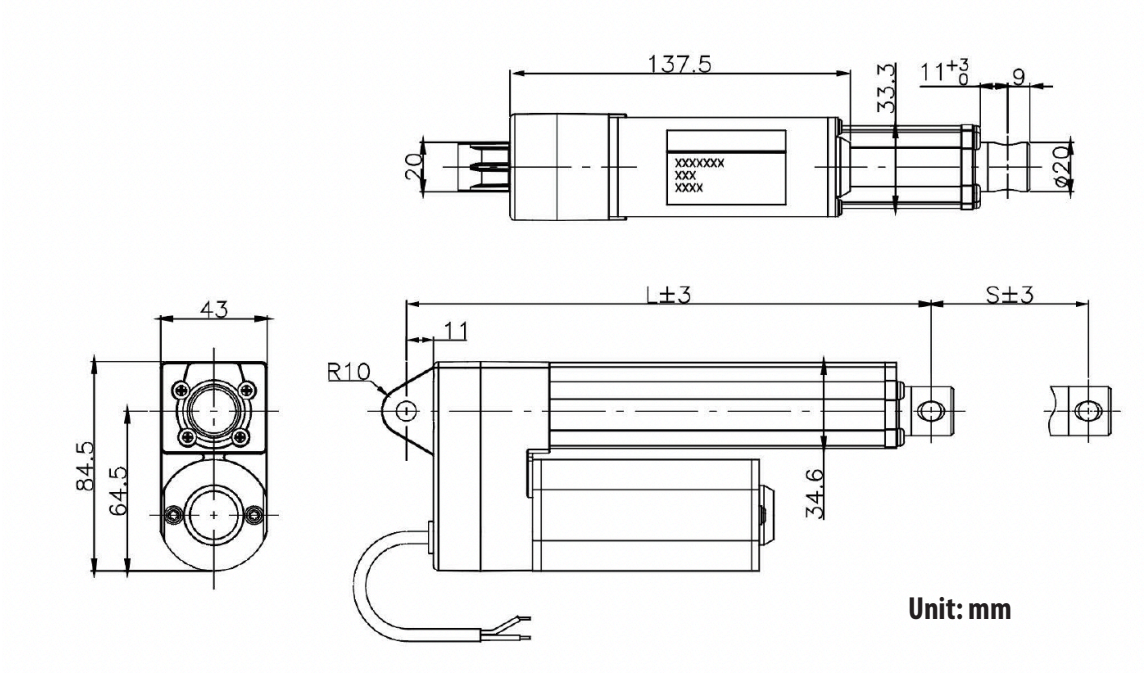
• Product Dimensions



A. Mounting Ends VS. Installation Length

Front Mounting Ends	Rear Mounting Ends
	R01-R04
F01, F02, F05-F09	A ≥ S+115mm
F03, F04	A ≥ S+123mm

[Table 3]

B. Stroke VS. Installation Length

Stroke (S) (mm)	Installation Length (L) (mm)
30 - 299	+ 0
300 -499	+ 30
≥500	+ 60

[Table 4]

C. Reed Switch

Reed Switch	Installation Length (L) (mm)
Optional	+ 10

[Table 5]

How to Calculate "Installation Length":

S = Stroke, L = Installation Length
L ≥ A + B + C

Example:

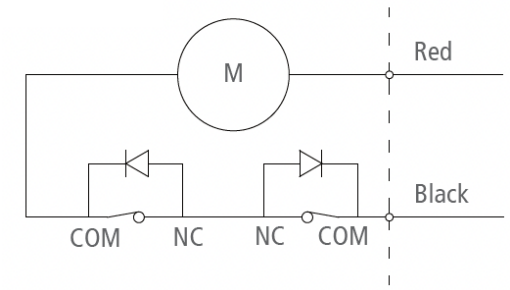
Front Mount	Rear Mount	S (mm)	A (mm)	B (mm)	C (mm)	L ≥ A + B + C (mm)
F04	R01	300	300 + 123	+30	C = 0	≥453

[Table 6]

- **Signal Feedback**

0. Standard Limit Switches

Standard MLA-J2 comes with limit switches that automatically shut off motor at the end of travel path.

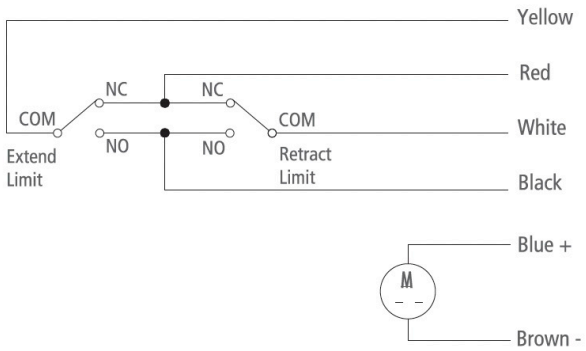


Wire Type		
	Black	Red
Extend	-	+
Retract	+	-

[Table 6]

1. Endstop Signal

The actuator can be equipped with endstop signal output, but it will not auto-stop at either end of travel.



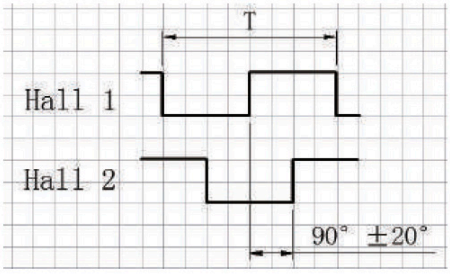
Wire Type		
	Brown	Blue
Extend	-	+
Retract	+	-
Signal Wire Coding		
Black	Extend or Retract Limit, N.O.	
Red	Extend or Retract Limit, N.C.	
Yellow	Extend Limit, COM.	
White	Retract Limit, COM.	

[Table 7]

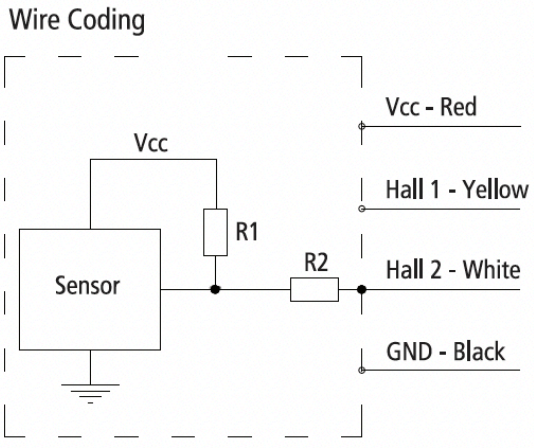
2. Hall Effect Sensor (Standard Dual-sensor)

Code	Pulse Equivalent per Sensor (pulse/mm)	
	1 Pole Pair	4 Pole Pairs (Standard)
A	10.28	41.10
B	6.53	26.10
C	4.35	17.40

[Table 8]



Oscillogram

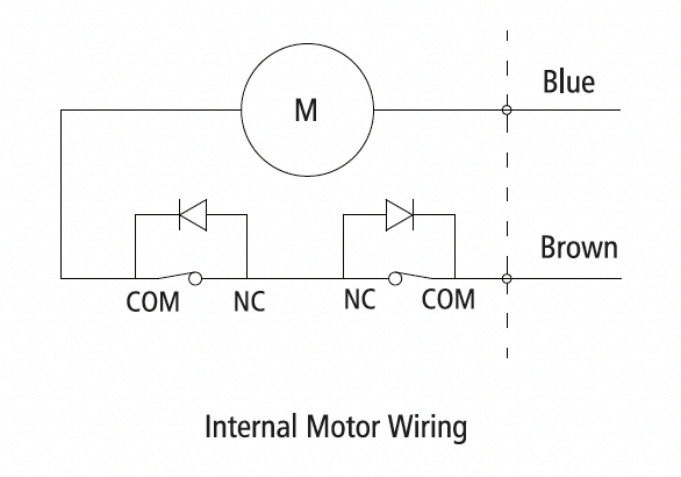


* Power supply (V)= 5~15V

• Signal Feedback

2. Hall Effect Sensor (Standard Dual-sensor) - continued

Internal Motor Wiring Diagram



Internal Motor Wiring

3. Reed Switch

Standard N.O. Contact. Optional N.C. Contact.

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• Product Inquiry Table

Selection	Specification	Available Options			
	Voltage	1 = 12V	2 = 24V	3 = 36V	4 = 48V
	Load and Speed	See [Table 2]			
	Stroke (mm)	Please contact cs@machmo.com if required stroke is out of range.			
	Installation Length (mm)	See [Tables 3-6]			
	Front Mounting End	F01 - F09		or FX = Custom	
	Rear Mounting End	R01 - R04		or RX = Custom	
	Mounting Hole Direction	Front 1 = 90°	Front 2 = 0°	Rear 1 = 90°	Rear 2 = 0°
	Signal Feedback	0 = None	1 = Endstop Signal	2 = Hall Sensor	3 = Reed Switches
	Cable Length	1 = 500mm	2 = 1,000mm	3 = 2,000mm	X = Custom
	Connector	0 = Tinned Bare Wires	1 = Go with KZ Control	X = Custom	
Application	Working Temperature	1 = -10℃ ~ 65℃		2 = -40℃ ~ 65℃	
	Working Frequency	Estimated Work Cycles Per Day			
	End Use	Indoor or Outdoor?			