

Actuator

GD70

GD70 is a strong and powerful actuator up to 7000N thrust, designed for use in furniture, such as recliner or lift chair. There are many types of control boxes compatible with GD70 which are available for customers to choose.



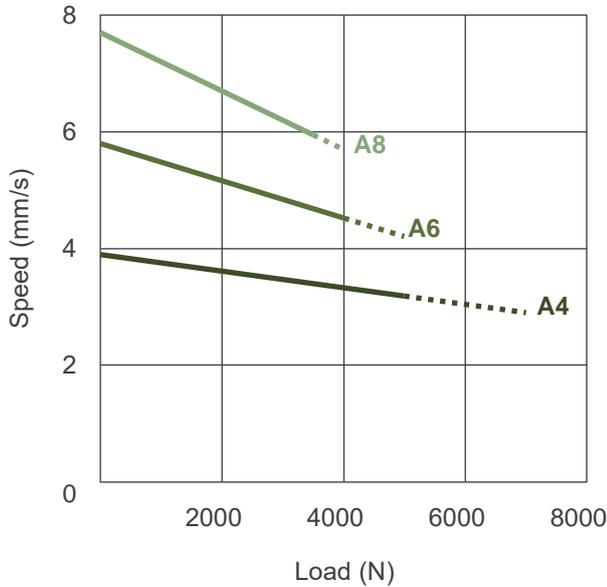
Features and Options

- Main applications: Furniture, Home care
- Input voltage: 24V DC
- Max. load: 7000N (Push) / 5000N (Pull)
- Max. speed at no load: 7.7mm/sec (Typical value)
- Speed at full load: 2.9mm/sec (Typical value @7000N loaded)
- Stroke: 50 ~ 300mm
- Noise level: ≤ 50 dB
- IP level: IP43 (Static; non-action)
- Preset limit switches
- Positioning: Positioning signal feedback with signal Hall effect sensor / Positioning signal feedback with dual Hall effect sensors
- Optional mechanical push only extension tube
- Optional mechanical brake
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature: -20°C ~ +60°C
- Storage ambient temperature: -25°C ~ +65°C
- Certified: UL 962 Standard for Household and Commercial Furnishings

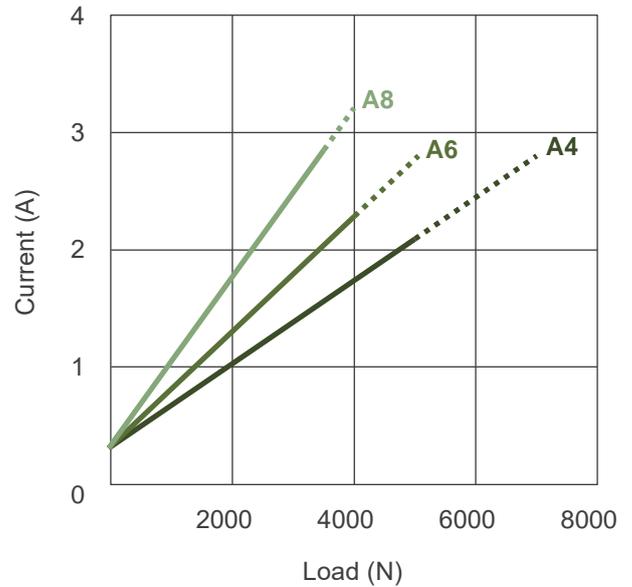
Performance Data

Model No.	Max. Push (N)	Max. Pull (N)	Self-locking ability (N) *	Typical speed (mm/s) **		Typical current (A) @ 24V **	
				No load	Full load	No load	Full load
GD70-24-A4-XXX-CXX	7000	5000	5000	3.9	2.9	0.3	2.8
GD70-24-A6-XXX-CXX	5000	4000	2500	5.8	4.2	0.3	2.8
GD70-24-A8-XXX-CXX	4000	3500	2000	7.7	5.7	0.3	3.2

Speed VS. Load



Current VS. Load



Push / Pull Load — Push Load - - -

Remarks:

- * The self-locking ability is performed by short circuit the motor terminals when the actuator is powered off. All MOTECK compatible control boxes are designed with this feature. Mechanical brake in push direction is available upon request, to further enhance the self-locking ability to maximum load.
- ** The typical speed or typical current means the average value neither upper limit nor lower limit, which measured under room temperature and stable power. The performance curves are made with typical values.

● Inrush current



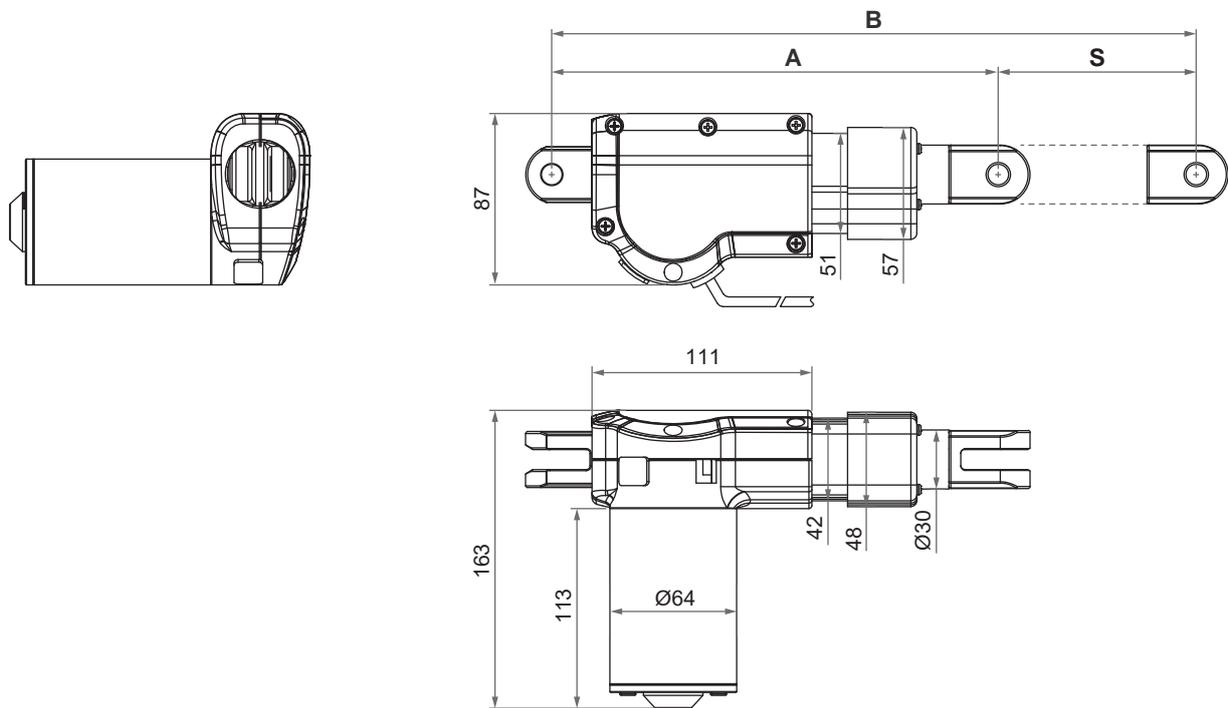
- When the actuator starts to operate, an inrush current of about 0.2 seconds will be generated. The starting inrush current of GD70 can reach about 3 times of the typical current under the actuator load.
- If a circuit board power supply is used, the specifications must be sufficient to handle the inrush current. If batteries are used as the power source, inrush current will not be a problem.
- MOTECK controllers are designed to take into account the inrush current when the actuator starts. If the user provides his or her own controller, this feature must be considered in the specifications and protection mechanisms. Besides, the connectors, switches and relays selected by users must also be able to withstand the starting currents.

Dimensions

- Available stroke (S) range = 50 ~ 300mm (±3mm)
- Extended length (B) = Retracted length (A) + Stroke (S)
- Retracted length (A)

	Front connector code	Option	
		Standard	Push only
Retracted length (A)	3	$A \geq S + 150\text{mm}$ (±3mm)	Add 10mm to retracted length (A)
	4	$A \geq S + 160\text{mm}$ (±3mm)	
	6	$A \geq S + 188\text{mm}$ (±3mm)	

• Drawing



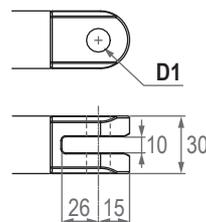
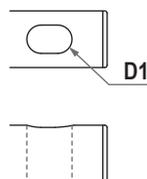
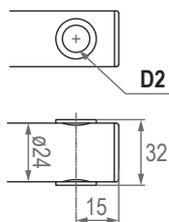
Unit: mm

• Front connector

3: Drilled hole

4: Oval hole

6: Enhanced plastic

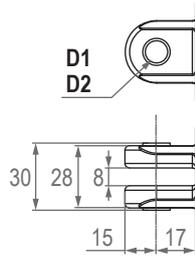


Front connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)
3	N/A	Ø8, Ø10
4	Ø8x10	N/A
6	Ø10	N/A

Unit: mm

● **Rear connector**

2: Zinc alloy clevis

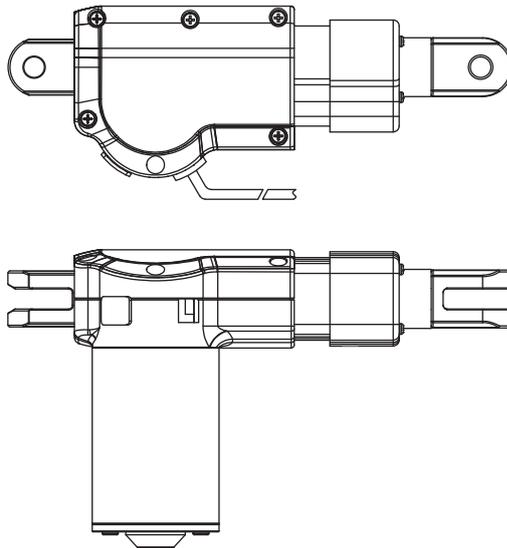


Rear connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)
2	Ø10, Ø12	Ø8, Ø10

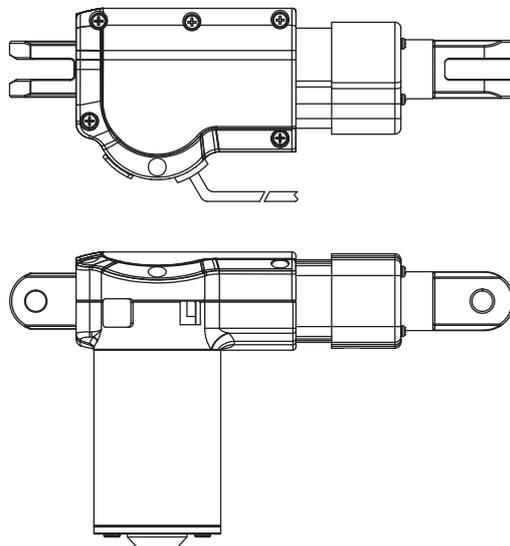
Unit: mm

● **Pivot orientation of rear connectors**

0° (standard)



90°



Compatibility

Product	Model	GD70 spec
Control box	T-control, CS1, CS2, CB3T, CB4M, CBT2	<ul style="list-style-type: none"> • Without positioning sensor • With Moteck F-type 4-pin DIN plug
	CF11H, CF12H	<ul style="list-style-type: none"> • Without positioning sensor • With Moteck L3-type minifit 6-pin plug
	CB3T-SY, CB4M-S, CB4M-B	<ul style="list-style-type: none"> • With dual Hall effect sensors for positioning • With Moteck F-type 6-pin DIN plug
	CF11S, CF12S	<ul style="list-style-type: none"> • With dual Hall effect sensors for positioning • With Moteck L3-type minifit 6-pin plug
Hand control	Depend on control box	<ul style="list-style-type: none"> • Powered by control box
	HS15	<ul style="list-style-type: none"> • With Moteck S-type DIN 41529 male plug ⁽¹⁾

Remarks:

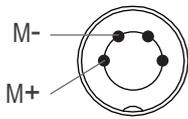
(1) The S-type DIN 41529 plug of the actuator is connected to the HS15 hand control directly, no control box.

Cable Plug

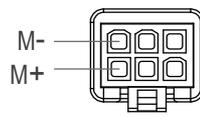
Connecting control devices that provide power

1. With Moetck F-type or L3-type plug

- Without positioning feedback



F-type 4-pin DIN plug

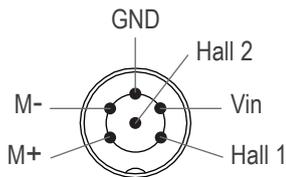


L3-type Minifit 6-pin plug

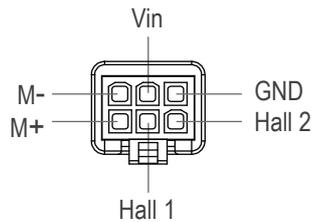


F-type plug

- Positioning feedback with dual Hall effect sensors



F-type 6-pin DIN plug



L3-type Minifit 6-pin plug



L3-type plug

2. With Moteck S-type DIN 41529 2-pin male plug



S-type plug

Note: Pin definition

	Definition	Descriptions								
Power	M+	Connect M+ to "Vdc +" & M- to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.								
	M-									
Signal	Vin	Voltage input range: 5 ~ 20V								
	Hall 1 output	High= Input - 1.2V (±0.6V) Low= GND Hall signal data: <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Actuator extends</p> </div> <div style="text-align: center;"> <p>Actuator retracts</p> </div> </div>								
	Hall 2 output	Hall effect sensor resolution: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Model No.</th> <th>Resolution (Pulses/mm)</th> </tr> </thead> <tbody> <tr> <td>GD70-24-A4-XXX-CXX-HSX</td> <td>10.00</td> </tr> <tr> <td>GD70-24-A6-XXX-CXX-HSX</td> <td>6.67</td> </tr> <tr> <td>GD70-24-A8-XXX-CXX-HSX</td> <td>5.00</td> </tr> </tbody> </table>	Model No.	Resolution (Pulses/mm)	GD70-24-A4-XXX-CXX-HSX	10.00	GD70-24-A6-XXX-CXX-HSX	6.67	GD70-24-A8-XXX-CXX-HSX	5.00
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GND										

Cable with Flying Leads

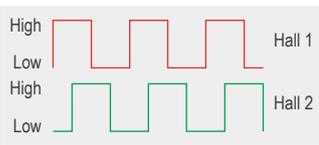
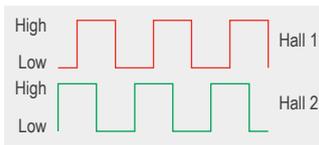
- Basic, without positioning feedback.

	Wire color	Definition	Descriptions
Power wires	White	DC Power	Connect white wire to "Vdc +" & black wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

- With single Hall effect sensor for positioning

	Wire color	Definitions	Descriptions								
Power wires	Blue	DC Power	Connect blue wire to "Vdc +" & brown wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.								
	Brown										
Signal wires	Yellow	Vin	Voltage input range: 5 ~ 20V								
	Red	Hall output	High= Input - 1.2V ($\pm 0.6V$) Low= GND Hall signal data:  Hall effect sensor resolution: <table border="1" data-bbox="678 952 1364 1131"> <thead> <tr> <th>Model No.</th> <th>Resolution (pulses/mm)</th> </tr> </thead> <tbody> <tr> <td>GD70-24-A4-XXX-CXX-HS</td> <td>10.00</td> </tr> <tr> <td>GD70-24-A6-XXX-CXX-HS</td> <td>6.67</td> </tr> <tr> <td>GD70-24-A8-XXX-CXX-HS</td> <td>5.00</td> </tr> </tbody> </table>	Model No.	Resolution (pulses/mm)	GD70-24-A4-XXX-CXX-HS	10.00	GD70-24-A6-XXX-CXX-HS	6.67	GD70-24-A8-XXX-CXX-HS	5.00
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GD70-24-A8-XXX-CXX-HS	5.00										
Black	GND										

- With dual Hall effect sensors for positioning

	Wire color	Definitions	Descriptions								
Power wires	Blue	DC Power	Connect blue wire to "Vdc +" & brown wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.								
	Brown										
Signal wires	Yellow	Vin	Voltage input range: 5 ~ 20V								
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GD70-24-A6-XXX-CXX-HS2	6.67										
GD70-24-A8-XXX-CXX-HS2	5.00										
Green	Hall 2 output										
Black	GND										

Ordering Key

GD70 - 24 - A4 - 388 - 588 - C 3 2 - HS - PO-BK 0	
Input voltage	24: 24V DC
Motor and Spindle type	A4: 2500rpm / 4mm pitch A6: 2500rpm / 6mm pitch A8: 2500rpm / 8mm pitch
Retracted length <i>(Refer to page 3)</i>	XXX
Extended length <i>(Refer to Page 3)</i>	XXX
Front connector <i>(Refer to Page 3)</i>	3: Drilled hole 4: Oval hole 6: Enhanced plastic
Rear connector <i>(Refer to Page 4)</i>	2: Zinc alloy clevis
Positioning feedback	Blank: None HS: Hall effect sensor x 1 HS2: Hall effect sensor x 2
Option <i>(Multiple choice is allowed)</i>	Blank: None PO: Mechanical push only extension tube BK: Mechanical brake
Cable length	0: 300mm straight 3: 1000mm straight A: 450mm with 300mm coiled

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